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INTERNAL MEDICINE

Primary Care Track Toolkit

Third Edition

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Introduction to the Primary Care Toolkit, Third Edition

Welcome to the third edition of the Primary Care Toolkit! Whether you are thinking of starting a primary care track or already are involved in a primary care residency program, this toolkit created by members of the APDIM Primary Care Forum offers resources to improve your program. The aim of this toolkit is to reduce your workload and let you learn from colleagues across the nation about what did (and didn't) work at their institutions. Our hope is to continue to update this toolkit regularly, growing our curricular offerings over time.

The toolkit is broken up into two sections.

For those who are curious to learn more about primary care tracks or are looking to start one, **Section 1** offers an introduction on *how a primary care track differs from a categorical track* and *a nuts-and-bolts guide to starting a primary care track at your institution*.

Section 2 offers interesting curricula, program innovations, and creative scheduling ideas for primary care tracks.

In this third edition of the Primary Care Toolkit, you will find many new additions. There are new chapters on *teaching the electronic medical record and systems practices, patient-PCP continuity in the resident practice*, *preparing primary care residents for real-life practice*, *implementing a longitudinal community engagement initiative*, *virtual education in residency, and internal medicine ambulatory learning objectives*. We have also provided new curricula on *anti-racism, gender-affirming healthcare, healthcare of sexual and gender minorities, outpatient telehealth, geriatrics education in primary care residencies, and a primary care immersion experience for new primary care residents*.

We hope you find this guide helpful and would love to hear your feedback on how to make this even better moving forward. For questions or comments, feel free to reach out at academicaffairs@im.org.

Sincerely,

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How Does a Primary Care Track Differ from a Categorical Track?

Halle Sobel, MD, Karen Chacko, MD & Yasmin Sacro, MD

Primary Care internal medicine residency tracks provide important training opportunities for trainees entering primary care or ambulatory subspecialties. While trainees will complete many of the same rotations and have educational opportunities which overlap with categorical tracks, the primary care track is distinct in many ways. By defining this unique training for residents entering primary care fields, this document can serve as a guidepost for programs who are looking to develop primary care programs and for programs who have existing primary care tracks. Primary care tracks can foster enthusiasm among the residents and faculty in developing and maintaining careers in primary care.

Structure

Each institution with a primary care track will likely structure their training differently compared to other programs. Primary care tracks are not held to specific Accreditation Council for Graduate Medical Education (ACGME) rules, thus there is flexibility as long as the ACGME requirements for the residency program are followed. For example, some programs will have ambulatory blocks that vary in duration and other programs may have additional primary care weeks spread throughout a residents' schedule. Some tracks will have a unique National Residency Matching Program (NRMP) number unique from the categorical track. For some programs it may be a unique residency program such as the Yale Primary Care Internal Medicine Residency Program. The number of primary care residents in a primary care track is typically proportional to the program size. Other programs will allow trainees to enter the track after completing the intern year. Many primary care tracks have unique didactics, workshops and retreats to focus on primary care. Many programs will have primary care track program directors who may be associate program directors within the residency leadership. Mentorship, advising and coaching is important, so primary care track residents have role-models in the field. Thus, it is critical for residency programs to develop junior faculty for such leadership roles.

Rotational Experiences Unique to Primary Care Tracks:

While primary care tracks differ by institution, most all will have rotational experiences that will be integrated into the track to prepare residents for ambulatory practice. These experiences will vary by local institutional resources and variations in the clinical environment. Some of these rotational experiences will be outlined below but this is not a comprehensive list.

Addiction Medicine

Substance use disorder is prevalent in the U.S. and many residency programs are training residents in the management of opioid use disorder with buprenorphine/naloxone. Trainees are commonly receiving training on recognizing substance use disorder including opioid use disorder, alcohol use disorder and stimulant use disorder and be aware of management options and local resources. Although residents cannot prescribe buprenorphine/naloxone, they can still complete the waiver program required to obtain a buprenorphine/naloxone waiver upon graduation form residency. Recent changes in the waiver training also allow providers to prescribe for up to 30 individuals with a notification of intent sent to Substance Abuse and Mental Health Services Administration (SAMHSA) without training completion. A rotation with an addiction specialist can be a valuable experience for a primary care track resident as well as visits to

harm reduction centers and support groups. Managing a small number of patients with substance use disorder in the continuity clinic can be an important educational experience for residents.

Chronic Pain

Primary care physicians see many patients with both acute and chronic pain and being comfortable with such management is a key part of clinical practice. Residents will need to become familiar with chronic pain management including local prescription monitoring programs, state rules around controlled substance prescribing and other associated monitoring tools. In addition to managing patients with chronic pain in the continuity clinic, rotations in a pain clinic and exposure to integrative pain management can strengthen the educational experience for primary care track trainees.

Dermatology

Given the multitude of skin complaints which are first seen by primary care physicians, trainees should develop comfort in managing and knowing when to manage and when to refer various skin conditions. Procedures including cryotherapy, skin biopsies, simple incision and drainage procedures, wound care and skin tag removal should be a part of a comprehensive primary care training program. This may be taught by internal medicine or dermatology faculty. Some training programs may have procedure clinics for their residents to rotate through. Additional time in a dermatology clinic is very useful for trainee education.

Mental Health

Given the shortage of mental health clinicians, primary care physicians are on the forefront of diagnosing and treatment of many mental health conditions. It is crucial to train residents in the management of depression, anxiety, attention deficient hyperactivity disorder (ADHD), post-traumatic stress disorder (PTSD) as well as the ability to know how to triage a suicidal patient. Didactics in psychopharmacology as well as rotations with interdisciplinary mental health providers if locally available can strengthen a training program.

Musculoskeletal Medicine

Musculoskeletal conditions are commonly seen in primary care practices and experiences in orthopedics, physical medicine and rehabilitation, sports medicine, rheumatology, podiatry and physical therapy are key components to the educational curriculum. Residents may train in procedural techniques including joint injections, joint aspirations and musculoskeletal ultrasound in simulation centers, their own continuity clinics and/or specialty clinics. A didactic curriculum in musculoskeletal medicine can also help residents prepare for future practice.

Health in individuals assigned female at birth (AFAB)

Primary care residents should be trained on the routine care of patients assigned female at birth, contraceptive management, preconception counseling, breast pain, evaluation of breast masses, menopause, vaginitis, abnormal uterine bleeding, dysmenorrhea and female sexual dysfunction. This experience may take place through didactics, as well as experiences in the primary care continuity clinic and/or in women's health clinics. Clinics such as urogynecology, family planning, and pelvic physical therapy can also be valuable learning venues for trainees. Procedural training for etonogestrel implant (Nexplanon) and IUD insertion/removal should be encouraged in the track.

Additional Primary Care Experiences

In the authors' experience, many primary care tracks also offer flexibility to the residents to help choose rotational experiences which will help in their career and to help fill knowledge gaps. This may include additional experiences such as office ENT, internal medicine private practices, community health centers such as Federally Qualified Health Centers (FQHCs), outpatient cardiology, HIV clinic, care of patients experiencing homelessness, rural care, Indian Health Services, travel clinic, immigrant/refugee healthcare, urgent care, telehealth, telephone medicine, transitions of care (hospital discharge clinic) and home visits. These experiences may vary regionally depending on what resources are available at the sponsoring institution and community needs.

The Continuity Clinic

The clinic experience is the cornerstone of training for primary care residents. The environment should be supportive with faculty and staff to foster an excellent clinical and educational experience. This experience is often one of the few with a robust continuity experience as residents learn to care for a panel of patients over a 2–3-year period. Many programs attempt to place primary care residents exclusively into patient centered medical homes (PCMH), or at the very least those that function like a highly skilled medical home. In the VA clinics, this may take the form of a PACT team (patient aligned care team). Various models are used for clinic, but when thinking about experiences for primary care residents, it is advisable to have access to social workers, care managers, and inter-professional teams so that residents participate in inter-professional care. It is desirable to prioritize primary care residents to also experience clinic sites that have integrated mental health, or that have ready access to mental health professionals and services. Furthermore, primary care residents may have specific interests such as care of Spanish-speaking populations, patients with criminal justice involvement or care of patients experiencing homelessness, so taking this into consideration when assigning clinic sites is important.

Curriculum

The primary care curriculum is discussed elsewhere in this document in detail, but in general it would be important to have a dedicated curriculum that is separate and distinct for the primary care residents. Ideally, you would be able to gather your primary care residents in small groups (often by year of training, but also possible by cohorts or clinic weeks if necessary) to deliver the curriculum. Population health includes the proactive management of care for an attributed panel and typically primary care residents have larger panels and thus may spend more time on population health to help achieve quality metrics and close care gaps.

The primary care curriculum should cover components that are not traditionally taught to all internal medicine residents or have primary care-focused aspects for the following topics: practice management, population health and health policy, ambulatory transitions (e.g. inter-visit care and post discharge clinic), preventive medicine, evidence-based practice, meaningful care of the geriatric patient, coding and billing, social determinants of health, cross-cultural/patient-centered communication, team leadership, behavioral medicine/mental health, telephone medicine, pain management, and addiction medicine.

Community Involvement

Establishing tangible ties for the primary care residents to interact with and contribute to the community is one of the hallmark features of successful primary care programs. Examples of tangible ties could be community outreach, participation in health fairs or free clinics, service projects within the community, educational outreach, visits to local churches/nursing homes/organizations. Many primary care programs may have an advocacy curriculum to help residents understand local and national health disparities and learn ways to utilize their physician role to make impactful healthcare related changes.

Scholarly Work

Primary care residents should have the opportunity to pursue scholarly activity during their residency. This can take many forms: case reports, medical curriculum innovations, clinical research, abstract writing, quality improvement, or health policy. Time to accomplish this may be done as a research elective opportunity or during non-call rotations. Availability of research mentors to support residents in these endeavors is important. Introduction to local, regional, and national conferences to present resident work can strengthen the academic experience and professional identity formation.

Transition to Practice

As primary care residents become ready to transition to an outpatient practice, it is important to cover additional topics such as coding, billing, documentation requirements for special visits such as Medicare wellness visits and transitions of care visits as well as how an efficient office staff interfaces with the day-to-day workflow of an efficient physician. Residents may also gain experience through supervision in an after-hours call rotation and weekend acute clinics. For residents considering an academic career, faculty may supervise senior residents precepting intern clinic cases in preparation for teaching in the clinic setting.

Conclusion

Primary Care internal medicine programs should have rigorous clinical training that prepares trainees for practice in the variety of fields that encompass general internal medicine. Distinct offerings for clinical rotations, unique curricula, highly functional and energized continuity clinics, and an emphasis on ties to the community are some of the defining features for successful training programs. Each primary care program should take into account their local faculty expertise, unique clinical settings, and surrounding community as they design these features.

Readings & Resources

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Logistics of Starting a New Internal Medicine- Primary Care Program

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Well delivered primary care (PC) is associated with improved health quality as well as lower health costs.[1-3] However, it is projected that an additional 33,000 practicing PC physicians are needed to accommodate an expanding, aging population by 2035.[4] Such an expansion will require a major investment in the pipeline of PC clinicians to lead population management initiatives, engage in team-based care, slow the growth of rising health care costs, and drive quality of care.

In response, there has been a refocus at the national, state, and local levels to grow the number of trainees in PC programs.[5] But even with desire and funding, the logistics of starting a PC track/program can be overwhelming. This piece is designed to give a general outline of issues to be considered as one tries to create unique and attractive training pathways to better prepare residents for ambulatory practice and give them the skills they need to navigate and excel in the future.

Building a Coalition

As you build your coalition, begin by assessing the readiness for change in your program, department, and institution. You can illustrate that a PC track/program is necessary by aligning the work of building a PC program/track with current institutional needs and priorities. There are obvious educational stakeholders with whom you can quickly align- program directors, medical school leaders and educators, general medicine division chiefs, department chairs, and the designated institutional officer. Most of these individuals should recognize the educational need to provide a balanced PC training program that will offer a more competitive recruiting strategy for talented applicants. In addition, division chiefs and chairs may have a vested interest in retaining PC graduates within the institution to help support the PC mission and subspecialty referral base. This need to "build the PC pipeline" will also resonate well with accountable care organization leadership, the executive c-suite, quality and safety leadership, and community clinics. A case could also be made that local payers would be interested in increasing the number of skilled, "practice-ready" PC physicians.

In the current climate, it is likely that every institution has a growing PC workforce as part of its long range strategic plan. Local and regional competition for qualified and talented providers will be fierce given the current and predicted shortages of PC providers. Institutions that can "recruit from within" may fare better than those institutions who must recruit outside.

Funding

If you are adding PC slots on top of your current complement of residents, then additional funding for resident salaries and benefits is required. This expansion is predicated on the requirement that the internal medicine residency program does not exceed its approved size as determined by the Accreditation Council for Graduate Medical Education (ACGME). If the program wishes to add PC positions to its current complement, it must justify to the ACGME the educational need and the capacity to do so.[6] This is not a consideration when the PC

slots are carved out of an existing categorical residency program. In addition, the director of the new PC program will need time and salary support to build, grow, and maintain the program. If there are core faculty members who will work alongside the director in curriculum development and delivery, funding to support their time is also necessary. Administrative support will also be required for residency management and operations.

If an institution is operating below their Centers for Medicare and Medicaid Services (CMS) cap, it can garner additional funding merely by expanding the number of residency positions offered. This would allow direct funding to support the new PC positions. If an institution is already at or above their CMS allotment, it would either need to reallocate the current institutional trainee complement to allow for additional PC slots or directly subsidize the cost of expanding GME positions by creating "over the cap" positions.
In addition to CMS, there are several other funding sources for PC training programs. For 50 years, Title VII of the Public Health Service Act has provided grants to support PC clinician training, as well as curricular and faculty development. Administered by Health Resources and Service Administration's Bureau of Health Professions, this funding is available to graduate medical education (GME) programs in family medicine, pediatrics, general internal medicine, geriatrics and physician assistants' programs. Priorities are currently focused on supporting PC educational programs that promote interprofessional education, meeting the needs of a diverse patient population, and increasing the diversity of the workforce. Grant funding can be used to support faculty salaries, resident recruitment activities, travel for residents in line with grant aims, and other activities that will promote the grant's objectives. Applying for Title VII funding is a competitive process, and over the last 10 years, Congress has cut the total dollars allotted to the program. Calls for applications generally come out in the fall with deadlines toward the end of the calendar year.[7]

The Veterans Access, Choice and Accountability ACT (VACAA) GME expansion provides financial support to train more residents in PC, ideally in high need geographic areas. The goal of this funding is to add up to 1,500 new VA GME physician residency positions over five years in partnership with established academic affiliates. Applications for VACAA funding to support resident stipends are due in the spring for the following academic year.[8]

To address individual state predicted physician shortages, some states provide funding directly to community hospitals to start or expand PC training programs, particularly in rural areas.[9] For example, in Georgia, the state made funding available to hospitals without established GME programs to expand new training slots focusing on PC programs and general surgery, particularly in rural parts of the state.[10] This source of revenue is particularly of interest for new PC training programs being initiated in affiliation with a community hospital without an academic or VA partner.

Primary Care Track or Program

The distinction between a PC "track" and a PC "program" can be subtle, but the latter reflects a larger number of residents, a more distinct curriculum, and a higher degree of upheaval to create it. Tracks have no specific ACGME or matching implications and are often the easiest way of starting a PC endeavor. They can be led by an associate program director, a member of the core faculty, or the director of the continuity clinic site. We feel that ideally, a 0.50 Full Time Equivalent (FTE) is required to build a program/track, but at least 0.35 FTE is essential. Residents may elect to join a PC track after matching, or at any point during their residency. In a

track, the PC-specific curriculum is often built around the same scheduling template as the core program. Inpatient rotations and curricula are generally the same as the categorical program, although there may be fewer number of inpatient rotations. The PC curriculum generally includes more time in continuity clinic and other ambulatory venues. Tracks may choose to add additional clinic blocks to the schedule and increase time in clinic without building an entirely different schedule for the PC residents.

Primary care programs tend to be larger and have a more distinct clinical curriculum from the categorical program. Given the need for consistent numbers of PC residents for curriculum planning and clinical education, many PC programs have chosen to have a separate National Resident Matching Program (NRMP) match number. This allows some distinction from the categorical or "core" program. It also means trainees are committing to a PC program when they submit their rank list (although most have the flexibility to allow transfer into the program after match). A separate match number can also aid in the recruitment of applicants with particularly high interest in PC who may be unwilling to match into a residency program if their acceptance into the PC track is not guaranteed. There are a handful of programs that are entirely PC programs with no associated categorical program. They have their own distinct IM primary care NRMP code.[11]

Structure of Ambulatory Time

As part of any PC program, additional time in ambulatory training for the PC residents is necessary. How this ambulatory time will be distributed over residency will depend on the environment of the core program and the institution. Ambulatory time can be garnered from subspecialty elective time, previously scheduled ambulatory blocks, or from inpatient rotations.

If carving out a PC track from a core program, the size of the track and the amount of ambulatory time may be limited by the "staffing needs" on the inpatient services. If there is an overabundance of residents, the PC residents can be removed from inpatient service time relatively easily, although this will shift some additional inpatient duties to residents in the categorical program. If inpatient scheduling is tight, removing a significant number of PC residents from the pool may necessitate decreasing the number of services covered or restructuring of the services to allow for less resident coverage. Either way, this will create an imbalance of inpatient responsibilities between categorical and PC residents. This may be the first time an imbalance in work distribution amongst residents is perceived, so one must message this well to all residents. Recognizing and acknowledging this prior to any change is critical. Establishing the core mission and objectives of the PC track will guide the rationale for differences in training exposure for the PC residents. If one is expanding the residency by adding PC residents, the "staffing needs" of the inpatient services are less of a problem as any additional residents will add scheduling flexibility to the whole program.

X+Y scheduling models for PC programs may have advantages over traditional models. Such models can provide extended and protected time in ambulatory settings and allow for more consistent content delivery of didactic/small group curricula[12]. By their nature, X+Y models decrease the conflict of simultaneously caring for patients in the inpatient and ambulatory settings. Furthermore, the model allows for more consistent resident scheduling in the clinics and may allow residents to return to their continuity sites at regular intervals. Importantly, recurrent and consistent immersion experiences in ambulatory care can build a culture of PC and create camaraderie among PC residents, office staff, and faculty. Such scheduling can improve learner/faculty

continuity and allow for more effective skill development, observation, and feedback[13]. However, these stated advantages are balanced by an increase in the complexity of scheduling and challenges of outpatient care when residents are not in their clinic. These challenges are not unique to X+Y models but do require some forethought and coverage strategies to ensure continuity of care for patients is not negatively impacted. Primary care programs (as opposed to tracks), given their larger size, can have a different scheduling template than the categorical program. For categorical programs employing X+Y scheduling models, the PC program can function in the same model with additional ambulatory time taken from the "X" blocks. Alternatively, a number of programs have been successful in having the categorical X+Y program interwoven with a different PC X+Y model. For example, at the University of Pennsylvania, the categorical 6+2 scheduling model is meshed with the PC 4+4 model. Furthermore, X+Y scheduling can be employed for the PC program even when the categorical program maintains traditional scheduling, although schedules made up for 13 four-week blocks are easier to mesh than those that are based on the calendar month.

Continuity Clinic

Continuity clinic is the cornerstone of any PC program. Ideally, immersion blocks should be utilized to allow for focused practice in the ambulatory training environment. This can occur as consistent recurring blocks of ambulatory time as in an X+Y model or a series of immersion ambulatory blocks in a traditional model. If immersion blocks are not possible, any additional clinic time is beneficial. There is no ideal number of clinic sessions for competence, but PC programs ideally should aim to exceed the current standards of 130 clinic sessions over three years. Numbers of patients scheduled per session should reflect local trends and capacities based on patient population, preceptor capacity, no-show rates, and the clinical environment. Capacity in the clinic may be the rate limiting step in the size of a PC program. If the PC residents' continuity clinic site is in the same physical space as the categorical residents, and PC residents will have more clinic sessions there, it is important to determine if there is capacity to do this (i.e., enough clinical space, clinic staffing, and faculty preceptors). If the clinic site is already at capacity, one should consider adding or restructuring a new clinical site specific to the PC residents.

A separate clinical space may allow for the opportunity to designate certain faculty as "PC core faculty." A limited number of dedicated faculty provides an opportunity for enhanced faculty development which can result in more consistency in teaching skills, precepting styles, and supervision. A PC clinic environment staffed with talented and dedicated faculty provides the ideal setting for frequent direct observations of residents, real-time clinical coaching, more thorough and effective evaluations of resident milestones, and would be an ideal venue to improve on specific skills in need of focused practice. A separate clinical site may also allow for more manageable initiatives in quality improvement, patient safety, and population health. Finally, housing PC residents together as a group in a single continuity clinic site allows the building of camaraderie amongst the residents, models a group practice, builds mentoring relationships with core faculty, and creates a supportive environment where a career in PC is not seen as an unusual choice of few, but the norm chosen by the majority. Separate physical clinical space for the PC residents is by no means a necessity, and programs who are not in a position to provide this must look for creative ways to enhance the PC experience/culture in clinic so that it is not merely more time in the categorical clinic.

Second Site Continuity Clinic Experiences

Primary care tracks/programs may also consider having the residents participate in "second site" continuity clinics. These are alternative ambulatory sites through which a PC resident rotates on a continual basis over 1-3 years and may involve a patient population in which the resident has a particular interest. Experiences could include, but are not limited to, community health centers, outpatient HIV care, gender-appropriate care, care of incarcerated people, Latinx health, refugee care, LGBTQ care, care of unhoused people, and private practice. In addition to providing excellent training venues for residents, working in such clinics allows residents to provide direct clinical service to the community and provides an opportunity for these clinics to recruit new graduates. These advantages may be an effective negotiating strategy when such relationships are entertained. These second site clinics also provide a unique experience designed specifically for the PC residents, thus increasing uniqueness and desirability of the track/program.

Other Clinical Experiences

In addition to continuity clinic, other ambulatory clinical experiences are vital to a resident's development. Ideally, all residents should have a core ambulatory clinical curriculum and opportunity for additional and elective ambulatory training. These might include ambulatory rotations through both internal medicine specialties as well as non-internal medicine specialties such as dermatology, ophthalmology, musculoskeletal medicine, and neurology, to name a few. Special clinical experiences, such as home visits, may also be valuable learning opportunities for PC residents.

Inpatient Clinical Experience

Primary care programs or tracks may choose to have their residents' inpatient experience look very similar to, or very different from, their categorical colleagues. The congruity between the PC and categorical inpatient experience depends on the culture of both programs and the institution. Some programs go to great lengths to assure almost identical inpatient experiences for all residents. There are a number of reasons for this including wanting to produce highly functional general internists who may choose to enter PC, hospitalist medicine, or specialty fields. This may be important as some PC-bound residents may change their minds during residency. There may also be a concern that PC residents participating in a less rigorous inpatient clinical curriculum may be perceived as less competent by the residents and faculty in the categorical program.

Alternatively, depending on the setting, a program may feel that the inpatient experience should be different for PC residents and may advocate for changes like less intensive care unit time, less subspecialty time, and more focus on general medical rotations. The latter may enhance experience with transitions and coordination of care with the ambulatory setting, which is a valuable focus for PC-bound residents. If one's program has multiple inpatient clinical sites, one may choose to focus the inpatient experience for the PC residents at a different site than the categorical residents - perhaps a site with more of a "community hospital" feel. The right balance of inpatient experiences would allow PC residents to be better prepared for outpatient medicine without limiting their preparedness for inpatient and/or subspecialty careers. This can be accomplished especially if you are able to remove some of the redundancies in clinical training that can occur as a consequence of institutional service needs.

Curricular Content

In addition to clinical training, every PC program should have a robust educational curriculum. The cadre of topics can be delivered in didactic fashion, small group interactive seminars, resident-led endeavors, or in learning collaboratives with other programs. In addition to standard ambulatory medicine topics (e.g., hypertension, diabetes, screening guidelines), seminars provide an ideal venue for hands on physical exam education and procedural skill development. Topics such as communication skills, narrative medicine, wellness, as well as career and financial planning can complement the clinical curricula. By covering topics such as global health, medical education, local community resources, public health, health policy, health services research, quality and safety, population health, and mental health, the breadth is expanded. Supplemental content may also allow for novel curricula in travel medicine, telemedicine, inter-visit care, billing and compliance and even electronic health record optimization. This list of educational opportunities provided is not meant to be exhaustive, but rather illustrative of what can be accomplished. Small group seminars may also provide an opportunity for community building, camaraderie, and culture building.

Primary Care Culture

In addition to providing a superb learning and patient care environment for PC residents, a major goal of the program should be creating a special community and culture around PC. Providing unique, interesting, and meaningful clinical venues and classroom teaching can make the program desirable and perhaps preferable to the ambulatory training provided by the categorical program. A small, dedicated faculty has the potential to provide clinical coaching and mentorship to PC residents that may not be possible in the larger program. In addition, exposure to topics vital to the future of PC (e.g., population health, quality and safety) will help PC residents feel that they are on the cutting edge of medical education and are prepared for the future of medicine.

Conclusion

The expansion and aging of the population necessitates training more primary care physicians to serve the needs of our country. Internal Medicine-Primary Care programs are well positioned to fill this gap by creating a workforce that is facile in the concepts of population health, interprofessional team-based care, transitions of care, and quality and value-based care. In this piece, we have outlined a template for steps in creating a successful primary care track/program from scratch. Ensuring the support of key stakeholders within GME, the C-suite, and the medical school will facilitate and drive the mission. Securing funding for new resident positions as well as support of faculty intimately involved in its formation and sustenance allows a program to move forward. Designing the interplay between ambulatory and inpatient time, the structure and location of continuity clinic, and the curricular content will allow the culture of the program to succeed and blossom.

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Primary Care Immersion Experience for New Primary Care Residents

Jayne M. Peterson, MD

New primary care interns that are imbedded in a large categorical program focused on hospital and subspecialty medicine can become isolated because they have chosen a less common career path. At the University of Arizona College of Medicine-Phoenix we strive to educate and promote primary care residents as local experts in ambulatory medicine within our program. Our program utilizes X+Y scheduling system where all residents have a designated practice partner who manages their own and their practice partner's continuity clinic patients on their non-call months. To set our primary care interns up for success, the primary care interns start their year together in a three-week primary care immersion rotation before separating into alternating months. This allows them to develop a common understanding of patient care practices, community resources and develop their communication strategies for patient care transition when covering each other in the future.

Scheduling and Curriculum Objectives

The interns are scheduled with the following objectives in mind:

- Continuity Clinic Patient Visit Workflow
- Understanding Clinical Staff Responsibilities and Resources for Collaboration
- Core Clinical Topics
- Community Exploration Day

Continuity Clinic Patient Visit Workflow

Interns meet with an upper-level primary care resident to discuss optimal workflow. This can include shadowing one patient, sharing common electronic medical record (EMR) templates & phrases, patient education resources, and pre visit planning. Besides their usual two half days of continuity clinic, they are also scheduled to work with other attendings for an additional 2 – 3 half days per week to obtain further experience and insights in practice patterns.

Understanding Clinical Staff Responsibilities and Resources for Collaboration

The primary care interns are scheduled to follow a patient during a routine visit to better understand the patient's experience and the responsibilities of each staff member the patient encounters. This "Staff Shadow" has the intern considering several questions as they meet with the front office, medical assistants, LPNs, Referral Dept, Population Health Medical Assistant. **Appendix A**

We also schedule half days with our Nutritionist, Clinical Pharmacy, & Social worker/Behavioral Health RN. They get practical experience with common patient visit concerns and the scope of consults that these providers receive.

Core Clinical Topics

We ask that each clinical attending faculty provide a 30 - 60 min educational session during this rotation. Topics include:

- Chronic Condition Management (Diabetes mellitus & Hypertension)
- Anxiety & Depression
- Abnormal Labs Management
- Incontinence
- Billing and Coding
- Asthma
- Contraception
- Common Eye and Dermatologic Conditions
- Clinic Orientation Reboot – going over any new questions after seeing patients

Community Exploration Day

One day is set aside to explore our community's public transportation system by reviewing a patient scenario and asking the primary care interns to go out as a team to try and find resources to improve financial and food situation. They are provided a day transportation pass. They are then asked to reflect on their experiences and how it might change the way they practice medicine. **Appendix B**

Reflections to date were around how difficult it is to travel long distances on the bus system. It made them more likely to question patients about why they are late before saying they won't see them. They noted the number of people who had to bring their children to the DES office and how difficult that would be when the lines were long.

Other community experiences have included a tour of our homeless services campus including Homeless Respite (Circle the City) and a visit to our local Heard Museum to learn more about our 22 tribes in Arizona and how our history of treatment of Native American people impacts their healthcare.

Sample Schedule:

	11	12	13	14	15
am	PC Meeting with PC Senior	Academic Half Day	Nutrition	Clinical pharmacist	Continuity clinic
pm	Staff Shadow & Pop Health MA	Continuity clinic	Billing/Coding/Pain lectures (conference room)	Primary Care Orientation & Telephone Medicine	Friday sick clinic
	18	**19**	**20**	**21**	**22**
am	Primary Care Community Exploration	Academic Half Day	Circle the City tour	Extra clinic	Continuity clinic
			PC Noon Conference	Health Seminar	
pm		Continuity clinic	Local Museum tour focused on AZ Native American	Extra clinic	Clinic orientation Reboot
	25	**26**	**27**	**28**	**29**
am	PC Education:	Academic Half Day	PC Education	Extra clinic	Continuity clinic
pm	PC Education:	Continuity clinic	Social Work & BHRN	Extra clinic	Friday sick clinic

Appendix A

"Staff Shadow"

You will be following one patient and meeting the various members of our staff that assist in the care of your patients. As you meet with each member of our practice team, consider these questions, and indicate what you learned below:

Front Office:

What are the ways that the patients can schedule an appointment in our practice?
Who verifies the patient's financial obligations for their visit i.e., insurance, outstanding financial balances?
What if we are not designated their primary care physician – what happens next?
What forms must the patient fill out and why?
What are the top 2 – 3 things that delay check in?
What is the difference between clerical and clinical messages?
How can we best collaborate with the front desk?

Back office Medical Assistants:

How do the MAs determine which health maintenance items are up for review each visit?
What health screens do they do?
What is their process if someone's blood pressure is too high or too low?
What are the standing orders for MA intake?
What vaccines to we carry and how does insurance impact where patients can get it?
What labs can patients go to?
How and when do you request assistance from the MAs?
How can physicians best collaborate with the MAs?

LPN/Administrative MA:

How many calls do they get each day?
What is the medication protocol? What happens if you're not in clinic that day?
How do we handle the labs and critical labs?
How do triage calls work?
Find out who helps with home health/equipment orders. – Who does what?
How can physicians best collaborate with the LPNs/Admin MAs?

Referral Department:

What is the process to obtain referral and how long does it take?
What are the most common mistakes that physicians make when sending referrals/diagnostic requests?
How do you order Home Health and durable medical equipment (DME) referrals?
What do physicians need to do differently if they need something urgently or stat?
What is the importance of matching the diagnosis with the specialty referral and how many diagnoses can you put for each referral?
What do you do if your patient requests a specific subspecialist – how do you let referrals know?
How can physicians best collaborate with the Referral Dept?

Population Health Medical Assistant:
How do you see which patients are in your patient panel?
What are the current Accountable Care Organization (ACO) measures that our practice is held accountable for?
How do you see your own ACO score?
What can you do to improve your scores?
How do you find out if your patient has already had a vaccine?

Appendix B

Community Exploration Day
Goal: Better understand the community that we serve: Barriers & resources to improve social determinants of health & obtain optimal patient care outcomes.
Learning Objectives:

1. Understand the public transportation available to our community through experiential exercise
2. Identify at least 2 barriers to obtaining resources when patients lose their job/insurance
3. Describe resources available and how to access them for food insecurity

Community Resource Scavenger Hunt:
Scenario: You lost your job as a medical assistant last month and haven't been able to find another position. You are 24-year-old single mother of an 18-month-old daughter. Your extended family is helping you with childcare. You have no financial support from the child's father whom you left because of intimate partner violence. You had limited savings and need cash assistance and want to explore getting on the SNAP program. You currently live in Mesa and come to our practice to help manage your diabetes. You are otherwise healthy.

You will be given a day pass to use the Valley metro system to search for resources:

Valley Metro Plan a Trip:
www.valleymetro.org
The goal for the morning is:

1. To visit the Department of Economic Security office in Mesa traveling to and from the BUMCP IMC office. (Gather information there and take selfie in front of office)
2. What services are you able to obtain via the website or in person that might prove useful. (Economic assistance, food, childcare, intimate violence resources)
3. Obtain a food box to supplement your food intake until you can get more help. (Please take photo of the food box you are given Please make observations (see attached sheet) along the way.
4. Visit one of the fresh food locations if time available

Resources:
For Food boxes: options: www.azfoodbanks.org

Fresh Food resources:
Farm Express locations: https://www.farmexpress.org/schedule.html
Bountiful Baskets: http://www1.bountifulbaskets.org/?page_id=6
Superstition Farms: https://www.superstitionranchmarket.com/

Financial resources: Department of Economic Security:

Office Location: 120 W 1st Ave,
Mesa, AZ, 85210,
Maricopa County

For more information about the service, visit the Nutrition Assistance (Food Stamps) website.
Services Available at This Office: Cash Assistance, Child Care, Child Support Services, Developmental Disability Services, Disabled Veterans Outreach Program (DVOP), Employment Service, Medical Assistance, Nutrition Assistance (Food Stamps), Unemployment Insurance Tax, Vocational Rehabilitation

Reflection on the Day:

1. Transportation activity: What are your impressions from using Valley transport? (Distance from the practice, ease of use, quality of the transport, other people on transport)
2. Department of Economic Security: How did it feel? Easy to find and use? Impression of staff and process? Helpful?
3. Food box: How difficult was it to find somewhere to get a food box? Describe the quality of food available.
4. Fresh Food bus/services: Impressions?
5. Overall - is there a take-away from the day that might change your practice management?

Patient-PCP Continuity in the Resident Practice

Halle G. Sobel, MD & Lisa Kearns, MD, MS

Importance of Continuity

Continuity of care is a core value in the relationship between a physician and patient. Studies have shown that continuity of care can improve important health outcomes such as diabetes care and preventive care. It may also reduce hospitalization rates in both the emergency room and inpatient setting.[1,2] Patients tend to be more satisfied if they have a continuous relationship with a physician and likewise, resident physicians may have an improved clinic experience if they have more continuity with their patients.[3,4] Continuity can be approached from different perspectives such as that of the patient, attending physician, resident physician or healthcare system.[5] However, continuity of care is not easy to achieve in residency settings due to the nature of resident schedules, time away at educational conferences and patient needs which may include timely access to care, thus overriding continuity.

Although the term continuity is often used to signify the relationship between the patient and the assigned primary care physician (PCP), other frameworks of continuity have also been described. These include informational continuity (continuity of information shared between professionals), team continuity (seamless communication across teams), management continuity (consistency in management from team members) and therapeutic relationship continuity.[5] Some authors have suggested that there may be overlap in these frameworks and that a continuous care relationship between healthcare providers involving integration, coordination and communication to provide high quality care may be an appropriate way to describe continuity.[6] Team-based care may be the most effective way to achieve high-quality care in resident clinics.[7]

Continuity Measures

There are various measures that are used to assess continuity. Some are based on a patient having a primary care physician or "usual" provider and others are based on visit patterns.[8] The Usual Provider of Care index (UPC) is calculated by summing the number of patient visits with the PCP divided by the total number of visits in the practice. The modified continuity index (MMCI) is defined as the number of provider visits divided by the total number of visits. This may be a more useful measure in resident clinics as it accounts for dispersion among other providers.[9] The Continuity of care index (COC) does not require a patient be assigned to a specific provider. This is calculated by the number of visits to each individual physician divided by the total number of patient visits. This index values range from 0 (each visit made to a different physician) to 1 (all visits made to a single physician). Higher continuity results when a patient has a large number of visits with a small number of providers.[8] The sequential continuity (SECON) takes into account the most recent provider the patient has seen, and it is felt this index can be useful when considering information sharing among providers. All of these indices have a range of 0-1.[10] From the physician perspective, the physician continuity index measures the number of times the physician sees his/her/their patients within a set time frame.[9]

Reporting

Clinic faculty can work with their information technology teams to create continuity reports for their clinic sites. A common report is the UPC report, and this can be easily achieved if the resident PCP is listed in the electronic record. Such reports could be reviewed quarterly or at a designated time period that is deemed useful by the clinic faculty or medical director. Typical UPC rates vary in resident clinic and tend not to go above 0.75 given the less frequent nature that residents are in the clinic. One study found the UPC to average 56% in resident clinics and a range of 0.43-0.75.[11]

Practical Strategies

Interventions can range from simple to more complex clinic structure changes. Clinic faculty can ensure a primary resident is identified for each patient in the EHR. This has shown to have a 25% increase in continuity.[12] While precepting, faculty should make sure patients have follow-up with the assigned primary resident at the appropriate interval. Discussion with clinic staff on resident patient continuity may help at the office work-flow level. This should be considered on an ongoing basis given that there may be staff turnover.

More complex changes include: transitioning from variable day clinic to a fixed day and changing all residents to 4-5 sessions per week.[11] While much of this is dependent upon the overall rotation schedule, clinic faculty can partner with administrative members to aim for a fixed day schedule. Once on a fixed day schedule, patients can be scheduled for their follow up appointments with their resident physician at the time of discharge from the clinic. Team based continuity with a group of residents who cover one another with set faculty and staff may improve continuity for a panel of patients in teaching clinics.[13] Depending on the patient needs, sooner follow up can be scheduled with a team member of the same continuity clinic group simultaneously with scheduling a regular follow up visit with the resident PCP. This would permit both individual and team-based continuity in complex care circumstances.

Another potential option for improving continuity of care is optimization of panel management. Quality reports for prevention and chronic disease management metrics, such as breast and colorectal screenings or A1c values >9 diabetic patients, can be provided to each resident PCP. The resident can review performance data with their preceptor and create an outreach plan to improve performance. This strategy may add more continuity despite the asynchronous nature of outreach efforts. In addition, continuity reports can be developed with the EHR to measure at the individual level the resident continuity with their assigned patients. Residents with low continuity can work with clinic faculty to come up with a strategy to improve this measure.

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Electronic Medical Record and Systems Practices: Pragmatic Ambulatory Clinic Skills

Rachel Snyder, MD & Jaime Fineman, MD

Introduction

Effective use of the electronic medical record (EMR), systems navigation for patient care, and communication within healthcare systems are ACGME milestones[1], yet a structured curriculum around these topics may be lacking in many residencies, particularly in the ambulatory setting. EMR systems curricula for residents that have been published are limited[2,3,4], and many are for medical students or attendings and were completed over a short period of time[4,5,6,7]. While interns typically get EMR training during intern orientation, this is typically only a single session and not always focused on the learner's clinical specialty; it also comes amidst a large amount of other orientation details, potentially leading to "information overload". While medical students often train with an EMR, the skills may not be transferable to residency given different EMRs at different institutions, different usage needs for students and residents, and limited exposure to ambulatory medicine at many medical schools.

Many residents quickly become familiar with the EMR and systems practices in the inpatient setting given the amount of time spent in the hospital. However, many residents feel less comfortable navigating care for patients in ambulatory clinic despite the fact that most will practice in an outpatient setting upon graduation. To be an effective primary care physician, it is necessary to understand how to appropriately and efficiently utilize the ambulatory EMR as well as develop skills to navigate care for patients outside of the hospital. Efficient use of the EMR can reduce time interacting with the EMR. Previous studies have shown that advanced EMR skills training can lead to saving 4-5 minutes/hour, which can save up to 40-60 minutes/day[7]. Increased proficiency can improve job satisfaction[8]. Effective use can also potentially improve patient safety and transitions of care between providers.

In an effort to better teach systems-based practice in our residency program, we developed a parallel small group curriculum that utilizes cases referencing medical topics discussed during our weekly ambulatory didactic curriculum. Through short interactive cases, we teach systems-based practice, inter-visit management and EMR skills. We had two main goals in creating this curriculum: providing residents with a practical skill set to be successful outpatient providers upon graduation, as well as improving their comfort and confidence in the practical aspects of residency clinic so that they may focus on learning ambulatory medicine and enjoy their role as primary care physicians.

Structure of Curriculum

- **Timing:**
  - Our residency operates on an X+Y system. This curriculum is taught during the ambulatory Y block. During each ambulatory block, a new systems-based practice topic is introduced. We deliberately space knowledge over the year to avoid "information overload" in one session and to reinforce topics introduced during orientation and during previous sessions.
  - Residents and faculty meet during a pre-scheduled time every ambulatory block. We have organized our ambulatory schedules so that residents have an administrative session at the same time as their assigned attending's administrative session. This curriculum takes 20-30 minutes of that session, the rest of the session is available for residents to work on clinic-related tasks and panel management.

- **Group Sizes:**
  - We meet in small groups of 2-3 residents (at least one upper year in each group). One attending is assigned to each group. The groups remain the same all year, and residents stay with the same attending for all three years. We've found that small groups allow for more engaging conversation and personalized feedback. However, if limited by faculty and time this curriculum could be done with a larger group with one or two core faculty delivering the information to each group of residents during their respective ambulatory weeks.

- **Ensuring consistency among educators:**
  - Given multiple preceptors are facilitating these sessions, the content is reviewed with preceptors in a faculty meeting the week prior to the new topic being taught. Feedback is sought from faculty after the first 1-2 weeks of teaching the most recent content to see if any details require adjustment or clarification.

- **Content:**
  - The curriculum is case-based with the goal of teaching how to efficiently and effectively use the EMR and navigate the ambulatory healthcare system. The EMR at our institution is Epic, so the content is specifically built for Epic, but it could be adapted to other EMRs.
  - Each Y block session focuses on a different set of systems-based skills, with specific learning objectives outlined at the beginning of the session.
  - While the focus is mostly on systems-based skills, we do use these cases to reinforce medical knowledge taught during the current ambulatory block didactics. For example, we teach about result follow-up using diabetes cases during our endocrine block, discussing potential "next steps" for a patient with an elevated Hgb-A1c. Most of our sessions thus have both system-based knowledge *and* medical knowledge learning objectives.
  - There are multiple ways to teach the content during a three-year period. One option is to repeat the content every year with slightly different cases. While upper year residents will have heard the content before, spaced learning will help reinforce best practices. In addition, upper year residents can act as teachers for interns if they have already mastered these skills. If enough content is created, the highest yield topics could be repeated every year, and the lesser yield content could be spaced over three years, or at least alternated every other year. This structure assumes that the content will be delivered to groups of residents in various stages of residency at once. Alternatively, this curriculum could be reformatted and only delivered to one class every year (e.g: PGY1s) with the same content being repeated every year.

Supportive Teaching Tools

- A PowerPoint is provided to faculty and residents to reference during and after the session. Short clinical cases that teach system-based objectives and guided discussion questions are included in the PowerPoint. When teaching EMR skills, screenshots of the EMR with de-identified patient information or short (~2-5 minute) videos are included.
- We are including an example in Appendix A that reinforces medical knowledge (diabetes care), discusses appropriate inter-visit care (what to do with an abnormal A1c), teaches EMR skills (result notes), and

highlights community resources and systems-based skills (follow up with Diabetes Educator; obtaining necessary durable medical equipment (DME)).

How to Run a Session

- **Timing:**
  - A session takes approximately 20-30 minutes.
- **Technology needed:**
  - If meeting in person, ideally everyone should have their own computer and access to EMR. If remote, everyone should have access to the EMR and screen sharing capabilities.
- **Facilitator suggestions:**
  - Faculty can use the PowerPoint as a reference to prompt discussion and teach EMR skills. However, sometimes it is more helpful to highlight the take home points in real time via practicing directly in the EMR.
  - If residents have access to the EMR, they should be encouraged to practice these skills in real time. Faculty can often demonstrate specific skills during the session using real cross-coverage cases.
  - Before teaching a topic, faculty can ask the group what their practice is (e.g., What is your practice of keeping track of high-risk patients? How do you respond to results?). This can be an opportunity for peer teaching. It can provide insight into what current resident practices are and provide positive or constructive feedback on these practices

Curricular Topics:

Topics early in the year should be simple. For instance, what are expectations of inbox management and cross coverage? What is the appropriate documentation and follow up for results (e.g., result notes, telephone calls, etc)? As the year progresses, the complexity of the topics can progress. For instance, how should one keep track of high-risk patients effectively and efficiently? Additionally, the cases we used to teach the systems-based practices can build on topics already discussed during ambulatory didactics to reinforce high-yield medicine topics. See Appendix B for an example year 1 curricular map. See Appendix C for example cases.

- **Examples of EMR skills to improve patient care and safety:**
  - Reviewing best practices for inter-visit management
  - Setting expectations for follow up of abnormal test results
  - Reviewing best practices for transitions of care
  - Learning best practices for keeping track of high-risk patients:
    - Creating patient lists
    - Sending personal reminder messages
    - Future dating messages
    - Postponing messages or results
  - Utilizing population health resources to complete a Panel Management assignment
  - Writing effective result notes
  - Documenting telephone encounters appropriately
  - Utilizing staff messages within the department and across specialties to coordinate care
  - Using the problem list efficiently and effectively
  - Managing the healthcare maintenance reminder tab
  - Reviewing methods to perform a thorough medication reconciliation
  - Reconciling information from other sources (EMR linkages, pharmacy linkages, etc.)

- **Examples of EMR optimization to improve efficiency:**
  - Quick buttons
  - Quick actions
  - Smart phrases
  - Preferences lists
  - Order panels
  - Screen optimization (display board, favorite drop-down menus)
  - Filters and bookmarks
- **Outside of the EMR: "paperwork" as a form of patient advocacy**
  - Common forms and ethical dilemmas (disability forms, jury duty excuses, etc)
  - Durable Medical Equipment FAQ
  - Prior Authorization FAQ
  - Advanced care planning
  - Community Resources FAQ
  - Insurance and Billing FAQ

Evaluating learners

It is helpful to assess what the residents retain and how the residents are incorporating what we are teaching into their practices. We completed this through an unannounced inbox assessment and chart review of a recent ambulatory clinical encounter. Midway through the year, attendings met individually with residents they had been teaching and completed a short checklist. See Appendix D for an example. In brief, the checklist reviews if the residents' inbox has multiple unaddressed items in it and how accurate chart documentation is.

Conclusion

While documentation and health systems navigation can be a source of frustration for many outpatient providers, learning how to be effective and efficient can improve one's clinical experience and improve patient care. This curriculum provides trainees with such a skillset to set them up for success as new primary care physicians.

Appendices A, C, and D

Please click the above QR code to link to a Google drive with additional resources including example PowerPoint, example cases, EMR CEX

The following information can also be accessed here:

https://drive.google.com/drive/folders/16e-BaR4HMhY04ZjaW6A0QmPqvgebPuZx?usp=sharing

Appendix B

Full Curricular Map

Block	Associated Ambulatory Curriculum Theme	System-Based Practice Curriculum Theme	Firm Objectives	Case
1	Intro to Office Based Practices	Introduction to EMR Personalization	1. Set expectations (coverage system and intervisit expectations) 2. Make and steal smart phrases 3. Copy preference lists	
2	Endocrine	Basics of Intervisit Care	1. Review intervisit care for diabetes management, including basic medication management 2. Review how to document result notes and telephone calls 3. Review how to arrange follow up	A patient was seen to establish care yesterday. Results in your inbox today show an A1c of 7 or 10.
3	Screening/Prevention	Health Maintenance Tab	1. Review how to enter results, edit modifiers, and change screening criteria. 2. Review how to reconcile immunizations 3. Review how to use dashboard to review who is overdue for cancer screenings 4. Review updated cancer screening guidelines	A new patient presents and wants to discuss cancer screenings and make sure she is up to date on immunizations.
4	Renal	Medications and Medication Reconciliation	1. Review the appropriate steps before refilling a medication 2. Review how to reconcile outside medications, access a dispense report and view historical medications 3. Reinforce how to document new medications, reasons for discontinuation of a medication and when a patient is not taking a medication but should be 4. Discuss when it's appropriate to discontinue a medication and how to follow up with a	Case 1: You receive a medication refill request of a colleague for levothyroxine and NSAIDs. The patient hasn't had a TSH checked in > 1 year and the last creatinine was uptrending to 1.4 from 1.0 three months prior. Case 2: You're seeing a new patient in clinic. How do you do a medication reconciliation?

			patient 5. Demonstrate how to sign up for prescription drug monitoring program (PDMP)	
5	Cardiology	Transitions of Care	1. Review the goal of a post-hospital discharge appointment and important items to address (ex: specialist follow up, labs, medication review, home support, patient education) 2. Review optimal discharge summaries from the outpatient provider's perspective to improve inpatient discharge summary writing skills. Residents can either review their own, peer review others, or review a made up example. If a made up example is used, it is helpful to provide the residents with an improved example.	A patient was recently admitted to the hospital for heart failure exacerbation in the setting of newly diagnosed heart failure. During his hospitalization he was also newly diagnosed with hypertension and diabetes. Multiple medications were started.
6	Infectious Disease	Keeping Track of High Risk Patients	1. Learn how to create patient lists, postpone messages, future date messages, and send reminder messages 2. Discuss when and how to effectively communicate with specialists 3. Review how to disclose newly diagnosed HIV/HCV and what labs and/or imaging may be helpful to move care plan forward	A patient is newly diagnosed with HIV or Hepatitis C.
7	Musculoskeletal	Using the Problem List	1. Reinforce that the PCP owns the problem list and keeping a clean and up to date problem list can improve efficiency 2. Demonstrate how to remove redundant and resolved problems, previous hospital problems, and outside problems 3. Demonstrate how to change the problem display name and add additional information in overview section	A patient was seen in clinic for progressively worsening left hip pain and you diagnosed him with severe osteoarthritis and now planning for a hip replacement. The problem list has multiple versions of left hip pain on it.
8	PCP "Grab Bag"	Outside of the EMR: Forms and Ethical Dilemmas	1. Review forms best practices 2. Reinforce the idea that paperwork can be a form of patient advocacy or an opportunity to engage patient in care 3. Review common forms, clinical policies around common situations and	Case 1: A patient has a history of anxiety and chronic migraines and would like FMLA paperwork filled out. Case 2: a patient has chronic low back pain. She ambulates to clinic

			anticipatory guidance providers can give patients when forms are completed	independently. She would like a home health aide to help with household tasks.
				Case 3: A patient reports binge drinking in the evening and is coming in for his driver's license physical.
9	Pulmonology	Outside of the EMR: DME and Prior Authorizations	1. Review process for getting DME 2. Review how to do a prior authorization 3. Recognize that DME and prior authorizations are a form of patient advocacy	Case 1: A patient has asthma needs nebulizer machine
				Case 2: A patient has asthma and needs prior authorization for rescue inhaler

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Preparing Primary Care Residents for Real-Life Practice

Jason Ojeda, MD & Halle G. Sobel, MD

Despite being deemed ready for independent practice, many residents still struggle with transitioning to the attending role. Some of this discomfort is created by lack of exposure to logistics within the primary care delivery system and others are rooted in changes in volume or the need to take on previously unpracticed roles. Helping to ease the transition to "attendingship" can help newly graduated residents establish helpful habits toward successful clinical practice and scholarly promotion. Thus, the goal of this chapter is to highlight some educational goals to 1) address common logistical knowledge gaps in graduating residents 2) provide guidance on "unpracticed roles" that come up in the transition 3) help graduating residents better adapt to volume expectations and 4) help lay the foundation for future promotion.

Working Within the Primary Care System

Billing, Coding, and Insurance Issues

Residents will vary in how much coding and billing education they receive as part of their residency education and as part of workplace learning in the clinic. How much feedback residents obtain from faculty preceptors on their correct or incorrect use of billing codes may differ as some faculty may correct codes when co-signing charts and not communicate the change to the resident. Residents may be exposed to a coding and billing curriculum in the ambulatory setting and/or during their orientation to residency. Residents should be taught by faculty well versed in coding as this is a complex issue that many practicing faculty do not understand. Many residency clinics operate under the primary care exception rules and in this case, residents may only be accustomed to using a few select billing codes. As rules change over time, it can be helpful to have additional education sessions for residents entering the primary care workforce. An opportune time to revisit billing and coding is during the 3rd year before residents embark into primary care practice. In addition, most institutions will have a process for auditing charts for newly hired faculty to further solidify this education. This may also be an ongoing occurrence at many institutions.

Understanding the nuances of coding and billing is key both to the financial success of the clinic and to the individuals' success. Coding educators are often responsible for informing physicians of basic rules and changes to such rules which occur for the services for patients provided under Medicare, Medicaid (which may vary by state) and private insurers. It is crucial for newly practicing physicians to understand the unique billing codes for preventative services, evaluation and management services for which medical decision making plays a role, and time-based billing. Other unique billing codes include transition of care services for patients discharged from the hospital within certain time frames, office-based procedures such as cervical cancer screening tests, skin procedures, home health certification and some insurers reimburse for counseling services. Medicare wellness visits also have three unique levels of codes that differ from preventative billing codes for privately insured patients. It is recommended that all physicians new to the primary care workforce be provided with coding education and individualized feedback on the billing and coding of their clinical documentation. This education may vary by institution but would be best achieved by both a coding specialist and a physician who can coach the residents on how to capture the appropriate level of billing. By fully understanding and maximizing clinical revenue, physicians can get full credit for the services provided to their patients.

Insurers will vary in preferred medication formularies and in ease of approving imaging tests. Electronic health records may have embedded alerts for preferred medications when order entry occurs. Although residents may get exposed to prior authorization workflows, new physicians would benefit from meeting with clinic staff to understand the workflow for completing prior authorizations. Clinic staff may be able to perform a substantial amount of this work with good clinical documentation from the physician and thus save both time and frustration for the physician.

Panel Management and Quality Metrics

New primary care physicians will likely assume a panel or build a panel that is much larger than they were used to managing in residency. Practices and institutions will vary in quality metric goals and panel management expectations and support. For example, some clinics will have panel managers who can help address care gaps without necessarily involving the skill set of the physicians. By understanding reporting tools and dashboards in the EHR, new physicians will be able to have a clearer sense of how they are doing with achieving quality metrics. It is key for new physicians to be oriented on the expectations for panel management and quality metrics at their institution. Receiving an annual report on individual quality metrics and comparing this to the aggregate practice metrics can be powerful feedback. At the University of Vermont, our ambulatory residents have a robust panel management curriculum that this mentored and exposes residents to similar workflows that the attendings have address measured quality metrics.

Understanding Office Workflows

It is crucial for both clinic residents and attending faculty to understand the office workflows to ensure seamless and efficient patient care. In a highly functioning office, each staff member should be working to their highest level to help support the care of the patient. It is worth the upfront time for new physicians and residents in a clinic setting to become familiar with the roles and duties of the various clinic staff. It is also imperative for the office manager and/or clinic director to keep the providers apprised of any changes in workflows. A few important workflows to understand include the prior authorization process for prescribed medications, imaging studies, and the referral process. Highly functioning clinics may have a referral tracker system to make sure patients make it to specialty appointments that are ordered by the primary care physician. There may be referral metrics that can be analyzed to make sure the system is working as expected to allow patients to have the best possible outcomes. Referrals that do not accurately communicate the question to a specialist can result in inefficient, duplication and wasteful care. In addition, understanding nurse roles and available triage algorithms can help the clinician know what to expect when patients call with common symptoms. Many clinics will have standing orders and established protocols for many conditions and such practices are key for efficiency and consistent, high-quality care. Understanding the structure of team-based care in a clinic can also help the new physician know how best to care for patients and be efficient with limited time and access on his or her schedule. For example, a patient who comes in regularly for diabetes may alternate visits with the physician and the Advanced Practice Provider (APP) and/or a clinical pharmacist and/or diabetes educator. Some clinics may have a pharmacist who can be authorized to assist with hypertension and diabetes medical management. Thus, all follow-up visits do not need to be with the PCP. This can be very helpful as the size of the panel builds and PCPs struggle to have access for patients on their schedule. Clinic team meetings, huddles, and methods to communicate during the clinic day especially between patient visits should be well mapped out and communicated to residents and new physicians.

Unpracticed Roles

One source of potential discomfort during the transition from resident to outpatient attending is the need to perform previously unpracticed roles such as precepting and independently managing complex or difficult patients without a preceptor.

Precepting

Residents do, of course, gain exposure to different precepting styles as the recipient of precepting throughout their residency but this does not necessarily translate into a comfortable and thoughtful approach. As such, at Jefferson we have developed a mock precepting rotation to be incorporated into the ambulatory block that senior residents can opt into.

During the rotation, the senior works directly with the preceptor of the day and assumes the primary responsibility for precepting. It is useful to try and assign a senior when interns are in clinic as it can often be most challenging to precept and coach an intern and it is less awkward for the resident since they are already comfortable being in a supervising role. Additionally, interns have fewer patients per session so the added time for precepting is less disruptive. In advance of the session the resident and preceptor talk explicitly about various precepting models including the one-minute preceptor, SNAPPS, and bedside precepting. The resident then serves as the preceptor with the attending observing. The attending takes notes on style and use of probing questions. After the session, the preceptor and resident discuss the documentation and follow up with the resident writing notes. The notes are ultimately cosigned by the attending.

Managing Uncertainty and Collaborating with Colleagues

Residents are often used to being able to use UpToDate or similar resources to answer questions and when this fails often rely on their preceptor. While colleagues are almost always available to discuss cases even after the transition to independent practice, consulting them effectively and efficiently requires practice. As such, at Jefferson we have developed a forum at the end of ambulatory blocks where residents are instructed to bring challenging cases for discussion.

Each resident then brings challenging cases which could be diagnostic dilemmas, results that they don't know how to manage, or cases with unexpected results. They present briefly to their colleagues who can then offer guidance. Residents are encouraged not to bring questions with clear answers that can be found with the usual references but often the specific question the resident brought can be answered by the group. As a group, we then identify a question with regard to the case that we are unable to answer (which is sometimes the original question brought by the resident and sometimes a deeper question that emerged). Residents are then tasked with trying to find the answer in the literature and be prepared to present the answer and search methods to the group the next day. At the start of the year, the residents are given a lecture by the medical librarian on search methods and are given their contact information.

We have found that this hones residents' ability to frame cases rapidly to identify the area of uncertainty and by presenting their search methods they benefit from hearing how their colleagues were able to gain guidance for "unanswerable" questions. As a bonus, this often results in clearing of residents' inboxes prior to the end of the block as they gain insight into how to manage results they were not expecting.

Managing Challenging Patients

This forum also allows the ability to discuss challenging patients and provides an outlet for residents to learn how others might approach these challenging situations.

Adapting to volume expectations

It is no secret that the productivity expectations for primary care internal medicine expand dramatically in the transition from resident to attending. O'Rourke et al showed even among primary care programs where the volume is undoubtedly higher than categorical programs, residents are on average seeing about 6 patients per session. This is dwarfed by the reported national average of 20 per day for an attending (2018 national survey). There is an absence of literature around helping residents cope with this increased volume, therefore at Jefferson we have implemented several pilot programs that at least show positive results regarding perception of preparedness (unpublished survey results). These interventions could easily be adapted to most institutions and focus on visit efficiency, in-basket management, and pre/post visit documentation.

Efficiency Coaching

Coaching has been used in the ambulatory setting and has been shown to add value and be acceptable to residents. At Jefferson, we have implemented a coaching program specifically around efficiency. In these visits the attending positions themselves where the computer is visible. We have used a structured form (see appendix) to help organize the observations and areas for attention. Our experience with this system has generated some common observations summarized below in the table but since there is minute to minute recording of interactions, granular feedback is very individualized and impossible to completely summarize.

Efficiency direct observations were implemented with an attending witnessing the entirety of the visit with a stopwatch. A form is provided to help organize the observations and areas for attention. Residents are not interrupted while their session is observed but a debrief occurs after the patient visit. Our experience with this system shows that residents struggle with agenda setting, room setup, order entry and in visit documentation. To make this more sustainable, we have chosen to select sessions where the total number of residents is high enough to require two preceptors but low enough that the second can accommodate most residents. Observing the first visit before multiple residents are waiting is also helpful.

Common Observations	Attending Comment
Patient interactions	
Resident turning back and forth	Invite patient off exam table to chair so line of sight of computer/patient is uniform
Periods of silence during entry of orders/patient instructions	Verbalize the plan as you enter orders, summarize verbally as you enter instructions
Allowing patient to bring up questions at end of encounter which can't be addressed	Agree to agenda up front, invite patient back for sooner follow up
Review of data	
Slow to bring up relevant data	Custom filters to find labs/studies (a1c, tsh etc.)
Inadequate agenda setting	Make sure resident establishes agenda at start
Too much time spent reviewing data	Discuss resident chart prep process

In visit data entry	
Using exam macros but changing elements	Use smaller macros, use keystrokes to enter
Slow in putting in orders	Use order panels, bulk sign, edit multiple (timing/location)
Resident editing spelling/punctuation of HPI	Use less processing, type as patient speaks and allow for errors
Excessive time writing patient instructions	Avoid duplicating instructions automatically generated by After visit summary
Note is very incomplete by end of encounter	Enter plan as you verbalize plan (ddx, plan for diagnostics), enter visit problems early to allow documentation and linkage of orders

EHR Meta-data Review

EHR meta data provides rich comparative/normative data on a wide range of clinical activities such as inbox management, note length, result turnaround time, overall efficiency, pajama time/off-hours time and average workload. Epic collects this metadata through a system called "Signal" for which access can be requested. Reviewing at the end of an ambulatory block can help make sure the data is specific to the ambulatory setting. During these reviews, it is made clear that the data is used only to help improve efficiency and not in a punitive way. These sessions have been highly rated by residents and led to real changes in their practices. Pairing this with an efficiency direct observation can be quite helpful as the observations and data often present the same picture (i.e., Resident spends excessive time in review during encounter- data shows lack of filter use, decreased chart prep compared with peers).

This data can be helpful with providing insights into inbox management as it provides data on the volume of messages, time to complete various message types, and whether quick actions are set up. Using the data can help facilitate a conversation around tasks that may be delegated to support staff.

Self-Directed Learning or Lifelong Learning

Faculty Development: Case Conferences

Although most residents are immersed in 3 years of internal medicine residency education, there is still the need for ongoing faculty development and dedication to primary care education. Practices will vary with institutional case conferences to bolster learning and discuss management dilemmas. If available, these are valuable experiences for new physicians to take part in. In addition, most institutions will have medical Ground Rounds for ongoing learning. Newly graduated residents should reflect on knowledge gaps before and during the entry into primary care practice, and this can help focus dedicated learning. Consideration should be given to meeting regularly with the medical site director to discuss comfort with independently managing primary care patients to identify areas for growth. New physicians should produce strategies for keeping up with the changing landscape of medicine including new guidelines and new evidence-based recommendations to ensure that they are providing the highest quality of care to their patients.

Continuing medical education (CME): How to Use It

Devotion to lifelong learning is a pillar of practicing medicine. New physicians will likely receive CME funds that can be used for a variety of purposes including which will vary based on institution. Physicians should be oriented on how to use the funds and understand when funds expire and if they can be carried over into the following fiscal year. At some institutions, licensure renewals and drug enforcement act (DEA) renewals come out of CME funds. From a practical standpoint, physicians should know how many CME credits are required annually for employment and reappointment at their institution. Programs such as the CME passport tool (www.cmepassport.org) can help track and manage CME and many institutions will have a centralized tracking tool for conferences based within the academic medical center.

Using CME for conference attendance is a valuable faculty development opportunity and a break from the clinical routine which can help motivate and mentally refresh physicians. Conferences provide a venue to meet and network with physicians from other institutions with similar interests. Conferences will vary in both their sponsorship and content. While some conferences gear towards more clinical updates, others may focus more on medical education, while others are more research focused. Reaching out to mid-career or advanced-career faculty for recommendations on specific conferences to attend can be a useful strategy for new physicians.

In addition to improving medical knowledge, conferences are a wonderful way to network locally, regionally, and nationally. Many national meetings will connect junior faculty to mentors before the meeting, and this can be a suitable way to find external mentorship. By presenting local work (posters, workshops), new faculty may be able to connect and collaborate with faculty with similar interests across institutions. In addition, conferences may help the faculty member who desires to develop a niche within primary care. These options are numerous but could include becoming an obesity expert at your clinic, having an addiction medicine or being the procedural expert within the clinic. CME allows for additional training that is desired post residency.

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Exposure to Varied Primary Care Experiences

Rebecca Andrews, MD, MS & Jillian Goldsmith

Within the University of Connecticut's Internal Medicine Residency are two longitudinal primary care tracks (Office-Based Medicine and Primary Care Residency Expansion). Most residency programs schedule their residents' continuity clinic in a teaching clinic where the attending faculty may or may not have their own practice. Patient populations are often not representative of a true primary care practice panel; rather, resident patient panels typically have a higher population of patients with mental health, socio-economic, and health literacy challenges, among others.

Ambulatory blocks for the residents typically consist of a four-to-six-week experience with morning clinic in the location of their continuity clinic (one of four healthcare organizations) and afternoon specialty clinics that provide experiences in core medicine rotations such as gastroenterology and cardiology. Residents spend all three years attending the same patient panel at the same continuity site and do not receive exposure to the real-life practice settings they will encounter after graduation.

The primary care track residents have experiences in multiple settings to rectify the lack of familiarity to practice choices. It also alleviates the sensation that "only residents" see challenging patients. The primary care tracks offer the following experiences:

1. **Community Health Center:** Community health centers are an ideal place for residents to learn about care coordination, pharmacy assistance, multi-disciplinary care, advance access scheduling, and embedded mental health providers. These centers are a safety-net for patient care throughout the country and some have partnered with academic health centers already making it easy to arrange such an experience. For those CHCs not affiliated with an academic health center already, preceptor training and a balance of productivity and teaching need to be arranged before beginning.

2. **Private Practice – Suburban:** Seeing primary care performed by a private practice physician offers the opportunity for residents to see a different practice model from a financial, schedule, and hired support staff perspective. Ambulatory rotations in the primary care tracks use offices in local suburban towns with established patient panels. Residents usually begin by shadowing until they understand the workflow of the office and then see patients in a traditional preceptor model. The attendings are supplied with a PowerPoint about resident education and clinical precepting, with individual mentoring as needed. Resident feedback about sites is essential to cultivating a resource group of appropriate sites.

3. **Private Practice – Urban:** Like the suburban private practice, an urban private practice can teach residents about staffing and financial models. The urban practices utilized belong to larger Accountable Care Organizations (ACOs), allowing residents to learn about the true financial impact of quality assessment. Another benefit to this experience is the understanding that develops from seeing the diversity of an attending's patient population.

4. **Academic Primary Care Practice:** Residents rotate through the academic primary care practice as well. They work with their faculty seeing patients in their practice and experience the clinical side of a medical educator's job. During this experience, residents are taught the "business of medicine" including insurance exchanges, health care law, and billing.

5. **Department of Corrections (DOC):** Although the paperwork and security present a challenge, rotations with the DOC are rewarding for residents. The opportunity to practice primary care and treat HIV, hepatitis C, minor surgical procedures, and the traditional chief complaints is unique. Additionally, the residents see a cost-contained system that can bargain for medication prices through contracts like the VA, thus experiencing an approach similar to healthcare systems in Canada and the United Kingdom.

Creative Scheduling

Rebecca Andrews, MD, MS & Jillian Goldsmith

Overview

The University of Connecticut's Internal Medicine Residency has two longitudinal primary care tracks within the program (Office-Based Medicine and Primary Care Residency Expansion) that use creative scheduling to expose residents to a more realistic primary care experience.

The IM Residency is limited to ambulatory blocks and the traditional half-day continuity clinic for exposure and learning outpatient medicine. These ambulatory blocks for all residents typically consist of a four-to-six-week experience, with morning clinic in the location of their continuity clinic (one of four healthcare organizations) and afternoon specialty clinics that provide experiences in core medicine rotations such as gastroenterology and cardiology. The four health systems are varied (academic, Veterans Administration, Accountable Care Organizations (ACOs)) however; the residents are only exposed to primary care at the site of their continuity clinic. Our program is currently exploring options for a less frequent "all day" clinic on call block rotations to limit the tension between in- and out-patient duties.

Residents interested in primary care have a disjointed experience and not all specialties are committed to teaching from a perspective of a resident heading into primary care. Therefore, we created options for residents. Both options have one lead director who also serve as a mentor and/or advisor. The Office-Based Medicine (OBM) track residents "opt in" when filling out schedule requests in January of their PGY-1 year. This track has morning ambulatory block clinics scheduled with a dedicated team of primary care faculty to expose residents to skilled, enthusiastic preceptors. The exposure to attendings in primary care who "walk the walk" elevates the stature of primary care as a career choice. Electives were also changed to be outpatient-based. This allows the residents to see the full course of a disease from a specialty perspective, increase their skills in chronic disease management, and learn appropriate referral mechanisms (timing, coordination of recommendations, etc.). Lastly, afternoon specialty time is comprised of experiences deemed important for excelling in the practice of primary care (sports medicine, geriatrics, hypertension, ophthalmology, urology, physical therapy, and ENT).

The overwhelming success in the OBM track led to an application for a Health Resources and Services Administration (HRSA) primary care expansion grant (PCRE). This track was developed to be started at the matriculation of residency based upon the interest expressed from matched residents during the application season. The PCRE track mirrors OBM in its faculty support (primary care physicians as advisors), but the residents are also placed into the faculty primary care academic practice for their continuity clinic together on the same day. This is the same practice the OBM track residents attend for their ambulatory block. The PCRE track is unique in that ambulatory experiences were no longer grouped into 4-week blocks. Instead, year-long electives and primary care experiences are set up as "longitudinal blocks." Elective time was traditionally spent with the specialty attending or a fellows' clinic set-up where they could have their own cohort of patients to follow. This increases their comfort in managing disease diagnosis and treatment. For example, a patient with palpitations new to cardiology clinic and diagnosed with atrial fibrillation will be seen by the resident. During the progression of care, the resident would learn about palpitations work up and evidence,

atrial fibrillation causes, management choices, anticoagulation, and appropriate use of Holter monitor for rate-control assessment. Sample schedules can be viewed below.

Logistics, Challenges, and Solutions:

Logistics:

- A master schedule needs to be completed alongside the whole residency's schedule
- Recruitment and advertising need to occur all year
- A track director and administrative support person are essential

Challenges:

- Sufficient supply of skilled primary care physicians with the time and interest in graduate medical education teaching
- Compensating attending schedules for preceptor teaching time
- Resident schedule changes
- Finding the right patient volume
- Demand on specialists' time
- Administrative time for a director and administrative support
- Residents looking for a change of clinic or a new preceptor asking to be a part of OBM

Solutions:

- The onus is on the residents to manage their schedule and changes are not allowed with less than six weeks' notice, barring emergencies or health issues. This allows the resident to understand the true challenges in disrupting care for patients.
- A dedicated director is a necessity. This person is needed for substantial education of new faculty coming into the program and administrative leadership.
- Once established, these tracks served as an internal recruitment tool for new primary care physicians that had expertise in primary care, systems-based practice, and could start at a higher patient volume per clinic session. This "return on investment" produced institutional support moving forward.
- Eventually, the residents demonstrate increased efficiency in outpatient medicine and reduce the workload of the precepting attending. This trade-off and the emotional connection that develops when working with residents long-term are the two reasons our specialists continue with the program year after year.
- A skilled administrative assistant for the coordination of schedules is required for the track director to be successful
- The OBM track director met with individual residents as the track grew to 22 of our 120 residents. This had affected productivity and patient care at their "home" continuity site. Residents interested in primary care, geriatrics, sports medicine, and outpatient specialties (endo/rheum) could continue in the track. Residents who were not interested in primary care were required to use an elective block as an "OBM month."

Assistant Ambulatory Chief Resident (AACR) Role

Peggy Leung, MD & Lee Shearer, MD

Goals of the Program

In our internal medicine residency primary care track, we continuously innovate our curriculum to build resident educators, create opportunities for resident engagement in their practice settings, and cultivate an empowered workforce of future primary care leaders. Here, we describe the Assistant Ambulatory Chief Resident (AACR) position, a residency elective and leadership role developed for our PGY3 primary care residents. The AACR elective rotation mimics the responsibilities of a junior faculty clinician educator, providing structured and mentored avenues for building clinician educator skills and contributing to the administrative workings of an academic primary care practice, while also pursuing clinical skills and scholarly endeavor. In this mixed clinical/educator/administrative leadership role, we aim to empower residents to take an active role in trainee education, in the resident clinic community, and beyond. We hope the exposure will help them understand the richness of the academic clinician educator/director role and train them as leaders in their future careers.

Structure of Elective

Length of elective: In the current iteration of the role, the length of the AACR elective is 8-12 weeks. This may vary depending on your residency/programmatic needs, though we suggest that an extended immersion is preferable.

Overview of elective: The rotation is comprised of 50% clinical time, including direct patient care and assistant precepting. The remaining 50% is administrative time, devoted to didactic teaching, participation in program leadership committees, quality improvement (QI) work, scholarly pursuit, and practice administration.

Sample schedule over one week:

- Two half-days in primary care continuity clinic, one of which the resident is paired with a continuity medical student for dedicated education/ mentorship opportunities. All receive training on how to work with medical students prior to the elective.
- One half-day in a chosen second continuity clinic, characterized either by a different practice setting or a specialized outpatient population (for example, infectious disease clinic, home visits, weight management clinic, HIV medicine, etc). The selection is personalized to the educational and career goals of the resident.
- One half-day assistant precepting for resident-peers of all levels. An ambulatory attending preceptor observes and provides feedback to the AACR on their precepting skills.
- One half-day protected time for clinical follow-up and to continue with endeavors such as their longitudinal scholarly pursuit, which spans all three years of residency.
- One half-day medical student education session, involving facilitating both inpatient and outpatient clerkship OSCEs, providing didactics/case review for clerkship students, co-leading tutor groups, etc.

- One half-day protected time to participate in practice-level and residency-level committee work, including faculty meetings, staff meetings, task-force meetings, curriculum committee meetings, residency meetings, etc. In these settings, surrounded by core faculty, program leaders, and practice leaders, the AACR is exposed to the inner workings of running a residency program and a practice and provides a valuable voice as representative and advocate for residents.
- The remaining three half-days are flexible administrative time for the AACR to address additional duties detailed below in the responsibilities section.

AACR responsibilities:

- Lead all ambulatory morning reports (average 2 per week) with the support of the PGY4 Ambulatory Chief Resident and ambulatory attending of the week.
- Work side-by-side with the Ambulatory Chief Resident to trouble-shoot the daily logistical complications, resident needs, and patient needs that inevitably arise in a large ambulatory training practice.
- Manage scheduling for evening and weekend resident call responsibilities.
- Participate in and carry out practice-wide educational and QI initiatives, as identified by either the resident or the practice.

Additionally, the AACR assists with varying tasks depending on the time of academic year. Early in the year, they help lead the effort to welcome and orient new interns to ambulatory medicine. During recruitment season, they assist with applicant outreach and tours. Near the end of the academic year, they help coordinate career/mentorship events and resident participation in academic conferences.

Support provided

The AACR is a highly valued role at our institution, supported by a common vision shared by the Internal Medicine program director, the ambulatory practice medical director, the practice administrator, clinical staff, and ambulatory faculty. Given the high degree of responsibility expected of the AACR, direct faculty mentorship for the resident in the role is robust. At minimum, the AACR:

- Meets weekly with the Primary Care Program Director to ensure that global goals for the elective are defined and pursued. This is a continuation of structured career support threaded through all three years of the primary care track residency.
- Meets prior to all ambulatory morning reports with the Ambulatory Associate Program Director to discuss educational goals, content creation, and educational strategies.
- Works with the Ambulatory Chief Resident daily to accomplish designated responsibilities and receive near-peer mentoring.

The result is a resident empowered at a high level to lead, educate, and drive practice change.

Challenges

- In our current version, all Primary Care track PGY3 residents are expected to participate in the AACR role as an extended elective (four to six residents per academic year). As residents may exhibit varying levels of skill for the different AACR responsibilities, individualized mentorship from faculty who are familiar with the responsibilities of the role, with residency expectations, and with the practice setting is imperative. At our institution, there is also an assistant chief resident position/elective on the inpatient side elected by house staff. That may be a consideration at your institution depending on your local needs and program objectives.
- Engaged faculty members should be selected and their time should be supported to ensure high satisfaction and quality.
- Varied demands on the AACR's schedule may require flexibility with weekly scheduling of clinical and other duties.
- Over time, purely administrative responsibilities tend to accumulate and fall on the AACR. It is important to continually re-evaluate which of these responsibilities add to or detract from programmatic educational goals.

Conclusion

The AACR role can be molded depending on the varying needs of a residency program. We have found the rotation to be highly successful in preparing residents for independent practice, performing/applying core components in the clinical educator role, providing exposure to the financial/administrative side of an academic primary care practice, and further instilling in residents a greater sense ownership over their primary clinic site. We see that even after completing their time as AACR, residents' confidence and spirit of support does not wane. Despite having only one formalized AACR at any timepoint, by the end of the academic year, our clinic has in reality 5-6 residents who maintain the values and skills of that role.

Implementing a Longitudinal Community Engagement Initiative

Christina Meade, MD, Richard J.E. Joseph, MD, & Sonja Solomon, MD

Introduction

Primary care clinicians are called upon to identify and address the needs of both individual patients and communities. As such, primary care residents benefit from training during residency that equips them with the knowledge and skills to partner with the communities that they serve in ways that are sensitive to social and structural determinants of health and responsive to community needs. Additionally, the ability to deliver health education to a general audience in a group setting is an important skill for the outpatient generalist.

Before 2019, primary care residents at Brigham and Women's Hospital (BWH) did not have a structured opportunity to participate in community engagement, outreach, or education. That year, our residents collectively identified community outreach and engagement as a core aspect of their training requiring greater attention and structure. Here we describe the process that our primary care residency undertook to develop a longitudinal community engagement initiative. We share some of our successes, lessons learned, and our advice for programs looking to develop similar initiatives.

Our residency's community engagement initiative is embedded within Sportsmen's Tennis and Enrichment Center (STEC), an athletic club located in the Dorchester neighborhood of Boston, MA. Sportsmen's has been continuously operating since 1961 as the first indoor non-profit tennis club built by and for the Black community of Boston. In 2015, BWH and STEC collaborated to create the Center for Community Wellness (CCW) on-site at Sportsmen's. CCW's mission is to advance health and chronic disease prevention in the historically underserved neighborhoods of Dorchester, Mattapan, and Roxbury. The CCW is housed in a facility with classrooms and fitness equipment, furnished with support of the BWH Center for Cardiovascular Disease Prevention, and offers multidisciplinary health and wellness programs.

As of 2019, both the CCW and Sportsmen's had extensive programming for kids and teens, including a summer camp, longitudinal health and wellness programming, exercise classes, nutrition classes, and an after-school program. However, the availability of health promotion programming for the adult community members at STEC was limited, although a BWH senior resident had started to pilot health education workshops for adults at the CCW. Thus, our residency sought to collaborate with leadership at STEC to develop a more formal longitudinal partnership. The objectives were to provide health education to adult members of the community, to equip residents with the knowledge and skills to build and sustain community partnerships, and to teach residents to deliver high-quality community-based health education in a group setting.

Establishing a Residency-Community Partnership

We suggest four steps that residency programs can undertake to develop a longitudinal partnership with a community-based organization.

1. *Identify a Community Partner*
   Both community members and medicine residents benefit from the establishment of a longitudinal relationship between academic training programs and a single or small group of community-based organizations. Creating and sustaining such relationships allows medical trainees and community members to build trust and to share knowledge and experience bidirectionally. If your institution has a Center for Community Health, a working group on health equity, or something similar, this team may be able to identify existing community organizations who might welcome a longitudinal partnership with the residency. If there are no existing partnerships, we suggest identifying community organizations that are geographically co-located with the medical center, or who serve a similar demographic as the medical center, and approaching the organization to discuss what a partnership might look like and what mutual goals could be attained.

   In our case, BWH had an existing relationship with STEC, which thus served as a natural site for internal medicine resident engagement. Importantly, the community members who attend STEC are of similar racial and ethnic background to many patients cared for at BWH in the inpatient and outpatient setting. Compared to city wide statistics, the neighborhoods around STEC have a higher percentage of Black residents, as well lower educational attainment, median household income, and payroll employment.[1] The neighborhoods surrounding STEC also were identified as priority neighborhoods in BWH's 2019 Community Health Needs Assessment, both due to their proximity to the hospital, as well as higher rates of poverty, housing instability, and other social determinants of health in these neighborhoods compared to Boston overall.[2] Importantly, BWH's partnership with STEC is just one part of a larger initiative aimed at improving health outcomes in the identified priority neighborhoods.

2. *Identify Resident Leaders and Faculty Champions*
   Initially, our community engagement initiative was conceptualized as a group project to be co-created with the involvement of all primary care residents, with one highly motivated resident electing to take on a larger role in organizing the residents into working groups, liaising with CCW staff, and keeping the project on track over time.

   As the project began in 2019, approximately thirty-six primary care residents were divided into small groups to conceptualize and implement various aspects of the program (e.g., identifying a process to grow the program, developing curricula, and developing evaluation metrics and tools). However, it quickly became clear that it was challenging to advance this important work when the responsibility was spread across so many residents with frequently conflicting schedules, as well as varying degrees of interest, motivation, and bandwidth to participate in the work. It was also challenging to have only one resident taking on the role of project champion.

   Therefore, as the project progressed, we sought to identify two to three resident leaders to spearhead the work, while still aiming to create an opportunity for community engagement that all residents can participate in. We solicited interest in leadership roles from both primary care and categorical

residents. Starting in 2020, two to three trainees, most often primary care residents, were appointed to leadership roles as chosen by the outgoing leaders, with terms lasting 1 year.

The resident leaders are the liaison between the residency and CCW staff and orchestrate the educational workshop schedule. On average, the leaders spend about two to three hours per month on this work, outside of their scheduled working hours. This includes confirming the topic, identifying a speaker, offering to review and provide feedback on educational materials, attending the talk, and debriefing with the speaker and CCW staff. By having multiple resident leaders, these responsibilities can be shared such that residents on rotations with built-in administrative time (including primary care and elective rotations) can complete these responsibilities, and then pass off to their co-leaders when they are on inpatient rotations without dedicated administrative time.

The resident leaders are supported by various faculty members. During the early phases of program design and implementation, the primary care chief resident and the primary care residency program director served as advisors, particularly around developing the new leadership structure, and identifying the overall scope and objectives of the program. Additional faculty with close ties to the CCW also served as key advisors. These included a BWH cardiologist who was a founding member of the CCW and an internal medicine faculty member and former BWH resident who first conceptualized and piloted the resident-led educational programing at the CCW. The resident leaders were also supported and advised by the CCW staff, who provided invaluable, ongoing insight into community members experiences, perspectives, and needs.

3. *Develop Programming*

In a collaborative effort involving BWH faculty, trainees, and CCW staff, the HEAL (Health Education, Awareness & Literacy = Healthy Engagement, Actions & Life) program was developed. HEAL is a health and wellness initiative through which residents create and deliver monthly workshops on topics in preventive health and chronic disease for members of the CCW community. The core objectives of the program are:

- To improve community members' awareness and sense of empowerment around preventive health and chronic medical conditions
- To enable residents to develop and deliver effective health-related teaching to community members in a group setting
- To build relationships between resident physicians and community members, allowing for bidirectional learning to occur

Our community audience is majority Black, and ages of participants range from early 30s to 70s (average age ~60). Each workshop attracts between 10 and 50 participants.

In the early stages of program development, session topics were selected by residents, with final approval by CCW staff. However, over time, a standardized curriculum was developed collaboratively with the CCW staff to correspond to monthly national health observances, and to span core preventive topics and chronic diseases encountered in primary care and often disproportionately impacting members of the participating community (Table 1). Though topics are pre-defined, the sessions are

designed to be interactive and adaptable to each audience, and community members often share their personal experiences and drive the conversation (Appendix 1 and 2).

Table 1: Sample Monthly Talk Schedule

Month	*Topic*
January	Hypertension
February	Heart Disease
March	Kidney Disease
April	Alcohol and Substance Use
May	Arthritis and Musculoskeletal Health
June	Alzheimer's Disease
July	Lung Disease: Asthma, COPD, Lung Cancer and Smoking Cessation
August	Preventive Health & Primary Care (including promotion of immunizations)
September	Men's Health: Focus on Prostate Cancer, Colorectal Cancer
October	Women's Health: Focus on Breast Cancer, Cervical Cancer
November	Diabetes
December	HIV/AIDS, STIs

Each month, we guarantee delivery of at least one talk. A second talk per month may be scheduled, contingent on resident availability. When this occurs, the second topic is chosen by the resident preparing the talk (e.g. skin care, breastfeeding) from a list of topics previously suggested by community members. This list was generated in multiple ways, including suggestions spontaneously made by community members to CCW staff or resident leadership, feedback on evaluation forms, and suggestions received in verbal feedback sessions periodically held after talks. The list of potential topics is maintained by the resident leaders as a resource for residents seeking a new topic for presentation.

For other programs seeking to implement a similar initiative, we recommend as a best practice that the curricular structure and content be co-created by the residents and the community members from the outset in order to best represent and respond to the community's needs.

During the COVID pandemic, these sessions, initially held in person, were adapted to a virtual format. CCW staff arranged for streaming over platforms such as Zoom and Facebook Live, which increased access to and uptake of this material. Importantly, this has allowed the CCW and trainees to reach community members who live further away, are unable to access transportation to the CCW, or have responsibilities at home that prevent them from joining in person. Recordings have been made available after the fact, so that those who cannot join at a certain time can access the material afterwards. While the virtual format can make the presenter-community member interactions less personal, we noticed that attendance dramatically grew, and participation continued to be very interactive. As of 2022, talks continue in the virtual format both out of concerns related to the COVID pandemic and to preserve broader access for community members. Should in-person presentations resume, simultaneous virtual streaming and recording will be important in order to reach as many community members as possible.

It is important to note that the above format accommodates the varying and often unpredictable schedules of resident physicians. Rather than relying on a single resident to provide this programming longitudinally, many residents can be involved over the course of their training, with most choosing to participate when on clinical rotations that have structured administrative time to prepare and attend the talks. Additionally, it is important that multiple resident leaders are selected, not just to share the work of organizing this programming, but again to allow for a leader to be present each month depending on who may be free from clinical responsibilities at that time. Residents may be reluctant to sign up for new activities that requiring a recurring commitment, both out of concern that they will not be able to accomplish this due to clinical duties, and as to not encroach on the limited free time that residents have away from work. A model that allows many residents to join, as able, across time and stage of training may lead to higher rates of participation and satisfaction and provides a leadership opportunity for multiple residents.

4. *Evaluate Trainee & Community Experience*

The workshops and the program overall have been received extremely well by both community members as well as BWH residents, as judged by verbal and written feedback and by growing participation over time from both parties.

In order to ensure the core objectives are met, we recommend a systematic approach to evaluating the impact of the program on both trainees and community members. The infrastructure of hosting recurring educational sessions, with a group of community members attending on a regular basis, created space for trainees and community members to share discussion and build relationships.

To help standardize the trainee experience of developing, delivering, and getting feedback on their talk, a guide was prepared for the trainees for both general talk preparation (Appendix 1) as well as to tailor to a virtual setting (Appendix 2). This guide includes guidelines to inform the talk's content, as well as tips on how to create a successful learning experience, such as setting learning objectives, engaging participants in interactive learning (both in person and virtually), and incorporating "knowledge checks" during the session to assess whether learning objectives are being met.

Finally, to ensure community members' needs and perspectives are represented, we regularly solicit feedback in multiple capacities. First, we routinely meet with CCW leadership, who also attend the talks, to hear their feedback on ways we can improve future talks. CCW leadership is importantly comprised of members who grew up or live in the community that the CCW and STEC serves, with professional experience in community engagement and non-profit work, rather than healthcare. Second, we hold periodic focus groups with community members who regularly attend the talks to understand whether the topics and content are of interest and appropriate. Finally, we collect anonymous feedback both informally via participant comments and formally via a standardized form at the end of each talk (Appendix 3). Each of these venues allows for regular review of the curriculum to ensure it continues to benefit the CCW community members.

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[1] Boston Planning & Development Agency Research Division. Neighborhood Profiles. August 2017. http://www.bostonplans.org/getattachment/7987d9b4-193b-4749-8594-e41f1ae27719

[2] Community Health Assets and Needs Assessment and Implementation Plan. Brigham and Women's Hospital Center for Community Health and Health Equity. 2019. https://www.brighamandwomens.org/assets/BWH/about-bwh/pdfs/chna-chip-2019_3.6.20.pdf

Appendix 1

Sportsmen's Tennis Club Community Health Education

Resident Talk Preparation Guide

Topic:
Review the topic schedule provided by the HEAL team for the recommended teaching topic for each month. If you are giving the second presentation of the month and are selecting your own topic, please review the list of recommended "extra" topics that were requested by community members.

Learning Objectives
After selecting your topic, think about how to design a session with your particular audience/learning community in mind. By choosing your learning objectives before you start creating the talk, you will be better able to focus the talk to ensure the needs of the learners are being met. Ask the Sportsmen's Team if there are particular areas to focus on within your topic. We can even reach out to the learners in advance and ask them specific questions about what they hope to learn about the topic, to help you structure your presentation.

You should develop 3-4 learning objectives that are SMART (i.e. specific, measurable, attainable, relevant, and timely). You should create these objectives with the goal of being able to assess whether you've met your objectives at the end of the session (see assessment section below).

For example, for a session on heart disease:

- By the end of this session, participants will be able to list 5 risk factors for heart disease.

Resources
We recommend using these and similarly vetted references to help ensure you are incorporating patient-centered, evidence-based information into your talks.

- https://www.cdc.gov
- https://www.uptodate.com/contents/search - navigate to patient information about a topic
- Disease specific websites, which may include:
    - https://www.heart.org
    - https://www.diabetes.org
    - https://www.cancer.org

Interactive Learning
How will you teach your topic/ensure your learning objectives are met, and at the same time make sure your learners are engaged and having fun? Here are some tips for how to get your learners involved. The in-person and corresponding virtual options are listed in the table:

Learning Activity	In-Person	Virtual Option
Question List: Start the session by asking your learners what they know about a topic. This activity is great for multiple reasons: Serves as a "warm-up" for thinking about a topic. Shows you where the learners are and what they want to know. Gives the learners a chance to share common misconceptions about a topic so that you can address them during your talk. (For example: If you are giving a talk about vaccines and someone in the icebreaker mentions "autism", you'll know to talk about this later.)	"When you think of (insert topic), what is the first thing that comes to mind?" or "What questions do you have about (insert topic)?" Use white board or equivalent and make a list for learners to see. You can even break up the list into two columns "What we know" and "What we want to know" about a topic	"When you think of (insert topic), what is the first thing that comes to mind?" or "What questions do you have about (insert topic)?" You can use a virtual white board/annotate function or PowerPoint slide to write down responses or you can do "Zoom waterfall" style where you ask learners to type their responses into the chat You can also set up Poll Everywhere and ask people to text in multiple choice or free text answers
Mystery Image: You don't have to be a professional to be a great observer! Sometimes learners without medical backgrounds are the best at "noticing". Choose an image and have learners observe it. For a session on skin health, you could show an image of a few different types of moles and ask learners what they notice. For a session on sickle cell, you could show an image of a normal blood cell and a sickle cell as ask the learners what they notice about the differences. For a session on colon cancer, you can show an image of the colon with polyps. Remember: an image speaks a thousand words!	Display image on PowerPoint or can provide handouts of the image.	Display on zoom screen. You can also use the "Zoom" annotate function to mark the image during the discussion. In the virtual setting – another option is to play a short video and do the same activity!
Hands-On: Adults learn best through experience and practical application. For a session on nutrition, what about reading a food label together? For a session on diabetes, bring in a	This is easier to do in-person as you can bring in any physical props/models/etc. that you want to use.	Incorporating hands-on activities in the virtual setting takes some pre-planning but it's possible. For example, for a session on nutrition, before the session you can have the

glucometer. For hypertension, examples of home blood pressure cuffs. For asthma/COPD, examples of inhalers.		Sportsmen's team ask that the learners have a food item from their home next to them so that they can participate.
Get Active!: What better way to learn about exercise or bone health or basic relevant anatomy than to stand up and move!? Previous sessions on exercise have incorporated body weight squats, lunges, yoga poses, etc. For a session on kidney disease, ask the learners to point to where their kidneys are on the body (you may be surprised at responses).	You may need to set up the room to incorporate physical movement and ensure all learners have enough space.	Like with hands-on learning, this may require some pre-planning to let learners know that they will be asked to do some light physical activity during the session.
Take Home Point: This is a great way to summarize at the end of the session. In a similar manner to 'Question List' above, ask the learners to identify one thing they learned during the session. *"We've covered a lot during this session, would anyone be willing to share one thing that you learned?"*	Ask participants to raise had or just call out and offer their individual take home points.	You can have people unmute and share or you can utilize chat function in "zoom waterfall" style as described above.

Platform:
What do I use to create my presentation?
Most sessions have used a PowerPoint slide set for their talk. Some sessions which are more conversational have (when in person) organized in a circle to more easily facilitate group discussion. Feel free to use creative ways to display the content.

Assessment:
Effective adult learning includes active assessment of your learning objectives. One way to do this is to incorporate "Knowledge Check" questions into your talk or have a brief group knowledge check discussion at the end of the talk.

Further Learning /Resources:
Our goal for these talks is that the learners can take away main points about the topic to reference in the future, either when they are using the information for their own healthcare or for a friend/family member.

Create a one-page handout with the main points of your talk. Please remember to use simple language and target an 8th grade reading level. The Sportsmen's team will keep a library of talks so that these handouts are accessible to the learners.

Feedback Discussion:
After the session, you will have the opportunity to debrief with the Sportsmen's team. This is helpful for our team to make sure we are creating the best learning experience for our learners but also beneficial for your growth as an educator. The feedback discussion will follow the following format:

Self-reflection:
Facilitator asks Teacher: How do you think the session went? What went well? What would you do differently next time?

Facilitator shares their observations/suggestions:
Example: "I noticed that the learners seemed really engaged in the mystery image activity showing the colonoscopy with polyps but there was less discussion when after you presented the 5 slides on epidemiology/statistics of colon cancer. One suggestion for next time would be to condense the epidemiology into one slide and use the remaining time for another interactive activity".

Appendix 2

Guidelines for HEAL Community Health Talks [virtual edition]
Luisa M. Paredes, MD

Preparing the presentation

- Know your expected audience (demographics, expected attendance, how participatory, etc.)
- This helps tailor the content, language, references, and tone of your presentation. You can do this by asking the organizers about previous talks, AND by arriving early to welcome/chat with community members as they log in.
- Plan your learning objectives before you start
  - Your audience generally wants to know:
    - What is this condition? Why does it happen? Why is it important to know about it? What can be done practically to prevent or manage it?
  - Think of commonly asked questions, practices, and misconceptions and intentionally address them in the presentation.
  - When trying to explain "what is it", think of simple analogies that parallel the relevant pathophysiology to every-day life, and thread it throughout the presentation as a reference. Example: *blood pressure is like water through a garden hose – the vessels are the hose, the organs are like delicate flowers. If the pressure is too low, organs don't get enough oxygen and nutrients, if the pressure is too high, organs (like delicate flowers) get damaged from the blood coming down so hard.*
  - Ask yourself in each slide, why is this important for a patient to know? If that is difficult to answer, don't include it. If it is important, make sure the point is clear.

- Prepare about 20 minutes of content (you speaking) for a 1-hour presentation (i.e., plan to speak for about 30% of the presentation). This allows for questions, story-telling, and intentional opportunities to interact with the audience.

- Slides: Aim for no more than 10-12 slides, spending about 5 minutes per slide (including community participation).
  - Use plain language and avoid medical words, if you didn't know the word in 3rd grade (8-9 years old), don't use it.
  - Use **simple** images/visual aids over words in your slides. You can always say the words the pictures represent, or better yet, the audience can guess based on the pictures!
    - Avoid graphs, charts and complicated schematics – if a 3rd grader can't make sense of it, don't use it.
  - Use animations to make the slides dynamic and easier to digest
  - Prepare questions you might ask/ways to actively engage the audience for every slide.
    - Eg. Who here knows someone with diabetes? What have you heard can help improve high blood pressure? Anyone here ever got an EKG done? How did they do it? Anyone willing to share their experience with sickle cell disease?
  - Type an outline of what you plan to say for each slide on the notes section of the Power Point, so that you can quickly remember if you forget a point
  - Practice the presentation with a non-medical person to screen for medical jargon and other assumptions you may have made
  - End on a high note, with optimism and encouragement! If time and amenable audience, ask a few people if there is anything they plan to do differently to improve their health after this talk.

Giving the Presentation

- Arrive/log in early and build rapport
  - Welcome participants by name as they join the call. Eg. "Hello Laura, thanks for joining! We will be getting started in a few minutes!" "Hi Norma, thanks for turning your camera on. How is it going?" "Manuel, thank you for being here! Is this your first time?"
- Set the tone (once presenter is introduced):
  - I am super excited to be here, thank you for having me
  - This is a safe space and an opportunity for everyone to get their questions answered and curiosities addressed! No question is too small/simple. If you are thinking it, chances are someone else is wondering too!
  - As a doctor, I know a lot about XYZ, but tonight I have my colleague X here with me as backup to look something up if I don't have an answer.
  - An important goal for tonight is to learn about XYZ, but a more important one is to have fun and learn from one another! The more you participate, the more we will learn and the more fun this discussion will be.
  - Invite folks to turn on/off their cameras as they feel comfortable, and to unmute or type on the chat at any point. Interruptions, questions, concerns are most welcomed!
  - Call people by their name (when speaking up or on the chat) so that they can feel like part of the conversation. If not sure how to pronounce someone's name, just ask them.

- Screen management
  - Share your screen only after you have set the tone and are ready to start the actual presentation. This allows for the participants to see one another (and you) at the beginning and feel comfortable speaking up later.
  - Title slide – start with an easy question highlighting the relevance of the topic to get participation going. Example: *Today we will be talking about high blood pressure, which is very common. How many people here have high blood pressure or know someone who does? I see Maria, Carlos, and John raising their hands. Thank you! This is a topic that is relevant to everyone, whether you have it or not.*
  - Go through slides as discussed above (use animations, 5min per slide with you speaking <2 min per). Remember, you should have a question or way to engage the audience on every slide.
  - When you ask a question or pause for comments, expand the participant view so that you can see as many people as possible and notice if someone raises their hand or unmutes themselves.
    - It can be challenging to both share your screen with slides and monitor the chat and "hand raising" feature on virtual platforms. If able, designate a colleague to monitor for questions from the audience, and to share these questions, call on audience members when appropriate.
  - Always end with a "Questions?" slide, but unshare screen at that time in order to return to the group view/atmosphere so that people can feel comfortable asking questions/making comments to each other. Allot 5-10 minutes for this.
- Time management
  - Keep an eye on the clock! Know when you are supposed to end (and aim to end for 10min before that). Also time stamp your slides at the midpoint and end, so that you can remember to check if you are on time.
    - Eg. Write 7:25pm on slide #5 notes section as a reminder of where you should be, and 7:50pm on the last slide. No one is ever upset about ending too early but going over time is disrespectful.
    - If you have a colleague monitoring for audience questions as above, they may be able to assist you with time management so you do not have to keep track of this while simultaneously presenting.
  - Speed up/slow down depending on how you are doing with time. The best way to do this is by elaborating more or less on each point or picture. Often, and especially when the audience is very engaged, you may have to re-direct participants to keep the presentation moving (especially if asking tangential questions). You can use your chat manager (co-resident, organizer) to help answer some questions on the chat while you keep going. Avoid speaking faster or skipping slides.
  - Have a hard end time (the official end time) and always take one minute to thank everyone for their participation. Be clear that it is time to end to be mindful of everyone's time but emphasize that you hope to see them again in future discussions. Sign off (if you stick around, audience members may stick around too).
- Fielding questions
  - Best case scenario is that there are lots of questions and interruptions. That level of engagement is the goal! That said, it can go from interactive to disorganized very quickly, so managing the floor and keeping an eye on time is key. Here are a few common scenarios and examples on managing.
    - The irrelevant question
      - That's a great question, the focus of today's talk is XYZ and I don't want to distract from that, but we will keep that in mind and plan for a future talk on this topic.
    - The tangential question
      - [Hypotension question in a HTN talk] I see that you are thinking outside the box! Low blood

pressure can be problematic, and ideally, we want our blood pressure to be normal. On this next slide, let's talk about healthy ways to keep your BP normal.

- The medical consult
  - Thank you for sharing such an important question. It is hard for me to give medical advice without knowing your entire medical history and labs and I want you to get an accurate answer for your health. I would encourage you to reach out to your PCP and to talk to our team if you need help finding a PCP.
- The person who won't stop talking
  - [Wait for the slightest pause, or interrupt if necessary] Dale, thank you for all your comments. We are learning so much! For the sake of time and to allow others to participate too, I am going to move on to the next slide. There will be time at the end if you have additional questions.

Speaker Preparation Checklist

- Know target audience (ask coordinators)
- Objectives clear and practical
- Recruit a colleague to help with identifying audience questions, time management
- Prepared ~20min worth of content for 1hr talk
- No more than 10-12 animated slides
- 3rd grade English, no medical words
- Simple images >>> words
- At least one question for the audience per slide
- Outline of talking points under each slide
- Timestamp slides to keep track of time
- Review the presentation with a non-medical person
- Practice giving the talk at least once
- Get familiar with zoom screen share and participant view features
- End on a high note!
- Review guidelines document for tips

Appendix 3

Community Health Talk – Evaluation Form

Name: (optional) _____

Email: (optional) _____

1. How did you hear about this talk?
2. How many talks have you gone to (including this one)?
3. What is one thing you would have liked to learn on this topic that was not included in the talk?
4. What are other topics you would like to hear a talk on?

Internal Medicine Ambulatory Learning Objectives

Joan Addington-White, MD

This list was compiled with the help of many different internal medicine physicians with the aim of developing a working document to assist in the education of residents pursuing careers in General Internal Medicine. The expectation would be that a resident would start to master these outpatient objectives over three years of residency. It can also be a guide for Program Directors and Subspecialty physicians whose aim is to teach trainees what they need to learn to be an excellent general internist. Like the field of General Internal Medicine, it needs regular revision.

I. Addiction Medicine

1. Recall and implement validated screening tools for high-risk substance use
2. Describe the referral to treatment process
   a. Identify local community resources for more specialized or intensive treatment.
3. Perform relationship-centered communication and motivational interviewing skills
   a. Review Motivational Interviewing Principles and Strategies
   b. Practice motivational interviewing skills in the clinic setting
4. Practice talking with patients who are ambivalent about changing substance use or starting treatment and identify strategies for maintaining positive, harm reduction focused care.
5. Describe the evidence and indications for medications for opioid use disorder
   a. Recognize how to initiate, adjust, and monitor patients on buprenorphine treatment
   b. Understand the side effects and drug interactions when patients are on methadone treatment.
6. Recall the indications and evidence for medications for alcohol use disorder
   a. Apply these skills to patients with liver disease, pregnancy, and co-occurring opioid use
7. Summarize the evidence for treatment of stimulant use disorders
8. Discuss treatment for nicotine use including pharmacologic and non-pharmacologic approaches
9. Describe adaptations to primary care practice for patients with unhealthy substance use including indications for health care maintenance, identifying medication interactions, and monitoring for complications of drug and alcohol use

II. Allergy

1. Accurately identify the following on office spirometry and/or pulmonary function tests:
   a. Obstructive lung disease
   b. Restrictive lung disease
   c. Intrathoracic and extra thoracic obstruction
   d. Clinical use of DLCO
   e. Criteria for reversible obstructive lung disease
   f. Diagnosis of asthma with bronchial challenge test.
2. Assess asthma severity and asthma control using a standardized, validated questionnaire.
3. Diagnose occupational asthma.
4. Treat GERD in patients with asthma.
5. Be able to determine, based upon history and physical exam, whether a patient has allergic versus vasomotor/ nonallergic rhinitis and determine appropriate medical therapy for each.

6. Be able to determine whether patients have acute or chronic sinusitis and be able to classify chronic sinusitis based upon findings in history, physical exam and imaging.
7. Indications for RAST skin testing.
8. Recognize signs and symptoms of potential food allergies and initiate a workup.
9. Recognize the differential and management of acute and chronic urticaria.

III. Cardiology

1. Know the Indications for stress testing and identify the appropriate stress test modality based on individual patient characteristics.
2. Demonstrate the initial work up and management of atrial fibrillation
   a. Rate vs. rhythm control, anticoagulation, and when inpatient vs. outpatient care is appropriate.
3. Identify the newest guidelines for starting patients on ASA for primary and secondary prevention. Recognize the indications for clopidogrel and length of treatment.
4. Review evidence-based management of HFrEF/HFpEF
   a. Recognize that there is mortality reduction with an angiotensin-receptor-neprilysin inhibitor, a B-Blocker, an aldosterone antagonist, and a sodium-glucose cotransporter 2 inhibitor.
   b. Understand that primary therapies for HFpEF are diuretics to control volume overload and antihypertensive medication to lower systolic BP below 130.
5. Identify valvular heart disorders by physical exam. Recognize exam characteristics of a murmur that should prompt further evaluation with a TTE.
6. Demonstrate how to clinically follow and treat the following valve lesions, including indications for surgical referral for valve repair/replacement and issues associated with pregnancy.
   a. Aortic stenosis
   b. Aortic insufficiency
   c. Mitral regurgitation
   d. Mitral stenosis
   e. Tricuspid insufficiency
7. Stepwise approach to evaluation of palpitations and indications for ambulatory monitoring.
8. Guideline-based workup of syncope
9. Recognize patients who require endocarditis prophylaxis prior to invasive procedures
10. Recognize the clinical presentation and management of congenital heart diseases in adults:
    a. Atrial septal defect
    b. Patent foramen ovale
    c. Bicuspid aortic valve
    d. Mitral valve prolapse
11. Guideline-based approach to ongoing care of post-MI patients
    a. Risk factor modification and goals
    b. Cardiac rehab
    c. Recognizing increased risk for depression
    d. Medications for secondary prevention.
12. Be able to assess risk in an individual prior to participating in athletics or an exercise program.
13. Diagnose and be able to test and treat PVD and AAA.

IV. Dermatology

1. Accurately describe lesions and eruptions using dermatologic terminology.
2. Recognition and initial management of common primary care dermatologic concerns (considering different skin tones.)
    a. Eczema
    b. Contact dermatitis
    c. Infections of skin and nails
    d. Dermatophytosis
    e. Onychomycosis
    f. Candidiasis
    g. Impetigo
    h. Molluscum contagiosum
    i. Warts
    j. Psoriasis
    k. Pityriasis rosea
    l. Venous stasis dermatitis
    m. Lichen planus
    n. Bites and stings
        i. Spider bites
        ii. Scabies
        iii. Lice
        iv. Bedbugs
        v. Tick bites
    o. Erythema multiforme
    p. Cutaneous drug reactions
    q. Seborrheic dermatitis
    r. Rosacea
    s. Seborrheic keratosis
    t. Erythema nodosum
3. Diagnosis of acne and indications/contraindications for therapies including:
    a. Topical retinoids and salicylic acid
    b. Topical antibiotics
    c. Oral antibiotics
    d. Oral contraceptives
    e. Spironolactone
    f. Isotretinoin
4. Recognize common skin malignancies and pre-malignant lesions, and counsel patients on skin cancer prevention.
    a. Basal cell carcinoma
    b. Squamous cell carcinoma
    c. Actinic keratosis
    d. Malignant melanoma, including the ABCDE method of examining pigmented lesions
    e. Perform X number of skin biopsies to document competence.

V. Diabetes

1. Define diagnostic criteria for diabetes mellitus and pre-diabetic conditions.
2. Know when to initiate and how to manage insulin for a patient with type 2 diabetes mellitus and what to do with oral agents once insulin is started.
3. Be familiar with the different formulations of insulin
4. Understand the mechanisms and indications for each class of oral agents in the management of type 2 diabetes. Recognize which agents have cardiovascular and renal benefits and be familiar with common side effects and contraindications for each.
    a. Metformin
    b. Sulfonylureas
    c. Thiazolidinediones
    d. GLP-1 receptor agonists
    e. DPP-4 inhibitors
    f. SGLT2 inhibitors.
5. Differentiate between type 1 DM, type 2 DM, and latent autoimmune diabetes of adulthood (LADA) and why it is important to distinguish between them.
6. Identify therapeutic goals and screening tests (including frequency of testing) for diabetic patients as suggested by the ADA guidelines.
    a. Aspirin use
    b. Blood pressure goals
    c. Lipid goals
    d. Eye exams
    e. Foot exams
    f. Microalbuminuria/renal function
    g. Diabetes control with HbA1c
    h. Vaccinations
7. Be able to diagnose and manage common complications of diabetes
    a. Peripheral neuropathy
    b. Gastroparesis
    c. Autonomic instability/orthostatic hypotension
    d. Microalbuminuria/CKD
    e. Common infections in diabetic patients

VI. Endocrinology

1. Know how to find a thyroid nodule on clinical exam and what tests to order to evaluate a thyroid nodule.
2. Be able to work up hypercalcemia, manage hyperparathyroidism, and refer appropriately.
3. Recognize the constellation of findings which characterize metabolic syndrome and its management.
4. Know how to work up an incidental adrenal mass.
5. Understand how to work up and treat male hypogonadism.
6. Know indications for ordering a TSH (screening for hypothyroidism).
    a. Know how to make a diagnosis of hypothyroidism.

b. Know how to initiate and monitor thyroid replacement therapy for a patient with newly diagnosed hypothyroidism.

7. Know how to manage both subclinical hypothyroidism and subclinical hyperthyroidism.
8. Know how to evaluate a patient with hyperprolactinemia including offending medications and indications for imaging.
9. Understand the evaluation, differential diagnosis, and treatment of hyperthyroidism.

VII. Gastroenterology

1. Evaluate and come up with a diagnostic plan for patients with dysphagia with or without odynophagia. Recognize the diagnosis of Achalasia.
2. Diagnose and manage GERD
   a. Identify risk factors for Barrett's esophagus and apply the guideline for endoscopic surveillance of Barrett's esophagus.
3. Evaluate a patient with dyspepsia
   a. Know indications for evaluation for H. pylori, available treatment regimens, and follow up testing recommendations.
4. Recognize the symptoms, signs, and diagnostic criteria for Celiac disease.
5. Diagnose and manage irritable bowel syndrome.
6. Understand the diagnosis, management, medications used, and screening pertinent to a patient with Inflammatory Bowel Disease.
7. Come up with a diagnostic evaluation and treatment plan for: Acute Diarrhea including Travel related diarrhea, and Chronic diarrhea.
8. Understand common PPI side effects including headaches, B12 def, electrolyte abnormalities, increase risk of pneumonia, and C diff.
9. Recognize when to refer patients with genetic syndromes and family history of colon cancer for an early screening colonoscopy.
10. Understand the diagnosis, treatment, and follow-up of acute diverticulitis.
11. Understand how to diagnose and triage patients who present to clinic with a GI bleed.

VIII. General Medicine

1. Be familiar with counseling on weight loss, diet/exercise recommendations, and which weight loss medications are appropriate for a patient.
2. Recognize when to refer a patient for bariatric surgery.
3. Know the adult immunization schedule
4. Know "red flag" signs for low back pain, initial conservative management, and indications for imaging and surgical referral.
5. Apply guidelines for cancer screening, including variations for patients at increased risk:
   a. Prostate cancer
   b. Breast cancer
      i. Indications for referral for genetic testing
   c. Colon cancer
   d. Cervical cancer

6. Apply USPSTF/CDC guidelines for other preventive care measures
    a. AAA screening
    b. STI screening
    c. HIV screening
    d. Hepatitis C screening
    e. Screening for intimate partner violence and resources for referral.
    f. Depression
7. Diagnose and initiate treatment for depression, generalized anxiety disorder and panic disorder.
8. Approach to the differential diagnosis of a red eye and know indications for emergent referral to ophthalmology.
9. Apply 2007 ACC/AHA Guidelines for Perioperative Cardiovascular Evaluation and Care for patients anticipating non-cardiac surgery.
10. Understand basic travel medicine concepts including:
    a. Vaccinations
    b. Malaria prophylaxis
    c. Traveler's diarrhea
    d. Evaluation of the return traveler with a fever
11. Recognize risk factors for osteoporosis and be familiar with screening guidelines and therapeutic options.
12. Diagnosis, initial management (including use of joint injection) and indications for referral in osteoarthritis
13. Interpret a urinalysis, gram stain, and peripheral smear
14. Use evidence-based guidelines to initiate and titrate antihypertensive treatment with respect to individual patient characteristics and know indications for evaluation for secondary causes of hypertension.
15. Know which medications are safe for HTN in pregnancy.
16. Use evidence-based guidelines to initiate and titrate hyperlipidemia therapy including non-pharmacologic treatments.
17. Approach to the patient with insomnia and risks of therapy.
18. Demonstrate appropriate medication reconciliation skills including OTCs and CAM, assess adherence, and eliminate ineffective/duplicate/unnecessary medications.
19. Complete a disability evaluation and workman's compensation evaluation.
20. Approach to helping patients cope with a serious diagnosis (i.e., cancer, IBD, diabetes.)
21. Manage common overuse injuries
    a. Plantar fasciitis
    b. Shin splints
    c. Medial and lateral epicondylitis
    d. Patella-femoral syndrome
22. Indications and how to prescribe the following services for outpatients.
    a. PT/OT
    b. Home health care

IX. Geriatrics

1. Discuss high risk medications in older adults, including rationale for use, alternatives, and ways to decrease side effects.
    a. Warfarin
    b. NSAIDs
    c. Opiates
    d. Digoxin
    e. Diphenhydramine
    f. Sedative-hypnotics (benzodiazepines, sleep aids)
2. Demonstrate ability to appropriately administer and interpret results of validated screening tool for each of the following:
    a. Dementia
    b. Depression
    c. Delirium
    d. Substance abuse
3. Evaluate and treat delirium, including common underlying causes.
4. Initiate treatment and know indications for referral and more extensive neuropsychiatric testing in dementia
5. Determine whether a patient has sufficient capacity to give an accurate history, make decisions, and participate in developing the plan of care.
6. Discuss and document advance care planning and goals of care (including transition to comfort care) with all patients with chronic or complex illness, and/or their surrogates.
7. Discuss barriers to safe transitions of care for older adults and ways to address these.
8. Discuss ways to screen ambulatory adults for falls or fear of falling and address positive screens with evaluation and intervention.
9. Detect, evaluate, and initiate management of bowel and bladder dysfunction in community dwelling older adults.
10. Identify older persons at high safety risk, including unsafe driving or elder abuse/neglect, and develop a plan for assessment or referral.
11. Individualize standard recommendations for screening tests and chemoprophylaxis in older patients based on life expectancy, functional status, patient preference and goals of care.
    a. Cancer screening (colon, breast, cervix, and prostate)

X. Health of individuals assigned male at birth (AMAB)

1. Diagnose BPH and evaluate symptoms using the AUA Symptom Index. Discuss treatment options including:
    a. Alpha blockers
    b. 5 alpha reductase inhibitors
    c. Surgical interventions
    d. CAM including saw palmetto
2. Clinical evaluation and initial medical management of erectile dysfunction
3. Perform a testicular exam.
    a. Be familiar with causes of acute testicular pain.

b. Be familiar with benign and malignant causes of a testicular mass.

4. Evaluation of an inguinal hernia, including indications for referral and non-operative management.

XI. Health of individuals assigned female at birth (AFAB)

1. Be able to provide contraceptive counseling including effectiveness, contraindications, and risks of the following:
   a. Hormonal contraception
   b. Barrier methods
   c. Intrauterine devices
   d. Surgical
   e. Emergency contraception
2. Manage common symptoms of menopause including vaginal atrophy/dryness and vasomotor symptoms
3. Differentiate primary from secondary amenorrhea and be able to initiate appropriate workup.
4. Diagnose and manage PCOS.
5. Discuss the differential diagnosis of a breast mass and the approach to initial evaluation.
6. Describe the differential diagnosis and initial evaluation of abnormal uterine bleeding.
7. Know the differential diagnosis of urinary incontinence. Be able to make diagnosis and initiate treatment on the basis of history and exam.
8. Demonstrate performance of a pelvic exam and cervical cytology collection.
   a. Guidelines for management of an abnormal pap smear
9. Diagnose and manage vaginitis.
10. Discuss the approach to diagnosis and management of a patient with sexual dysfunction.
11. Know the initial workup and management of infertility
12. Perform pre-natal counseling for a patient desiring pregnancy and know which medications need to be evaluated and changed prior to conception.
13. Know how to manage hypothyroidism in anticipation of pregnancy.
14. Identify red flag symptoms of intimate partner violence and know where to refer for care.
15. Know how to counsel patients for abortion care and where to refer for medical and surgical abortions.

XII. Hematology

1. Evaluate and treat anemia, recognize the etiology, and know how to read a peripheral blood smear.
   a. Microcytic: Iron deficiency, Thalassemia, anemia of inflammation.
   b. Normocytic: kidney disease, anemia of inflammation, hypothyroidism, liver disease.
   c. Macrocytic: B12 deficiency, Folate deficiency, Myelodysplasia, Drug toxicity, Alcohol, hypothyroidism, Liver disease.
   d. Hemolytic anemia: Intrinsic to erythrocyte vs extrinsic.
2. Evaluate and treat erythrocytosis
   a. Polycythemia vera, mediated by hypoxemia, mediated by ectopic or excessive erythropoietin levels.

3. Evaluate leukocytosis
    a. Nonmalignant causes: infections, Asplenia, Cigarette smoking, Obesity, Hyperthyroidism, and monoclonal B-cell lymphocytosis.
    b. Malignant causes:
        i. Recognize that primary care physicians will see new presentations of AML: mucosal bleeding oral and nasal, anemia, thrombocytopenia, and neutropenia which requires emergent evaluation by Hematology.
        ii. PCPs follow adult survivors of childhood leukemia who have higher rates of secondary cancers (Order screening tests mammography and colon cancer screening at an earlier age), cardiovascular disease, and the metabolic syndrome.
4. Recognize Bone marrow failure syndromes including aplastic anemia and pure red cell aplasia.
5. Evaluate Thrombocytopenia and differentiate between ITP, Heparin-Induced Thrombocytopenia, TTP, and Hemolytic-Uremic syndrome.
6. Evaluate benign causes of Thrombocytosis
7. Evaluate and treat Congenital Bleeding disorders: Hemophilia A and B, von Willebrand disease.
8. Recognize when to order a SPEP and UPEP and what approach to take to a M- Protein spike and the diagnosis of Multiple Myeloma.
    a. Understand the follow up of Monoclonal gammopathy of underdetermined significance and when to refer for renal involvement.
9. Describe the initial evaluation and management of Myeloproliferative syndromes.
    a. CLL
    b. Polycythemia vera
    c. CML
    d. Essential thrombocytosis
    e. Myelofibrosis
    f. Hyper-eosinophilic syndrome
    g. Systemic mastocytosis
10. Approach to patients with diffuse large B cell lymphoma (aggressive) vs. follicular lymphoma (indolent.)
11. Determine the duration of anticoagulation treatment after a VTE and indications for hypercoagulable workup
12. Describe the clinical presentation, prognosis, and management of MDS.
13. Demonstrate how to examine a patient for Hepatosplenomegaly and lymphadenopathy.

XIII. Hepatology

1. Categorize the phases of Hepatitis A, B, and C and understand screening and treatment recommendations. Understand post exposure prophylaxis for Hepatitis A and Hepatitis B.
2. Evaluate abnormal liver tests and come up with a cost-effective approach.
3. Recognize the most common drugs that can cause liver injury.
4. Know the diagnosis and treatment of non-alcoholic fatty liver disease.
5. Diagnose and know treatment guidelines for autoimmune hepatitis.
6. Know the diagnostic criteria for Primary Biliary Cholangitis and Primary sclerosing cholangitis.
7. Recognize who and how to screen for Hereditary Hemochromatosis.

8. Know when to refer a patient for Liver transplantation and recognize how to advocate for patients with a history of alcohol abuse, substance abuse, and marginalized social support.
9. Know how to treat and refer asymptomatic vs. symptomatic Gallstones.
10. Understand the approach to working up, managing, and monitoring patients with cirrhosis and its complications: ascites, encephalopathy, malnutrition, kidney failure, hemorrhage, and coagulopathy of liver disease.

XIV. Infectious Disease

1. Recognize and diagnose acute antiretroviral syndrome.
2. Prevent HIV Transmission
   a. Understand the risk of HIV transmission between serodiscordant partners and when Pre-exposure prophylaxis is warranted.
   b. Know the criteria for PrEP: populations (men who have sex with men, persons at high risk through heterosexual contact, and persons who inject drugs, and screening recommendations for daily PrEP or on-demand PrEP. (2-1-1 strategy)
   c. Know when to initiate post exposure prophylaxis with a 3-drug regimen with 72 hours.
3. Indications for testing for LTBI and recognition and management of a positive PPD or QuantiFERON gold testing.
4. Understand how to screen for and treat common sexually transmitted infections.
   a. Gonorrhea
   b. Chlamydia
   c. Herpes simplex virus
   d. Syphilis Primary, Secondary, and Tertiary.
   e. HPV
   f. Trichomoniasis
   g. HIV and the importance of early HAART.
5. Diagnose and manage with the appropriate length of antibiotics the following and understand criteria for admission:
   a. Acute sinusitis
   b. Otitis media and otitis externa
   c. Acute pharyngitis
   d. Community acquired pneumonia with knowledge of the Pneumonia Severity Index guideline.
   e. Urinary tract infection and prophylaxis.
      A. Understand that pyuria with asymptomatic bacteria is not an indication for treatment.
      B. A follow up urine culture is only recommended in pregnant women with pyelonephritis.
      C. Screening for and treating asymptomatic bacteriuria before nonurological surgical procedure is not recommended.
   f. Prostatitis
   g. Diverticulitis
   h. Cellulitis purulent and non-purulent.
   i. Animal bites

j. Tick-Borne Diseases
   A. Lyme Disease
   B. Ehrlichiosis and Anaplasmosis
   C. Babesiosis
k. Diabetic foot infections
l. Acute Diarrhea Evaluation and when to treat with supportive care and when to Rx Antibiotics including C difficile infection.

XV. Neurology

1. Demonstrate performance of a neurologic exam (thorough vs. focused on chief concern).
2. Evaluation and treatment of common headache syndromes and when to refer.
   a. Tension headache
   b. Medication overuse headache
   c. Migraine headache
      i. Identify and manage disorders that mimic migraines – TMJ, chronic sinusitis
   d. Cluster headache
3. Evaluation and treatment of common peripheral neuropathies and indications for EMG/NCS
   a. Polyneuropathies
   b. Entrapment neuropathies
      i. Carpal tunnel syndrome
      ii. Lateral femoral cutaneous nerve entrapment
   c. Cervical radiculopathy
4. Diagnosis and initial treatment of Parkinson's disease, and differentiation from essential tremor.
5. Differential diagnosis and evaluation of the "confused" patient (i.e., encephalopathy)
6. Differential diagnosis and evaluation of vertigo/dizziness - differentiating signs concerning for central causes from those characteristics of peripheral causes of vertigo
7. Know secondary prevention guidelines for stroke.
8. Appropriate triage and evaluation of transient ischemic attacks.
9. Recognize symptoms and signs of multiple sclerosis and understand diagnostic evaluation and criteria.
10. Understand the primary care concerns of patients with epilepsy including activity restrictions and anti-epileptic drugs and their interactions/complications.

XVI. Nephrology

1. Perform a clinical assessment of volume status by physical exam.
2. Recognize abnormal findings on urine microscopy and their diagnostic significance.
3. Know stages of chronic kidney disease and when to refer to a nephrologist.
4. Know the complications of chronic kidney disease and their evaluation and management.
   a. Anemia
   b. Metabolic acidosis
   c. Mineral metabolism and bone health
   d. Hypertension: Diagnose and treat all stages of HTN and choose appropriate medications for those with CKD.

e. Cardiovascular disease as the leading cause of death among patients with CKD.
f. Infection as the second leading cause of death.
g. Dyslipidemia

5. Know the differential diagnosis of microscopic hematuria and the approach to evaluation.
6. Understand the evaluation of nephrolithiasis and medications/dietary changes used in management.
7. Recognize medications that are contraindicated or require dose adjustment in CKD.
   a. NSAIDs
   b. Metformin
   c. Fluoroquinolones
   d. Allopurinol
   e. Diuretics
8. Know who to refer for Renal transplant and advocate for patients who may not qualify for transplant because of challenges with housing, immigration status, mental health, food insecurity, and lack of traditional education.
9. Understand how to prevent contrast nephropathy
10. Recognize the symptoms and signs of nephrotic syndrome, the conditions associated with it, and potential complications including edema, hyperlipidemia, hypoalbuminemia, and hypercoagulability.
11. Screen for malignancies in older patients with membranous nephropathy.
12. Recognize the symptoms and laboratory testing including kidney biopsy needed to diagnose all forms of glomerulonephritis.
13. Diagnose Renal Tubular Acidosis
14. Recognize interstitial nephritis, its work up, and its association with drugs and presentation in agricultural communities.

XVII. Oncology

1. Recognize the early and late signs and symptoms of common malignancies. Understand the staging of common malignancies, the impact of staging on initial management, and common sites of metastatic disease.

a. Breast
   b. Colon
   c. Lung
   d. Prostate

2. Screen for bone loss in patients on aromatase inhibitors and androgen deprivation therapy.
3. Be able to refer young patients with newly diagnosed cancer for fertility preservation.
4. Recognize that Depression and Anxiety are common in women with breast cancer and that antidepressants Bupropion or Fluoxetine may decrease Tamoxifen levels.
5. Diagnose and treat radiation-induced hypothyroidism.
6. Know when to refer patients with cancer for genetic testing.
7. Recognize the general internist's role in guiding patients with BRCA1 and 2 mutations in terms of cancer screening, prevention, and future fertility.

8. Understand the importance of Survivorship Care plans which should have recommendations for surveillance for cancer recurrence, second malignancy risk, and late effects of cancer treatment.
9. Recognize complications of cancer treatment including those for Childhood Malignancies.
    a. Radiation
        i. Radiation enteritis
        ii. Cardiac
        iii. Pulmonary
        iv. Secondary malignancy-Mediastinal irradiation is associated with an increase in breast cancer beginning within 8 years of treatment. Screening mammogram/MRI are recommended at age 25 or 8 years after treatment.
        v. Neurologic disease
    b. Lymphedema
    c. Chemotherapy
        i. Infertility
        ii. Secondary malignancy

XVIII. Orthopedics

1. Know how to take a focused history, perform exam, and indications for imaging/advanced imaging and referral to orthopedics for symptoms in the following joints:
    a. Shoulder
    b. Hip
    c. Knee
    d. Ankle
2. Evaluate for and initially manage commonly missed fractures or those with serious sequelae:
    a. Jones fracture
    b. Navicular fracture
    c. Femoral neck fracture
    d. Any open fracture
3. Be familiar with diagnosis and management of stress fractures
4. Counsel patients on appropriate care for ankle sprains

XIX. Palliative Care

1. Be able to appropriately manage symptoms including:
    a. Pain
    b. Shortness of breath
    c. Depression
    d. Nausea
    e. Constipation
    f. Delirium
2. Effectively use SPIKES tool to break bad news and comfort patients and their family members.
3. Be comfortable addressing and leading conversations in the following areas:
    a. Code status

b. Health care power of attorney - assigning and discussing roles as well as activating when necessary
c. End of life preferences
d. Perform medication reconciliation and know which medications are appropriate to use in the palliative setting.

XX. Pulmonary

1. Know the components of COPD management based on GOLD guidelines to recognize the severity of disease and recommended pharmacologic therapy.
   a. Be able to make diagnosis based on symptoms and PFTs
   b. For patients with a diagnosis of COPD:
      i. Know evidence behind treatment for smoking cessation
      ii. Immunizations for patients with COPD.
      iii. Mortality benefit of using supplemental O2 for hypoxemia
      iv. Know indications for screening for alpha 1-antitrypsin deficiency
      v. Consider Macrolides for treatment of severe disease.
      vi. Know when to refer for lung reductions surgery.
      vii. Know who to refer to pulmonary rehab and benefits.
   c. Manage stable COPD based on stage
   d. Manage acute COPD exacerbations
   e. Know when to refer for lung volume reduction surgery.
2. Be familiar with guidelines on management of a solitary pulmonary nodule.
3. Diagnose the treatable causes of bronchiectasis.
4. Treat hypersensitivity pneumonitis.
5. Know the criteria for lung cancer screening in a patient at high risk and know when to stop screening.
6. Identify and diagnose patients with symptoms and signs of obstructive sleep apnea with polysomnography.
7. Stepwise approach to evaluate a patient with chronic cough
8. Recognize the pulmonary and systemic presentations of Sarcoidosis and when a biopsy is needed for diagnosis.
9. Evaluation of a suspected DVT and PE and appropriate initial triage and management including pregnant patients.
10. Evaluate suspected pulmonary HTN.
11. Recognize chronic thromboembolic pulmonary HTN and appropriate testing with a V/Q scan.
12. Diagnose and treat idiopathic pulmonary fibrosis.
13. Identify the connective tissue diseases associated with Diffuse parenchymal lung disease.
14. Recognize the most common drugs which cause parenchymal lung disease including Amiodarone, MTX, Nitrofurantoin, Busulfan, and Bleomycin.

XXI. Rheumatology

1. Recognize when to aspirate a joint and be able to perform an aspiration of the knee and olecranon bursa.
2. Recognize when to give a steroid injection and be familiar with performing an injection of the shoulder, knee, anserine bursa, and greater trochanter.
3. Know the diagnostic criteria of SLE and its complications, including:
   a. Nephritis
   b. Cerebritis
   c. Lupus flare (vs. infection such as influenza)
   d. Catastrophic anti-phospholipid antibody syndrome
4. Know the diagnostic criteria of RA.
5. Know the diagnostic criteria of fibromyalgia. Be able to differentiate fibromyalgia from PMR or inflammatory myopathies.
6. Be able to diagnose polymyalgia rheumatica and recognize its association with giant cell arteritis.
7. Be familiar with commonly used DMARDs and complications of these medications:
   a. Methotrexate
   b. Hydroxychloroquine
   c. TNF inhibitor
8. Be able to care for a patient on chronic steroid therapy.
   a. Prophylaxis for infections
   b. GI prophylaxis
   c. Bone health - monitoring and indications for treatment
   d. Additional necessary screening: cataracts, glucose monitoring
   e. Informed consent for side effects including avascular necrosis
9. Know the role of the primary care provider in patients with Autoimmune diseases, including vaccinations, family planning and the increased risk of CV disease,
10. Recognize and treat gout.
    a. Acute flare
    b. Indications for and initiation of allopurinol
11. Recognize and treat the following:
    a. Pseudogout
    b. Raynaud's

Virtual Education

Karen Stenehjem, MD & Josephine Wright, MD

The COVID-19 pandemic prompted exponential growth in the realm of virtual teaching. It is now evident that virtual teaching will remain an important tool in medical education. There are both benefits and drawbacks to virtual education. Potential benefits include increased flexibility in timing and location, minimization in disruption for illness or personal circumstances, possible decreased cost, and simulation of life-long learning through self-directed/self-paced curriculum. Potential disadvantages include loss of community, reduced engagement, increased distraction, and inability to teach certain hands-on skills. Here, we present several tools and techniques to effectively conduct virtual teaching, compiled from both our own experiences as well as published work in online learning.

Virtual Setting

Virtual teaching can be divided into synchronous (live) education and asynchronous (recorded) education. Both models are useful in providing education remotely and have distinct purposes and strengths. The various models of education can be combined for maximization of learning potential. For example, educators could consider a blended approach where asynchronous-style online courses are completed independently and followed with synchronous-style live sessions.

Synchronous education: Occurs in-real-time with both the instructor and learner present in a virtual environment, typically a video-conferencing platform. Synchronous education is used for lectures, small-groups and workshops and is most similar to the in-person learning environment. Synchronous education has the benefit of real-time discussion and collaboration among team members and can lead to more interactive decision-making and a greater sense of community. It has the added benefit of immediate feedback which may accelerate the learning curve. Disadvantages of synchronous learning may include less flexibility in scheduling, inconsistent quality dependent on the instructor, and less opportunity for personalized pace of learning.

Asynchronous education: Occurs at any time of the learner's discretion. It can take the form of discussion boards, group documents, emails, blogs, pre-recorded videos or webinars, podcasts, digital libraries, didactic modules and other downloadable digital content. It has the benefit of increased flexibility of timing and setting and can be more individualized to each learner's needs. Asynchronous learning also has the advantage of being more accommodating and increasing access to learners since there is usually no limit to the number of participants. Although asynchronous learning is usually done independently and interaction is not in real-time, learners can still learn from one another and gather feedback, such as posting on a discussion board or getting individual questions answered via email.

It is important to note that asynchronous learning may not be as conducive to certain types of education, such as communication skills training, interprofessional simulation, procedural training and other hands-on activities.

Session Preparation

It is imperative that learners and faculty have access to the hardware, software, and internet connections necessary to participate in virtual education. It is recommended that these platforms are tested prior to synchronous sessions to prevent delays and cancellations. Practice sessions can be helpful for many faculty new to the virtual teaching environment.

Hardware: Standard computer with video camera and microphone is typically sufficient for most synchronous sessions. Many presenters prefer headsets due to the improvement in sound quality. Multiple monitors are useful for presenters of synchronous sessions as it allows the presenter to monitor participants and screen share simultaneously.

Software: There is a wide variety of free and for-purchase education software that can be used for virtual education. It is important that these are vetted prior to use and that appropriate security is in place, especially if PHI may be used.

Internet Connection: Standard broadband internet connection is acceptable for the majority of virtual education. Cellular data is often insufficient for synchronous sessions or live-streamed education.

Learners may also benefit from a "flipped classroom," a blended learning style combining preparatory independent study followed by live interaction. Here, instead of assigning "homework" after a learning session, learners are expected to prepare for a live session by asynchronously reviewing content such as reading materials, presentation slides, or other preparatory materials ahead of time. This blended learning style has the advantage of allowing students to engage with content and independently learn at their own pace, with the opportunity to clarify and solidify their knowledge during the virtual live session. The expectation is that learners come to the session armed with background knowledge, so that the session can more efficiently build upon and apply this knowledge. This student preparation may help allow for more thoughtful discussion as opposed to the traditional lecture-style content delivery.

Learning Climate

Creating community and a culture of engagement is among the greatest challenges of virtual education. Specific attention to the learning climate is essential to the success of virtual education. Optimizing learner engagement in the online classroom is crucial in keeping participants focused and increasing learner understanding. This requires intentional thought when planning a virtual educational session.

Virtual education can feel impersonal and isolating. In setting the tone and building community, opening the online session with a brief icebreaker is often helpful. This activity is an opportunity to foster a comfortable and more personal learning environment and to lay the groundwork for an interactive learning experience. Icebreakers commonly ask participants to share personal interests or hobbies, which not only allows participants to get to know one another but humanizes the often-isolating virtual learning space. The best icebreakers in this virtual setting tend to be those that are simple, brief, "low stakes" conversation starters that engage all participants. As icebreakers commonly require participants to use their microphone and turn their camera on, it also offers a practical opportunity to troubleshoot any technological difficulties before the session formally begins. Learners can also feel less disconnected and

more supported when faculty are accessible for additional questions, such as by providing contact information or holding virtual "office hours."

Establishing group and individual expectations or "ground rules" at the beginning of the virtual educational session is also important. In particular, expectations for participation are key to outline. For example, one may open the session stating that all learners are expected to actively participate, and all participants will be called on, to help normalize this experience. This may also be a good time to emphasize a safe learning culture (i.e., no wrong answers, ok to say, "I don't know", etc.) "Ground rules" for participation may include asking all participants to turn cameras on, identifying appropriate times to ask questions (whether at the end or during the session) and clarifying whether comments should be typed via chat or verbally communicated by unmuting one's microphone. More introverted learners may prefer to type their comments in the chat.

Continued active engagement of learners during the session can be challenging. Frequent check-ins with the group either verbally or in the form of polls (see below) can be helpful in ensuring comprehension and re-engaging the audience. A second facilitator can be especially useful in assessing each participant's attention and calling on those who appear disengaged. This other facilitator can also be helpful in monitoring the chat while the primary presenter may be sharing their screen and may not be able to view the chat simultaneously.

Content Delivery

There is increased risk for disengagement in virtual education due to distractions in the learner setting and anonymity of the virtual environment. Limiting scope of content, limiting duration of sessions, employing visual aids and adopting active teaching methods all help to combat disengagement.

Learner attention seems to be maximized when sessions are short and limited to only a few (2-3) learning objectives. For longer sessions, frequent breaks and transitions as well as integrating different types of short activities can be helpful.

Taking advantage of visual aids can help engage learners, such as incorporating a PowerPoint, sharing one's screen, or including different media such as videos or images. In addition, a Virtual Whiteboard is a collaborative, virtual learning tool available on online platforms such as Zoom that serves as a canvas where all participants can contribute and interact on the screen in real-time either by adding text, images, shapes, sticky notes, and more. This is particularly useful for brainstorming sessions, problem-solving exercises and collaborative activities such as project management. Word clouds are a similar collaborative visualization tool that collates words that participants submit through an online audience response system and enlarges the most popular words sent in.

One commonly used example of an interactive teaching strategy is the use of polls such as Poll Everywhere or Zoom Poll. Similar to asking learners to raise their hands in the classroom, online polls can be embedded in virtual education to help gather important feedback from the participants and maintain engagement. Polls usually take the form of multiple-choice questions and results are instantly reported. This versatile tool can be utilized to gather feedback about the group's understanding before a session

and/or retention of information after a lesson. It may help to solidify understanding or identify learning issues in real-time. It is also another opportunity for learner engagement and can disrupt the monotony of a lesson by breaking up the content flow. Finally, polls can also be used to gather important feedback at the end of the session. The anonymity of these tools allows students to feel more comfortable participating in classroom discussion and answering honestly, especially when teaching a sensitive topic.

As another example, breakout sessions are separate virtual rooms where groups of students can interact in a smaller group setting. This can be helpful for large groups as many learners may feel more empowered to share thoughts with fewer individuals. This type of activity can also serve as a break in the session, serving to re-engage students and decrease boredom. Barriers may include the need for an increased number of facilitators and associated added technical difficulties. Similar to breakout sessions, Think-Pair-Share is a variation where instructors pose a question, students think about the answer individually, then pair with a person sitting near them before finally sharing with the large group.

Game-based learning, commonly referred to as "gamification," may also boost engagement during virtual sessions. This is an educational approach that utilizes game elements such as rewards, competition and visible achievement (ie. points, leaderboards) as a means by which to deliver educational content. It is thought to maximize entertainment and motivation. Often, popular, well-known games are re-designed to fit the virtual space. Examples include BINGO or Jeopardy.

Equity

Attention to equity is imperative in the virtual learning environment as virtual learning can exacerbate existing inequalities. All learners are expected to have appropriate access to virtual learning platforms and stable internet connections. Notably, not all participants will have the same internet access and it is important not to perceive the learner to be less engaged for this reason. It is also important to be sensitive to the learners' home environments as not all learners will feel comfortable having their cameras on and participating in sessions from their homes. Various learning styles may be well suited to virtual teaching methods, while others may suffer. Recording sessions, providing close captioning/language setting and employing multiple teaching modalities can help combat inequities in virtual education.

Appendix A

Virtual Teaching Tools

- Synchronous Platforms
  - Zoom
  - Google Workspace
  - Skype
  - WebEx
  - Microsoft Teams
- Asynchronous Tools
  - Email
  - Blogs
  - Digital Library
  - Discussion Boards: Canvas, Piazza, Slack, Teams
  - Annotation Tools: Box, Google Docs
  - Asynchronous Audio/Visual tools: Flipgrid, Padlet
  - Social Media: Twitter, Face-book, Instagram

RESOURCES

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Outpatient Telehealth Implementation for Residency Programs

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Introduction

The COVID-19 pandemic catalyzed the rapid expansion of telemedicine at every level. As academic institutions across the country adapted to deliver virtual medical care, providers, trainees, inter-professional team members, and administrative staff were quickly forced to implement telehealth care while they were experimenting and teaching themselves the basics of telemedicine. Few health care systems had been training clinicians in telemedicine prior to the pandemic. However, without appropriate training and guidelines the rapid transition to telemedicine visits risks lowering the quality of care during a medical visit. Thus, training physicians in the appropriate use of virtual care has become an urgent need and priority. There are currently large gaps in training around telemedicine, with more than 80% of trainees not receiving any training in telemedicine[1]. On July 1st, 2021, the Accreditation Council for Graduate Medical Education (ACGME) implemented a new set of milestone competencies for Internal Medicine residency programs. This revised set includes a new Digital Health milestone, which encourages residency programs to assess Internal Medicine residents on the performance of telehealth visits, knowledge of appropriateness of telehealth visits, and application of their knowledge to integrate telehealth into their ambulatory practice[2].

Telemedicine is likely to remain beyond the Public Health Emergency as it frequently improves access to care for patients, keeps patients safe during a pandemic, and aids clinicians in providing additional insight into a patient's life and home situation. As the medical education community has recognized the importance of developing dedicated skills in telemedicine for future physicians and a subsequent growing national demand by patients for this alternative modality of medical care, there is a need for all Internal Medicine residency programs to provide a formal experience in telemedicine as part of their clinical training.

This chapter will serve as a blueprint for ambulatory training programs to implement or enhance a telehealth experience for their trainees. Practice preparation, logistics of implementation, and faculty precepting considerations will be discussed. Telehealth training curricular topics will be identified. Benefits to care through telemedicine as well as limitations of telemedicine due to health disparities will be explored. This chapter will conclude with emerging technologies and future directions.

Practice Preparation for Telehealth for Residents at the Ambulatory Sites

It is crucial that ambulatory resident practices dedicate time, space, and resources to prepare for effective telehealth encounters in office-based settings prior to incorporating telehealth visits into clinical templates. Practice site directors should meet with institutional leadership to review legal requirements for telehealth visits, address reimbursement regulations, highlight financial gain from telehealth visits through expanded access, and identify budgetary support for needed technology and space. Appropriate HIPAA-compliant telehealth audiovisual platforms should be identified for use. To maintain confidentiality between patient and provider during telehealth visits, virtual visits should be performed in dedicated private spaces, such as individual offices, exam rooms, or consult rooms with a door. Providers also require laptops with audiovisual capabilities with a built-in microphone, speakers, and camera, or additional video cameras and

headsets if using desktop computers and monitors. Ideally, providers should have access to a second computer, dual screen, or wide screen for split screen capabilities during the telehealth visit to allow access to the patient's electronic medical records for chart review and documentation during visits.

Practices should identify telehealth schedule structure, which should include time appropriated to each telehealth visit, number of visit slots allocated to telehealth visits based on demand for telehealth visit types, and timing of telehealth visits scheduled within patient care sessions. Institutions may favor a designated block of time for telehealth visits, random scheduling of telehealth visits during a traditional in-person patient care session, or scheduling telehealth visits at the beginning of or end of a traditional in-person patient care session. On-site or remote practice locations should be identified for all trainees, interprofessional team members, and faculty. Practices should consider how telehealth may affect billing and practice occupancy. Workflows for integration of interprofessional team members during team pre- and post- visit huddles and within the virtual visit itself should be established.

Practices should also identify how a patient visit is selected to be conducted as a telehealth visit. In some circumstances, patients themselves may request a telehealth visit. In other instances, practices may identify particular types of visits that should be initially scheduled for telehealth visits, such as visits for acute respiratory illnesses, Medicare annual wellness visits, or hospital discharge follow-up visits. In both of these scenarios, telehealth visits may be selected in the absence of a clinician and can sometimes lead to the need to convert the telehealth visit to an in-person visit based on the clinical situation. Opportunities to develop standardized protocols to assist non-clinical staff in appropriate scheduling of telehealth visits can be considered in the future. Policies regarding telehealth visits for new patients and for patients who have not received in-person care in several years should be adopted and guidance to subsequent in-person visits should be established.

In addition to the ability for non-clinical staff to select visits to be conducted via telehealth, faculty and trainees should also have the ability to recommend telehealth visits for specific patients or clinical scenarios. This is especially important in a training program due to consideration of the digital health milestone by the ACGME, where residents should be assessed on their triage skills to appropriately select a telehealth modality based on the clinical indication.

It is important that the medical staff also undergoes training on telemedicine office workflows such as scheduling telehealth visits, evaluating the patient for population health gaps, checking-in and checking-out patients, facilitating billing of telehealth encounters, and guiding patients through difficulties with the technology.

Faculty Preparation for Telehealth Precepting

Faculty should undergo training to learn about documentation and regulatory requirements, billing processes, ways to conduct telehealth visits in a professional patient-centered manner, telehealth physical exam skills, medical conditions appropriate for telehealth visits, and clinical limitations of telehealth visits. Having direct experience in telemedicine visits is extremely helpful prior to teaching trainees.

An added challenge to the flow of the virtual visit in a resident ambulatory clinic is the logistics of precepting, observing, and teaching trainees during and in-between clinical encounters. If trainees and/or faculty are working remotely from each other, identification of methods of communication, including technological platforms used and expectations for when, how, and how often each party should be available to communicate should be determined and agreed upon by both parties in advance at the start of the session. Based on trainee level and patient complexity, faculty should also lay out expectations for whether learners should present one case at a time directly after the patient visit or present several cases at once after multiple telehealth visits are conducted. Faculty development for tele-precepting should include how to navigate virtual precepting of multiple learners, how to guide learners to incorporate faculty into the telehealth visits, how to observe resident telehealth skills and give feedback, how to role model telehealth visit skills, how to transition in and out of resident telehealth visits on the telehealth technology platforms, and how to guide trainees to conclude the telehealth visits.

Of note, virtual precepting was allowed during the pandemic as a CMS exception. This rule is set to expire May 2023. If the rule expires than faculty and residents must be co-located when precepting virtual visits.

Teaching the Telemedicine Visit

It is crucial to create comprehensive, well developed telemedicine training curricula to deliver high-quality patient care. The ideal curriculum to teach telemedicine has not yet been established and many different curricula are successfully being used nationally and internationally[3]. A telemedicine curriculum should address competencies such as patient safety, access and equity, communication, patient assessment, technology and legal requirements[2]. As clinicians, we are responsible for creating a safe virtual environment and connecting with the patient through the screen. Just as with an in-person visit, an optimal environment improves the quality of the visit. Learners need to understand that a stable internet connection, well-lit rooms, reduction of ambient noise, and a safe and private environment are pre-requisites to optimize the visit.

Workflow

Effective and efficient triage is an important skill and remains a challenge of telehealth. Knowing which patients can best be managed through a telephonic visit, an audiovisual visit, or an in-person visit can take years of experience, which may be particularly challenging for trainees who may lack experience and patient continuity. An introductory primer on telehealth triage can be delivered through an interactive didactic where residents can practice identifying appropriate modalities for common conditions such as chest pain, sore throat, and hypertension. Prior to the beginning of each clinic day, residents can then be instructed to review their schedule to make sure that the patients scheduled for a telemedicine visit are appropriate to be seen virtually based on their medical complaints.

Communication

Learners who are new to providing virtual care frequently have difficulties building a connection with the patient. The workspace can be augmented to allow for direct eye contact during a virtual visit. How do you teach someone to show empathy in a virtual environment? A valuable tool developed at one of our institutions is the Telepresence 5 approach[4], which was adapted from Presence 5 approach[5]. The five strategies designed to foster humanism and improve communication, include preparation with intention,

listening with intent, agreeing on what matters most, connection with the patient's story, and exploring emotional cues.

Virtual Physical Exam

It can be challenging for learners to not be able to perform a hands-on physical exam to inform their diagnostic evaluation. However, there are quite a few physical exam maneuvers that can be done during a virtual visit. A quick initial assessment will evaluate how sick the patient is and if they need to be triaged to a higher level of care. Learners need to be taught to triage the patient appropriately through a virtual initial assessment.

As the patient is not in the office, we are not able to get routine vital signs on a patient who presents for a virtual visit. However, many patients do have devices to obtain some of the vital signs, such as a blood pressure cuff, Smart watch, oximeter, thermometer, glucometer, or a scale. The learner needs to remember that it is always worthwhile to ask the patient what devices they might have available and use them if this can help during the visit.

Patients who present for a virtual visit to discuss their chronic medical concerns frequently do not need a thorough physical exam in addition to the initial assessment and vital signs (if available). It is important to teach the learners to not document physical exam maneuvers that are not necessary or have not even been done.

Patients who present for more urgent medical problems do need a physical exam to help with the assessment. The clinician needs to perform a problem-focused physical exam with the patient's or caregiver's assistance by instructing the patient on what to do to mimic the exam that is done during an in-person visit[3]. This can be quite challenging for learners and should be practiced frequently. The learner needs to be taught which physical exam maneuvers to perform and how to perform them in the virtual setting. Then the learner needs to be taught how to instruct the patient to do these maneuvers so that they can be evaluated for the etiology of their medical complaint.

There are many excellent resources that can help the learner acquire telemedicine skills (see resource list below). Many curricula use a mixture of didactics and hands on learning. Practicing the telemedicine exam on each other and on standardized patients has been shown to be helpful. A clinical component of the curriculum is crucial to translate what has been learned in the classroom to a real clinic setting.

Faculty need to model best practices and watch residents while they perform a virtual visit. It is easiest for the teacher to witness the encounter when they are in the same room with the learner conducting the video visit. An option for the teacher who is not co-located with the learner is to join the telemedicine visit virtually and -after introducing themselves to the patient- stay off camera.

Feedback on the visit should be given as soon as possible to make sure that it is easy to recall details of the visit. Telemedicine visits offer a wonderful opportunity for feedback based on observation. Preceptors can observe counseling and communication skills, rapport building via non-verbal and verbal skills, physical exam and history-taking skills.

Documentation and billing

Since good documentation of visits is key for effective patient care and health system sustainability, residents must receive training on documentation pertinent to telehealth. This training should include the importance of discussing and documenting benefits and limitations of telehealth with the patient and consenting the patient to the visit being done virtually. Documentation should also include use of interpreter services when used. Residents also learn to bill for services rendered alongside their attending physician. Given state-specific privacy policies and current flux on interstate telehealth, it is necessary to adapt communication and documentation training to current state and institution guidelines.

Benefits of Telehealth Visits

There are many advantages of virtual care, all of which should be highlighted in the curriculum for resident learners. Telehealth care allows providers to see patients at the patient's convenience. Barriers related to transportation, employment leave, childcare/caregiver responsibilities are lessened with virtual visits. Patients who are homebound or not feeling well can remain in the comfort of their own home and still seek medical care. Another advantage of telemedicine is that the provider is able to get an enhanced understanding of the patient's home environment and meet family and caregivers that usually cannot accompany the patient to an in-person visit. Longitudinal chronic disease management that traditionally always required an in-person visit can now be complemented with telehealth visits to further manage conditions and provide preventative care. All of these advantages can be explored as learning domains.

Limitations of Telehealth and Health Disparities

Health inequities in relation to the use of telemedicine have become apparent. Learners need to be aware of health care disparities as they relate to telemedicine. Learners should understand that access to technology as well as digital literacy varies across communities. Low digital literacy does not only affect the ability to obtain virtual care but also affects multiple social determinants of health, such as access to community programs, transportation, and education.

Studies have shown that patients over the age of 65, Black patients, low-income patients, and patients with a high school or lower education are less willing to use videoconferencing with their clinician[7]. Some patients lack access to high-speed internet and video cameras for telemedicine visits with audio and video. While audio-only visits can be a viable option, parity of payment for audio-only visits has required significant lobbying and may be changed in the future. Digital literacy can be low in certain patient communities; thus, it is important to consider the patient population and their ability to use telemedicine technology. The ability to provide technological support for these patients is key. Additional resources may need to be deployed to facilitate patient use of video visits. Some sites utilize medical assistants to orient patients to the telemedicine platform during their in-person visit, prior to scheduling a virtual follow-up visit. Some sites engage medical students to help patients become more comfortable with the technology needed to perform a virtual visit. Residents conducting a virtual visit should also be trained to provide basic technological support to patients and understand how to troubleshoot technological issues. Knowing when to pivot to another modality, like an audio-only visit, should be taught.

For patients who are non-English speaking, the use of interpreters is required to provide equitable care and a process for utilizing an interpreter during a virtual visit should be developed.

Virtual exam maneuvers have not been studied for their sensitivity and specificity. There are also clear limitations to conducting certain exam maneuvers such as cardiac and pulmonary auscultation. Genital or other sensitive exams are challenging to conduct with a chaperone using telemedicine.

Associated and Emerging Technologies

The telehealth curriculum should include the variety of health technology available. Whereas providers may consider synchronous visits as the mainstay of telehealth, trainees should be introduced to concepts including asynchronous virtual consults and secure patient messaging. Remote patient monitoring, which may include blood pressure, blood sugar, pulse oximetry, and cardiac event monitoring, should also be discussed, including how to promote patient access to these services where needed in acute and chronic care. Tools for mobile health, such as fitness and diet trackers, other phone apps, and wearable devices can be introduced, along with identifying patients who may benefit from specific devices.

Conclusion

The COVID-19 pandemic has rapidly spread the implementation of telemedicine, and patients and residency education stakeholders are interested in continuing telemedicine after the Public Health Emergency ends. Adding telemedicine education and experience for residency programs can help meet national requirements as well as prepare trainees for a new phase in medicine. Telehealth parity, interstate reciprocity for telehealth visits, and advocacy for continuation of telehealth coverage are areas of future efforts for the medical community. Future directions include training and assessing residents and faculty in the required competencies and exploring safety and equity issues to ensure high quality virtual care for everyone.

Resources

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Outpatient Coaching and Direct Observation

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Background

Direct observation is a key component of resident educational assessment and is explicitly included in the Accreditation Council for Graduate Medical Education (ACGME) Milestones. Outpatient direct observation has been shown to improve the quality of trainee evaluations but occurs less frequently than recommended due to limited resources (time, preceptors, space, etc.) and a lack of structure to accommodate it.

What is Coaching?

Clinical coaching provides a more in-depth one-on-one experience than traditional outpatient precepting, which often includes minimal direct observation of clinical practice. Coaching focuses on the discrete development of specific skills. This is achieved through faculty direct observation of resident clinical practice followed by focused feedback. Learner self-assessment is a crucial part of coaching and informs the feedback discussion. The big picture goal of feedback sessions is to empower the learner to achieve deliberate practice through rigorous self-assessment.

Our Experience

At the Johns Hopkins Bayview Internal Medicine Residency, we have implemented structured longitudinal coaching relationships between GIM and Geriatrics faculty and all residents in the outpatient GIM practice. The 48 IM residents are divided into 4 teams, each led by a faculty coach. Over the course of the academic year, coaches are tasked to conduct at least 1-2 mini-CEX exercises and 2 directly observed complete outpatient visits for each resident on their team. Complete outpatient visits are evaluated using a structured checklist based on tenets of clinical excellence that we have adopted from our earlier coaching work (see end of section). Focused feedback and debriefing sessions occur at the end of each patient encounter. The overall time for each coaching session including preparation, direct observation, and debriefing takes an average of 1 hour. The 4 faculty team coaches receive 0.05 FTE salary support for these coaching sessions in addition to 0.1 FTE received by all preceptors for each half day/week standard precepting.

We have found that these longitudinal coaching relationships help to provide real time, precise formative feedback to residents and that coaching is well-received among house staff as well. Cumulative outpatient evaluations of residents are richly informed by this additional information.

Practical Considerations

Direct observation and coaching are time-intensive but important parts of residency education. Below are some specific suggestions for integrating clinical coaching into already-busy outpatient resident practices:

- **Use a checklist and share with residents in advance.** Structuring the direct observation encounter helps to maximize the time spent and improves efficiency during feedback. See Figure below for proposed checklist.
- **The Mini-CEX is a great tool but is not granular enough to hone in on specific clinical skills.** For coaching specifically, it helps to have a higher level of detail – both to improve specificity of feedback and to make clear expectations to residents.

- **Implement coaching during the first patient visit of the session**, or another period of relative "down time" in precepting. We've found that the start of each session affords an opportunity for preceptors to spend time in direct observation with residents because there is no competing demand for precepting requests.
- **Consider protecting time for a faculty coach to conduct direct observation during a clinic session they are not scheduled to precept other learners.** This is not always possible but can help to reduce the burden of competing responsibilities on the coach/preceptor.
- **Single coaching episodes are beneficial.** While longitudinal coaching relationships offer the most robust opportunities for evaluation and development, even one directly observed session has been shown to be valuable for the resident and preceptor.
- **If a complete visit cannot be observed, focus the coaching episode on a particular portion of the visit**. Don't let perfect be the enemy of good. Pick a particular area of clinical skills to focus on for the portion of the visit observed and use an abbreviated checklist.
- **Feedback sessions can be deferred to the end of the session when needed.** There is not always time to debrief and provide feedback immediately following a directly observed visit. We have found that prioritizing time at the end of the clinic session for feedback still offers a great opportunity to discuss while the encounter is fresh in both participants' minds.

Other Reading & Resources

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Figure. Ambulatory Coaching Checklist

OBSERVER NAME: Click here to enter text.
RESIDENT NAME: Click here to enter text.
DATE: Click here to enter text.
Communication and interpersonal skills:

1. Fully present / No evidence of distraction: ☐ Y ☐ N
2. Leads and follows with open-ended questions: ☐ Y ☐ N
3. Listens attentively: ☐ Y ☐ N
4. Avoids medical jargon: ☐ Y ☐ N

5. Assesses understanding (teach back): ☐ Y ☐ N
6. Counsels on behavioral change: ☐ Y ☐ N ☐ N/A

Use of EMR:

7. Positions self to facilitate communication: ☐ Y ☐ N
8. Before & after charting, gives undivided attention to patient: ☐ Y ☐ N
9. Collaborates with patient when using EMR (pt-centered): ☐ Y ☐ N
10. Maintains adequate eye contact with patient while using EMR: ☐ Y ☐ N

Diagnostic acumen:

11. Correct PE technique (auscultate directly on skin, remove clothing to examine when appropriate): ☐ Y ☐ N ☐ N/A
12. Appropriate completeness of exam: ☐ Y ☐ N ☐ N/A
13. Asks sharp, thoughtful, smart questions: ☐ Y ☐ N
14. Obtains adequate and appropriate information from patient to arrive at plan/diagnosis: ☐ Y ☐ N

Skillful negotiation of the healthcare system:

15. Demonstrates ability to prioritize and address multiple issues during appointment: ☐ Y ☐ N ☐ N/A
16. Manages visit time appropriately: ☐ Y ☐ N
17. Addresses social/financial concerns in deciding care plan: ☐ Y ☐ N ☐ N/A
18. Outlines reasons to re-contact/re-visit: ☐ Y ☐ N
19. Closes visit with open-ended question: ☐ Y ☐ N

Knowledge:

20. Interpretation and formulation of data is appropriate to problem: ☐ Y ☐ N
21. Creates comprehensive management plan for patient: ☐ Y ☐ N
22. Patient understands the comprehensive management plan: ☐ Y ☐ N
23. Describes evidence base for decision to patient: ☐ Y ☐ N ☐ N/A

Notes:

Teaching Chronic Disease Management

Halle G. Sobel, MD, FACP & Margaret Lo, MD, FACP

Introduction

Ambulatory education for internal medicine residency programs must have a robust chronic disease management curriculum. Residents are exposed to chronic disease management through direct patient care, through didactics and through active learning experiences. While each residency program has a unique approach to chronic disease management, it is important that residents become exposed to interdisciplinary experiences, interprofessional teamwork, and be provided with their performance measures to have a successful learning experience.

Experiential Training in Chronic Disease Management

Many residency training programs have primary care clinics that operate within a Patient Centered Medical Home (PCMH). PCMH models often have team members to help care for patients with chronic diseases such as case managers and social workers. [1] Certain academic institutions have developed specialized chronic care clinics to provide residents with experiential training in specific chronic disease management. Examples include, but are not limited to, the community-based HIV/AIDS Clinic at Montefiore Medical Center, the Grady Liver Clinic at Emory University,[2] the Multidisciplinary Resident Diabetes Clinic at the University of Florida and the Addiction Recovery Clinic of the New Haven Primary Care Consortium at Yale.[3,4] The curriculum for each specialized chronic care clinic is detailed in the respective reference. Universal to these clinics are its resident-driven, interdisciplinary, team-based exposure to managing patients with specific chronic diseases. Additionally, the Agency for Healthcare Research and Quality (AHRQ) developed a step-by-step toolkit to implement chronic care models in the academic learning environment. Topics within Prevention and Chronic care include, "Evidence-Based Decision making," "Improving Primary Care Practice," "Care Coordination," "Behavioral and Mental Health" and "Self-Management Support".[5]

Chronic Disease Curricular Content

Faculty must supervise residents using both evidence-based and patient-centered care and model shared decision making as residents navigate the landscape of chronic disease management. Common conditions seen in the ambulatory setting should be included in the chronic disease curriculum which may occur through didactic lectures, self-administered web modules or active learning techniques. Each residency program will vary in their delivery of an educational curriculum. It may be a one, two or three-year curriculum. Regardless of the strategy, important disease states to cover include: type 2 DM, COPD, Asthma, Chronic Pain, Chronic Kidney Disease, Substance use Disorder, Tobacco Use, Hyperlipidemia, Hypertension, Obesity and Congestive Heart Failure. Certain programs may benefit from including other disease states such as homelessness, incarceration medicine and HIV care depending on the prevalence of a disease in the particular region. Existing web-based modules are available for programs to purchase, and well-known products include the Yale Office-Based Medicine Education Curriculum and the Patient Education and Assessment Center (PEAC).[6,7]

Chronic Disease Panel Management

In addition to learning about chronic diseases in the ambulatory curriculum and through direct patient care, many residency programs offer a panel management curriculum. This is a pro-active approach to care and often involves outreach by a team member to schedule an office visit for patients who have gaps in their care or other methods of care through community outreach. [8,9,10] Many residency programs have an electronic

health record dashboard that can generate patient lists for the residents and these patient lists can be used to help residents track their progress in managing their patients with chronic diseases. Advanced clinics may have chronic disease registries and panel managers to help residents with chronic disease management. Additionally, the AHRQ and AAMC developed systematic guides to implementing panel management in clinical practice. The AHRQ module on "Facilitating Practice Management" includes important topics on appropriate panel sizes, practice monitor empanelment, and processes/polices needed for sustainability.[5] The American Medical Association (AMA) Steps Forward module on Panel Management details out 6 steps for implementation and provides 10 individual toolkits available for download. These include teaching exercises on stakeholder training in panel management, preventative care registry reports, and performance measures for panel management. The module even provides a virtual connection to a practice consultant to help guide implementation.[11]

Patient Self-Management

Residents should be exposed to teaching and helping patients learn self-management to manage their disease.[5] This is best done through a team approach but can be monitored by the residents when patients are seen for office visits. For example, for patients with diabetes, the residents can assess how patients are doing with self-blood glucose monitoring (if applicable), adhering to their medication regimen and following an exercise regimen. They may help provide their patients with continuous glucose monitors and thus learn about the evolving technology in diabetes care. Exposure to motivational interviewing techniques can be a tool to help trainees with behavioral change for many conditions including tobacco use and obesity.

Resident Assessment

It is imperative that residents are evaluated and provided feedback on their performance with chronic disease management. This should occur at both the patient care level and at the mastery of content level. Both Practice-Based Learning and Improvement (PBLI) and Systems-Based Practice Milestones are relevant to assess the performance of a resident in the arena of chronic disease management. Programs may also survey the residents to understand the impact of the delivery of the curriculum, perform self or peer chart audits, use clinic staff evaluations, perform direct observation and analyze the in-training exam scores.

Curricular Development

The curriculum should be dynamic and continuously evolve to meet the continuously evolving landscape of medicine as well as the Accreditation Council for Graduate Medical Education (ACGME) competencies.[12] In the authors' experience, it is helpful to have a core group of faculty and residents to continuously analyze the curriculum to help to foster growth and meet needs of the individual program.

Conclusion

As the primary care workforce shifts to population-management, it is a crucial time for residency programs to have a robust and innovative chronic disease management curriculum for both excellent patient care and trainee education. It is quite possible that residents' experience with a well-functioning clinic model could impact career choice, which can only help with the primary care shortage.[13,14]

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Psychology & Psychiatry in Primary Care Curriculum

Stephanie Catanese, MD & Kelly McGarry, MD

Introduction

Delivering well-rounded primary care requires expertise in the psychiatric and psychosocial aspects of medicine. There is evidence that IM, FM, and pediatrics programs dedicate some time to the development of the necessary skills, but it is felt to be insufficient (1). In the General Internal Medicine Residency Program at Brown University, we have cultivated a longitudinal curriculum to address these important issues. In the course of the three-year curriculum, residents learn to work effectively with patients whose psychiatric and/or psychosocial issues (or concerns) constitute a major aspect of their illness and impact the rest of their medical care. The behavioral sciences faculty is multidisciplinary and includes an internist trained in GIM/palliative care, a clinical psychologist, a psychiatrist, along with several internists in general medicine and faculty members from the Brown Medical School Centers for Preventive and Behavioral Medicine.

Breakdown

Our residents work within the traditional 3-year model of monthly rotations. The primary care residents have a total of 8 ambulatory block months over the 3 years. Below, we have a breakdown of the psychology and psychiatry curriculum which is delivered over the 3-year curriculum. In the first year, residents are involved in a course on communication skills, covering such topics as doctor-patient communication, the role of family in primary care and cultural differences in the experience of illness. Concurrently, a general psychiatry lecture series completes the first-year curriculum. Home visits are an important part of the second-year experience. One resident chooses one of their own patients who present difficult diagnostic and/or management issues, most often complicated by psychiatric or psychosocial complexities. Program residents, working with our psychiatrist and clinical psychologist, serve as consultants and develop new management strategies for the patients' primary provider. The third year caters more to the interests of the resident with a focus on personal development, research endeavors, and their own curricular interests.

Below is an outline of our **Curriculum**.

PGY-1

A. Outpatient Communication Skills: Common Psychiatric Issues and Psychosocial Considerations in Primary Care
   - Integrated Primary Care
   - Managing Your Practice in the Resident Clinic
   - Motivational Interviewing
   - Family Dynamics in Primary Care
   - How to Conduct a Family Meeting
   - Taking a Sexual History
   - Personality Styles and Disorders
   - Borderline Personality and Dialectical Behavior Therapy
   - Overview of the Community Mental Health System in Rhode Island
   - Introduction to Refugee Health-Psychosocial Factors
   - Difficult Physician-Patient Interactions
   - Intimate Partner Violence
   - International Sex and Gender Based Violence

- Trauma and PTSD in Primary Care
- Somatization in Primary Care-Overview and patient interviews
- Introduction to Narrative Medicine
- Patient Interviews
- Home Visits - Providence Housing Authority

B. Psychiatry Seminars
- Depressive Disorder
- Anxiety Disorders
- Delirium
- Dementia
- Psychosis
- Bipolar Disorder
- Special Topics
- Capacity and Informed Consent

PGY 2

A. Topics in Behavioral Medicine and Self- Care
- Meditation and Mindfulness
- Cognitive Behavior Therapy and Self Care
- Introduction to Behavioral Medicine
- Schools of Psychotherapy
- Neuropsychological Assessment
- Sleep Disorders
- Neuropsychological Impact of Caregiving
- Caregiver Stress
- Smoking Cessation
- Obesity Treatment and Prevention
- Headache Management
- Patient Home Visits
- Community Visits
    - Dorcas-International Institute- a local organization dedicated to helping resettled refugees
    - Department of Health- Medical Director's Office- learning about advocacy and current issues nationally as well as at the state level
    - Community Mental Health Center
    - Adult Correctional Institute

Partnerships

Our program has been mainly led by a psychologist and psychiatrist who are invested in improving the delivery of primary care. It is of utmost importance to find educators who can provide applicable, practical knowledge on these important topics. Partnering with health care providers who are expert communicators is essential. This can include faculty from your psychiatry department, palliative care department, addiction medicine team, clinical social work, psychology department members, etc. It is helpful to have established connections with local institutions such as refugee organizations, homeless shelters, department of health office, etc.

Considerations

Time, financial considerations, and institutional expertise are factors to consider when developing this curriculum. Our program has three dedicated faculty members who each contribute 0.1 to 0.15 FTE to the curriculum, demonstrating its importance and the value we place on the development of these skills. Our faculty members receive a stipend provided by the hospital. Program directors could assign a stipend from departmental or divisional administration, supervision, and teaching money, if that is negotiable. We could not have three faculty members give this percent effort if we could not find adequate remuneration for their services. For the faculty members who participate on an as needed basis, their contributions are part of their overall teaching commitment to the residents. The time allotment is usually one 2- to 3-hour session per year. As noted above, faculty interest and expertise in these areas is required and may be hard for smaller programs to develop, although for some faculty at our own program often the interest preceded the expertise. Thus, if faculty are interested, expertise can be cultivated along the way.

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Urgent Care Curriculum for Primary Care Providers

Lindsey E. Fish, MD

Introduction

Urgent care medicine is an expanding clinical field of medicine and the common conditions seen in urgent care settings are applicable to many medical specialties, including primary care internal medicine. Many clinical organizations as well as national credentialing organizations continue to push for increased same day appointments in primary care clinics where physicians need to be able to evaluate and treat acute care conditions. Urgent care clinics provide significantly more acute care exposure to trainees than just primary care clinics alone [1]. Additionally, with the growth of free-standing urgent care clinics as well as hospital affiliated urgent care clinics, many primary care providers are working split positions in both primary care and urgent care. The utilization of urgent care settings provides learners with broad exposure to undifferentiated patients, of varying ages and acuity, and teaching from generalists and specialty consultants [2] which may be difficult to obtain elsewhere in training due to time and resource limitations.

Objective of the Urgent Care Curriculum

The objective is to provide a comprehensive urgent care learning experience in which Internal Medicine residents gain proficiency in urgent/acute care knowledge and skills, that cannot be obtained elsewhere in residency, and that would be applicable to career paths in primary care, urgent care and hospital based medical practice settings.

Urgent Care Curricular Topics

There is a wide variety of topics which could be included in an urgent care curriculum. These include but are not limited to headache, dizziness, syncope, anxiety, depression, ear pain, hearing loss, epistaxis, chest pain, palpitations, cough, upper/lower respiratory tract infections, abdominal pain, vomiting, dental complaints, skin findings/rashes, eye complaints, 1st trimester pregnancy pain and bleeding, vaginitis, orthopedic injuries and sexually transmitted diseases [2]. Additionally, the urgent care clinic is a good location to learn several common clinic procedures. Possible procedures include incision and drainage, laceration repair, joint injections, toenail removal, IUD removal and bedside ultrasound. Should your internal medicine residency program partner with medicine/pediatrics or family medicine residencies, pediatric urgent care topics could also be included in the curriculum although these would not apply to internal medicine residents. These include pediatric chest pain, pediatric respiratory illnesses, pediatric foreign body in orifice and pediatric fever. While some may believe that urgent care is the same as outpatient internal medicine, many urgent care conditions are subspecialty focused and traditional outpatient IM curricula have gaps in and/or under-address these topics.

Clinic Locations

The most common academic urgent care clinic setting is a hospital associated urgent care clinic. This may be stand alone or situated in conjunction with an emergency department or primary care clinic. Some may already be in locations with regular resident learners; however, some may be an untapped clinic location. Free standing urgent care clinics may also be opportunities for learning in conjunction with community clinical instructors who have an interest in teaching. Urgent care clinics are not standardized and therefore, there are many factors that should be considered if adding an urgent care clinic location as a teaching site. Urgent care clinics can range from basic level urgent care which may only have 1-3 rooms and have limited point of care testing to advanced level urgent care which may have 6-10 beds and offer full STAT laboratory testing, x-ray, ultrasound, EKG, fluids/IV medication administration [3]. Each urgent care clinic will operate under a different financial plan (i.e., you must be insured and pay a copay immediately to be seen) as well as various regulatory

issues (i.e., some may comply with EMTALA federal regulations). As such, gaining an understanding of the urgent care clinics resources and policies/procedures will be necessary to determine if it will be a positive educational opportunity for residents. Additionally, it is allowed for internal medicine residents to be supervised by non-internal medicine physicians in non-continuity ambulatory clinics. As such, in the urgent care clinic, an internal medicine resident may be supervised by internal medicine, medicine/pediatrics, family medicine or emergency medicine physicians.

Teaching Methods

Various teaching methods can be employed depending on the urgent care setting and rotation design. If residents are working at one clinic and the same shift, onsite didactic sessions or brief lectures can be utilized to educate on the specific topics of the curriculum. If residents start on various days, work various clinic locations and/or shifts, this approach may not function. One solution at a large urban multisite internal medicine residency program has been to create and utilize a self-directed urgent care curriculum in which the resident takes the initiative to learn the topics through direct patient care, article review and/or online resources. The University of Colorado School of Medicine curriculum includes eight topics to be completed during the four-week elective, with a target of two topics per week. The topics include dental complaints, skin findings/rashes, eye complaints, first trimester pregnancy bleeding and pain, vaginitis, abdominal pain, incision and drainage procedure and laceration repair procedure. These topics were selected as common things seen in the primary care setting which are not always addressed in the standard internal medicine curriculum and exposure in standard clinical settings may be difficult. Each topic contains objectives focused on exam techniques, findings and differential diagnoses; a case report page to document patient cases when they are seen in clinic; a link to an established online module with an overview of the topic; and a clinical review article which is an overview of the topic. Residents are expected to submit the completed curriculum at the end of the elective for administrators to track and review. This self-directed method allows for the complete curriculum to be administered to all learners despite them not being in the same clinic location at the same time.

Orientation

Effective orientation to the urgent care clinic is extremely important for the success of the resident in this setting. Seeing the completely undifferentiated patient is often a new experience for the internal medicine resident. Additionally, learning to focus the encounter on the urgent complaint/issue may be a challenge for the primary care resident who is used to addressing multiple chronic and acute issues in a visit. As such, a discussion about the approach to a patient in this setting is important. Clinical operations and resources need a complete review for the resident as well, so they do not do something that is not compliant to the policies/regulations of the clinic and/or offer a test/study/referral that is not available in the clinic.

Conclusion

The urgent care clinic is an excellent learning opportunity for internal medicine residents which will help them gain significant exposure to acute and many subspecialty conditions. Utilizing this clinical resource can be an excellent addition to a primary care internal medicine residency training program.

Resources

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Contraceptive Counseling Curriculum for the Internist

Heather Viola, DO & Tamara Goldberg, MD

Introduction

Primary care physicians (PCPs) are in a unique position to offer contraceptive counseling services and potentially reduce unplanned pregnancies since most women receive preventive care from non-gynecological providers.[1,2] Yet less than 50% of reproductive-aged women report having received contraceptive counseling from their primary medical provider.[3-5] Barriers continue to exist at the provider level, often due to perceived lack of knowledge.[6] Studies over the last three decades have consistently shown that contraceptive training for PCPs is deficient and opportunities for practicing physicians to obtain continuing medical education regarding advances in contraception are also limited.[7-10] Insufficiency of knowledge and training often leads to omission of counseling in the primary care setting and increased referrals to women's health specialists. The lack of formalized family planning curricula stands in contradiction to the clinical priority for IM physicians to provide such services, particularly those entering primary care who are expected to provide preventive and family planning services for reproductive aged women throughout their careers.

Curriculum Structure Overview

We offer below a multimodal formal curriculum for IM residents to improve knowledge, skills, and comfort with contraceptive counseling with the aim of bridging the gap between need and delivery of family planning services for reproductive-aged women. Each of the phases of our suggested curriculum can be used independently, or if time and schedule permits, incorporated longitudinally to optimize the retention of content.

Phase 1: In phase one, residents are introduced to contraceptive options as well as effective communication strategies to discuss these with patients. It is comprised of both an online module followed by a classroom-based didactic session with faculty utilizing case scenarios.

Supplementary material:

1. The online module utilized can be found on fpntc.org[11] (see references for full link)
2. Appendix A: Birth Control Method Options Chart
3. Appendix B- U.S. Medical Eligibility Criteria
4. Appendix C: Classroom PowerPoint Presentation

Phase 2: In phase two, residents observe the application of their knowledge of contraceptive counselling to patients through simulated encounters as well as observing faculty in a gynecology family planning clinic.

Supplementary material:

1. Appendix D: "Approach to the Encounter" guide given to the residents prior to the sim lab to help prepare them for the session.
2. Appendix E: Sample Case, Contraceptive Counselling
3. Appendix F: Teaching Case Scenarios with Standardized Patient Script.
4. Appendix G: Case Scenarios with Explanations
5. Appendix H: Performance Checklist

Phase 3: In phase three, residents practice contraceptive counseling skills with their own clinic patients under direct observation of faculty.

Supplementary material:

1. Appendix H: Performance Checklist

Curricular Content Detail

Phase 1: Online Module and Classroom-Based Didactics

Trainees must first familiarize themselves with contraceptive options available including advantages, risks, and administration. The first phase of our curriculum consists of completion of an online module[11] as well as a 1.5-hour classroom-based didactic session. The module addresses core knowledge of different contraceptive options as well as strategies for patient-centered communication when providing appropriate family planning and contraception counseling. We recommend residents be given protected time to complete the module and provided with appropriate supplemental material (***see Appendix A & B***). The classroom-based session should focus on discussion of different contraceptive options and the advantages, disadvantages, side effects, and risk of pregnancy of each. We recommend incorporation of case scenarios with interactive group discussion during this session (***see Appendix C***).

Phase 2: Physician Modeling and Simulation Lab Activity

After completing a content-based module and classroom session, it is ideal to have residents both observe a skilled practitioner delivering contraceptive counseling (role-modeling) as well as to apply their knowledge within the safe environment of standardized patient encounters (skills-based application). Given our existing schedule, we introduced Phase 2 a few months after Phase 1 during a primary care elective block. At our institution, activities during this phase included a dedicated session at a gynecology family planning clinic to observe how an expert in the field approaches contraception counseling as well as participation in a standardized patient counseling session in our simulation lab. While our institution has a formal simulation lab, this is not required for standardized role-play and a classroom setting can be used alternatively.

- During the simulation session, a faculty member (or Chief resident) acts as the standardized patient in the case scenarios. The objective is to have the learner counsel the patient on appropriate contraceptive options considering both their medical comorbidities and preferred method.
- We recommend that prior to the simulation training, learners review the "Approach to the Encounter" guide to help prepare them for the session in advance (***see Appendix D***).
- Teaching cases were developed with specific instructions for the learners and the standardized patient. (***see Appendix E & F***).
- Residents are encouraged to use ***Appendix G*** to support their encounter with the patient.
- While each resident participates in a single fifteen-minute patient encounter, the other learners observe the encounter to help foster a meaningful discussion with constructive feedback during debrief.
- A second faculty member should watch the encounter and use a performance checklist (see Appendix H) to assess knowledge of different contraceptive options and the learner's ability to effectively counsel on them.
- Faculty conduct a debriefing session with all the residents and provide feedback on knowledge and communication skills.

Phase 3: Applying Skills to a Clinic Patient Encounter- Direct Observation

The final phase of the curriculum is to have the learners apply their skills to a real-time patient in clinic with direct faculty observation. Learners should be given direct feedback using the same communication skills checklist that was used in the simulation setting debrief (***see Appendix H***).

Resident Assessment

A useful method to evaluate the curriculum is pre- and post-curriculum surveys assessing learners' knowledge and comfort level with the topic. In addition to the surveys, direct observation of individual skill performance is assessed during both the simulated patient scenarios and real-life clinic-based encounters. This allows the facilitator to provide specific, direct, formative feedback to each learner. The use of a performance checklist allowed for a high degree of precision and objectivity in data collection.

Conclusion

In short, this curriculum addresses the gap in contraceptive counselling training for primary care trainees. Our multi-phase contraceptive counseling curriculum improved trainee confidence, knowledge, and skills in delivering effective family planning to patients and can serve as a useful framework for internal medicine programs to incorporate such content into their larger curriculum. Improved PCP knowledge and comfort with contraceptive counseling may minimize fragmentation of women's healthcare and enhance women's overall primary and preventive health.

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Appendix A

Birth Control Method Options

	Most Ef ective				Moderately Ef ective					Least Ef ective					
	Female Sterilization	Male Sterilization	IUD	Implant	Injectables	Pill	Patch	Ring	Diaphragm	Male Condom	Female Condom	W ithdrawal	Sponge	Fertility Awareness Based Methods	Spermicides
Risk of pregnancy*	.5 out of 100	.15 out of 100	LNG: 2 out of 100 CopperT: .8 out of 100	.05 out of 100	4 out of 100	8 out of 100	9 out of 100		12 out of 100	13 out of 100	21 out of 100	20 out of 100	12-24 out of 100	24 out of 100	28 out of 100
How the method is used	Surgical procedure		Placement inside uterus	Placement into upper arm	Shot in arm, hip or under the skin	Take a pill	Put a patch on skin	Put a ring in vagina	Use with spermicide and put in vagina	Put over penis	Put inside vagina	Pull penis out of the vagina before ejaculation	Put inside vagina	Monitor fertility signs. Abstain or use condoms on fertile days.	Put inside vagina
How often the method is used	Permanent		Lastsup to 3-12 years	Lastsup to 3 years	Every 3 months	Every day at the same time	Each week	Each month	Every time you have sex					Daily	Every time you have sex
Menstrual side ef ects	None		LNG: Spotting, lighter or no periods CopperT: Heavier periods	Spotting, lighter or no periods	Spotting, lighter or no periods	Can cause spotting for the f rst few months. Periods may become lighter.			None						
Other possible side ef ects to discuss	Pain, bleeding, infection		Some pain with placement		May cause appetite increase/ weight gain	May have nausea and breast tenderness for the f rst few months.			Allergic reaction, irritation			None	Allergic reaction, irritation	None	Allergic reaction, irritation
Other considerations	Provides permanent protection against an unintended pregnancy.		LNG: No estrogen. May reduce cramps. CopperT: No hormones. May cause more cramps.	No estrogen	No estrogen. May reduce menstrual cramps.	Some client's may report improvement in acne. May reduce menstrual cramps and anemia. Lowers risk of ovarian and uterine cancer.			No hormones	No hormones. No prescription necessary.		No hormones. Nothing to buy.	No hormones. No prescription necessary.	No hormones. Can increase awareness and understanding of a woman's fertility signs.	No hormones. No prescription necessary.
	Counsel all clients about the use of condoms to reduce the risk of STDs, including HIV infection.														

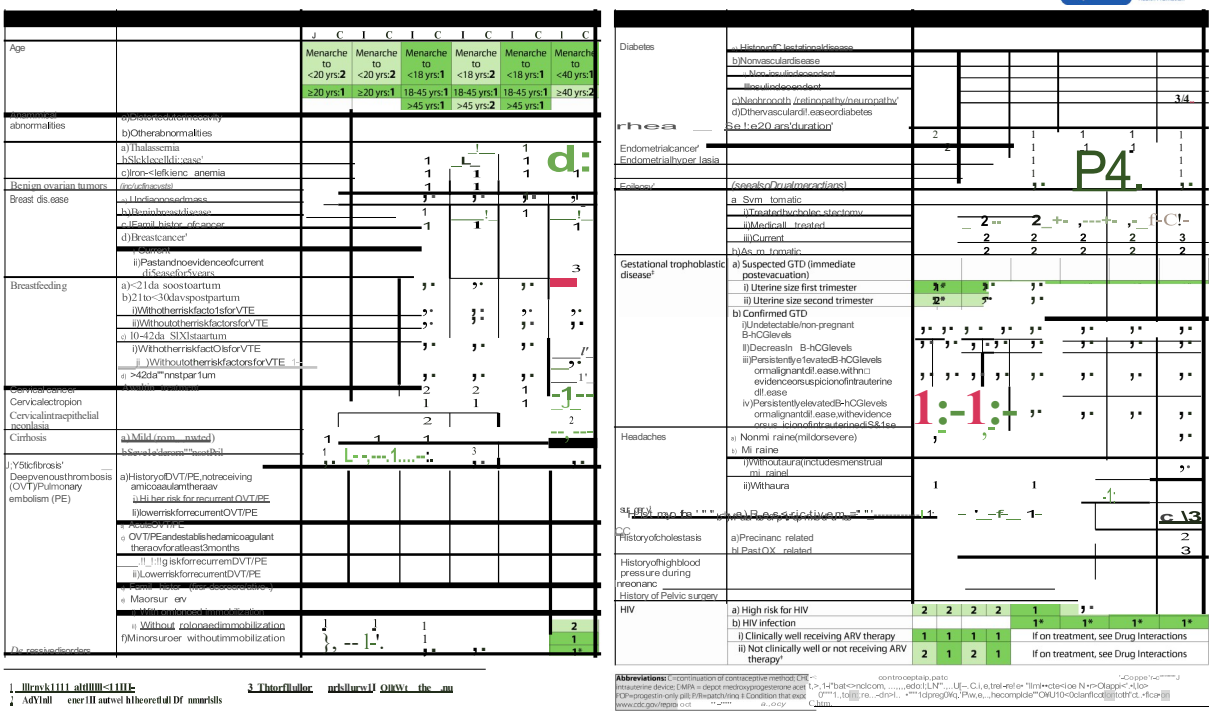
*The number of women out of every 100 who have an unintended pregnancy within the f rst year of typical use of each method.
Other Methods of Birth Control: (1) Lactational Amenorrhea Method (LAM) is a highly ef ective, temporary method of contraception; and (2) Emergency Contraception: emergency contraceptive pills or a copper IUD after unprotected intercourse substantially reduces risk of pregnancy. Reference for ef ectiveness rates: Trussell J. Contraceptive failure in the United States. Contraception 2011;83:397-404. Sundaram A. Contraceptive failure in the United States. Perspect Sex Reprod Health 2017;49:7-16 Other references available on www.fpntc.org.

FPNTC FAMILY PLANNING NATIONAL TRAINING CENTER

December 20 17

Appendix B

Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use



Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use

Condition	Sub-Condition	Cu-IUD I	Cu-IUD C	LNG-IUD I	LNG-IUD C	Implant I	Implant C	DMPA I	DMPA C	POP I	POP C	CHC I	CHC C
Hypertension	a) Adequately controlled hypertension	1*		1*		1*		2*		1*		3*	
	b) Elevated blood pressure levels (*properly taken measurements*)												
	i) Systolic 140-159 or diastolic 90-99	1*		1*		1*		2*		1*		3*	
	ii) Systolic ≥160 or diastolic ≥100‡	1*		2*		2*		3*		2*		4*	
	c) Vascular disease	1*		2*		2*		3*		2*		4*	
Inflammatory bowel disease	(*Ulcerative colitis, Crohn's disease*)	1		1		1		2		2		2/3*	
Ischemic heart disease‡	Current and history of	1		2	3	2	3	3		2	3	4	
Known thrombogenic mutations‡		1*		2*		2*		2*		2*		4*	
Liver tumors	a) Benign												
	i) Focal nodular hyperplasia	1		2		2		2		2		2	
	ii) Hepatocellular adenoma‡	1		3		3		3		3		4	
	b) Malignant‡ (hepatoma)	1		3		3		3		3		4	
Malaria		1		1		1		1		1		1	
Multiple risk factors for atherosclerotic cardiovascular disease	(e.g., older age, smoking, diabetes, hypertension, low HDL, high LDL, or high triglyceride levels)	1		2		2*		3*		2*		3/4*	
Multiple sclerosis	a) With prolonged immobility	1		1		1		2		1		3	
	b) Without prolonged immobility	1		1		1		2		1		1	
Obesity	a) Body mass index (BMI) ≥30 kg/m²	1		1		1		1		1		2	
	b) Menarche to <18 years and BMI ≥ 30 kg/m²	1		1		1		2		1		2	
Ovarian cancer‡		1		1		1		1		1		1	
Parity	a) Nulliparous	2		2		1		1		1		1	
	b) Parous	1		1		1		1		1		1	
Past ectopic pregnancy		1		1		1		1		2		1	
Pelvic inflammatory disease	a) Past												
	i) With subsequent pregnancy	1	1	1	1	1		1		1		1	
	ii) Without subsequent pregnancy	2	2	2	2	1		1		1		1	
	b) Current	4	2*	4	2*	1		1		1		1	
Peripartum cardiomyopathy‡	a) Normal or mildly impaired cardiac function												
	i) <6 months	2		2		1		1		1		4	
	ii) ≥6 months	2		2		1		1		1		3	
	b) Moderately or severely impaired cardiac function	2		2		2		2		2		4	
Postabortion	a) First trimester	1*		1*		1*		1*		1*		1*	
	b) Second trimester	2*		2*		1*		1*		1*		1*	
	c) Immediate postseptic abortion	4		4		1*		1*		1*		1*	
Postpartum (*nonbreastfeeding women*)	a) <21 days					1		1		1		4	
	b) 21 days to 42 days												
	i) With other risk factors for VTE					1		1		1		3*	
	ii) Without other risk factors for VTE					1		1		1		2	
	c) >42 days					1		1		1		1	
Postpartum (*in breastfeeding or non-breastfeeding women, including cesarean delivery*)	a) <10 minutes after delivery of the placenta												
	i) Breastfeeding	1*		2*									
	ii) Nonbreastfeeding	1*		1*									
	b) 10 minutes after delivery of the placenta to <4 weeks	2*		2*									
	c) ≥4 weeks	1*		1*									
	d) Postpartum sepsis	4		4									

Condition	Sub-Condition	Cu-IUD I	Cu-IUD C	LNG-IUD I	LNG-IUD C	Implant I	Implant C	DMPA I	DMPA C	POP I	POP C	CHC I	CHC C
Pregnancy		4*		4*		NA*		NA*		NA*		NA*	
Rheumatoid arthritis	a) On immunosuppressive therapy	2	1	2	1	1		2/3*		1		2	
	b) Not on immunosuppressive therapy	1		1		1		2		1		2	
Schistosomiasis	a) Uncomplicated	1		1		1		1		1		1	
	b) Fibrosis of the liver‡	1		1		1		1		1		1	
Sexually transmitted diseases (STDs)	a) Current purulent cervicitis or chlamydial infection or gonococcal infection	4	2*	4	2*	1		1		1		1	
	b) Vaginitis (*including trichomonas vaginalis and bacterial vaginosis*)	2	2	2	2	1		1		1		1	
	c) Other factors relating to STDs	2*	2	2*	2	1		1		1		1	
Smoking	a) Age <35	1		1		1		1		1		2	
	b) Age ≥35, <15 cigarettes/day	1		1		1		1		1		3	
	c) Age ≥35, ≥15 cigarettes/day	1		1		1		1		1		4	
Solid organ transplantation‡	a) Complicated	3	2	3	2	2		2		2		4	
	b) Uncomplicated	2		2		2		2		2		2*	
Stroke‡	History of cerebrovascular accident	1		2		2	3	3		2	3	4	
Superficial venous disorders	a) Varicose veins	1		1		1		1		1		1	
	b) Superficial venous thrombosis (acute or history)	1		1		1		1		1		3*	
Systemic lupus erythematosus‡	a) Positive (or unknown) antiphospholipid antibodies	1*	1*	3*		3*		3*	3*	3*		4*	
	b) Severe thrombocytopenia	3*	2*	2*		2*		3*	2*	2*		2*	
	c) Immunosuppressive therapy	2*	1*	2*		2*		2*	2*	2*		2*	
	d) None of the above	1*	1*	2*		2*		2*	2*	2*		2*	
Thyroid disorders	Simple goiter/ hyperthyroid/hypothyroid	1		1		1		1		1		1	
Tuberculosis‡ (*see also Drug Interactions*)	a) Nonpelvic	1	1	1	1	1*		1*		1*		1*	
	b) Pelvic	4	3	4	3	1*		1*		1*		1*	
Unexplained vaginal bleeding	(suspicious for serious condition) before evaluation	4*	2*	4*	2*	3*		3*		2*		2*	
Uterine fibroids		2		2		1		1		1		1	
Valvular heart disease	a) Uncomplicated	1		1		1		1		1		2	
	b) Complicated‡	1		1		1		1		1		4	
Vaginal bleeding patterns	a) Irregular pattern without heavy bleeding	1		1	1	2		2		2		1	
	b) Heavy or prolonged bleeding	2*		1*	2*	2*		2*		2*		1*	
Viral hepatitis	a) Acute or flare	1		1		1		1		1		3/4*	2
	b) Carrier/Chronic	1		1		1		1		1		1	1
Drug Interactions													
Antiretroviral therapy All other ARV's are 1 or 2 for all methods.	Fosamprenavir (FPV)	1/2*	1*	1/2*	1*	2*		2*		2*		3*	
Anticonvulsant therapy	a) Certain anticonvulsants (phenytoin, carbamazepine, barbiturates, primidone, topiramate, oxcarbazepine)	1		1		2*		1*		3*		3*	
	b) Lamotrigine	1		1		1		1		1		3*	
Antimicrobial therapy	a) Broad spectrum antibiotics	1		1		1		1		1		1	
	b) Antifungals	1		1		1		1		1		1	
	c) Antiparasitics	1		1		1		1		1		1	
	d) Rifampin or rifabutin therapy	1		1		2*		1*		3*		3*	
SSRIs		1		1		1		1		1		1	
St. John's wort		1		1		2		1		2		2	

Updated in 2017. This summary sheet only contains a subset of the recommendations from the U.S. MEC. For complete guidance, see: http://www.cdc.gov/reproductivehealth/unintendedpregnancy/USMEC.htm. Most contraceptive methods do not protect against sexually transmitted diseases (STDs). Consistent and correct use of the male latex condom reduces the risk of STDs and HIV.

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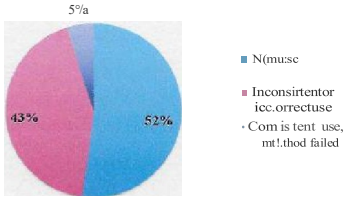
Appendix C

Most unintended pregnancies occur when women fail to use contraceptives or use their method inconsistently.



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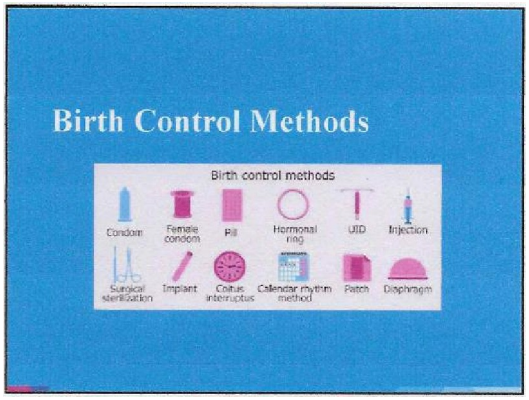

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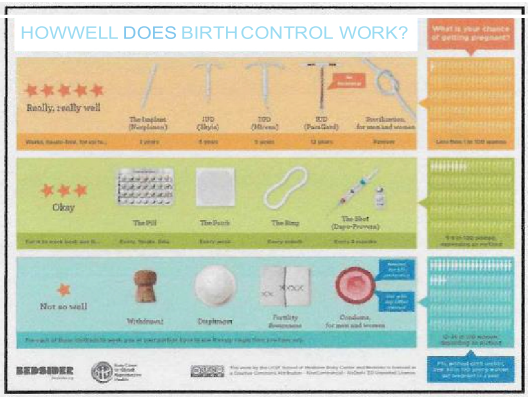

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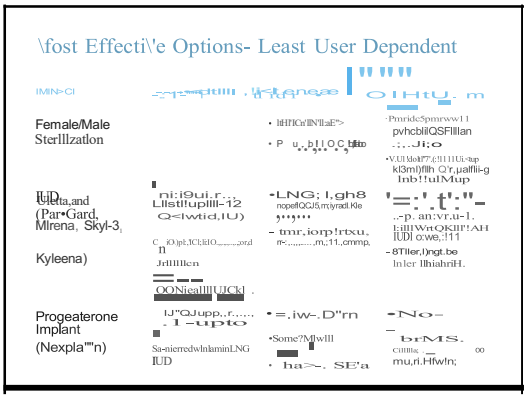

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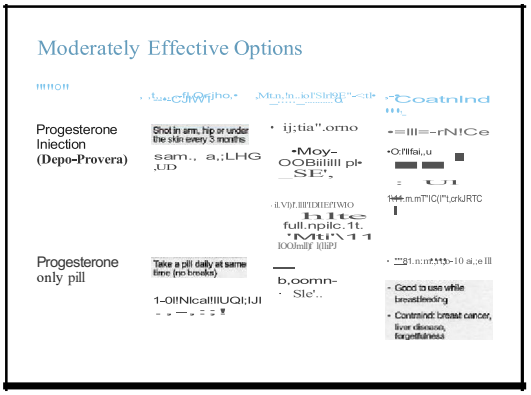


11

Depo-Provera: Caution!

- Black box warning 2004
  - Depo-Provera use >2 years associated with BM□loss
- ► No evidence of increase in future-fracture or osteoporosis risk
- ► BMD loss temporary, recovers afler discontinuation
- Teen pregnancy causes more bone loss ttian teen Depo-Provera
  - Other lifestyte factors have greater impact on BMD: exercise, diet, ...,;gt,t
- ► *Summary: avoid using Depo-Provera for more than 2 years!*

12

Moderately Effective Options

COmblnedOCP's (Junel, Loostrin, oct)

Combined patch (OrthoE..-al

Combined vaglnal ring (NuvaRlng)

13

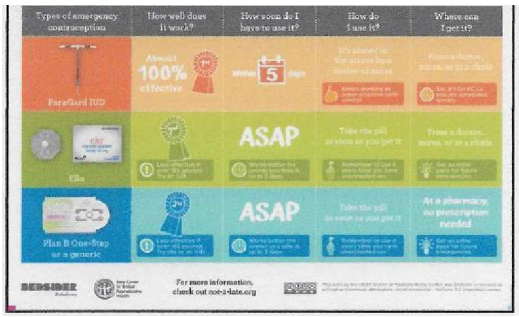
Least Effective Options- Most User Dependent

Male/Female Condoms

Diaphragm

Fertility Aw.veness **8-dMathods**

14



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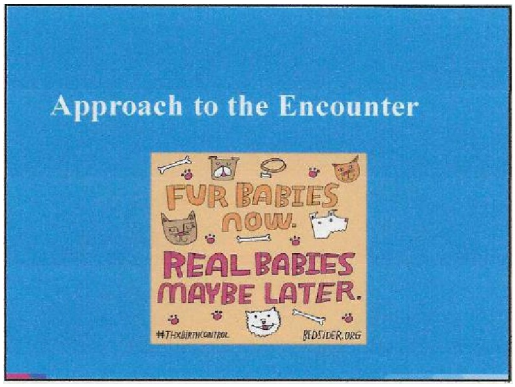

16

First take a Thorough Medical History!

5 -Pe crucial to Hk during 1h&encounter!

- Past Medical History mcludlng:
  - Thrombophllla
  - Unmntrofled HTN
  - Mlgralflo wtu1aura
  - Cc.ncorl
  - Ul/CVA
- Mecications {espooly enzyme inducers)
- Allergies
- Social History Including:
  - Smok.ng
- Fanrily tory including:
  - VTEh/ato,y

17

Conducting a Snual Health Assessment

t'ndkn

5 P's

P-..1STD

Pr11ectlo•

18

Brief Outline of Encounter

- Medieal Ht1.l0ry Talong
- t..et the pat.lent lltld th& 1;0neullabonl
  - A9.'M'l3t !hey a,ehoplng tD getaJlofl!'le en:x:u,10raodwhat ltiey knoW51;1 fer
  - Ask quer.tlonl that IMI hllp yoo dMennne Which ls tl'ltn'l:lil:l opn:mITIBIMO Kli' tr.et poMnl (mQthQCl - deei f0<fl./Utl J)llVWICY, ect.)
  - R&olgrWi aRI lry to w.dd own hiBlle9
- Oescrlbe an appropriate m■ihod in detal
  - Jlb'a'lkelyl)beadlefarWlfabletouselhwfflllhodofd'lolC$
- Bneftv (hs:cuu altemabveg
  - Provldo & I IT 'flR'lod addllonal Wl1om'labon torood at h:lrre
- Ending
  - Letp;1l-,tdecidewhlch srSijll:bth8m
  - Educale patient abo.11EC use f nrAtm lsusedincom,clly
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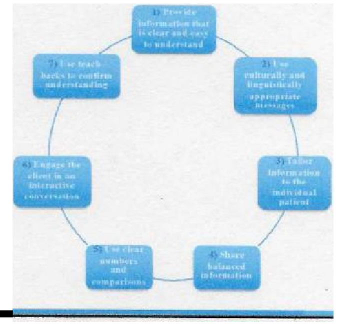
19

Seven Strategies for [ffecti ·e Patient [ducation



20

Prescribing Contraception

21

When to Start- "Quick Sta.-t"

eo,, ,.....i.9'Gd
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22

Hormonal Contraception:
What is needed before prescribing OCP's?

Pap smear
Pelvic,breast exam
STI lesl1ng
Hemoglobin
NOT REQUIRED

Blood Pressure
REQUIRED

23

What is needed before Prescribing?
Examinations and Testing

[redacted]

24

Exclude rregnanq

BOX 1. H.:.:..Tolk CettAlJIUw.t :i.Wwna\11NotPrew JWnt

i' J...-,1lth-:;;a r.-,J,« <.an b... r.:.1 n1M.. a:ru1n th.at
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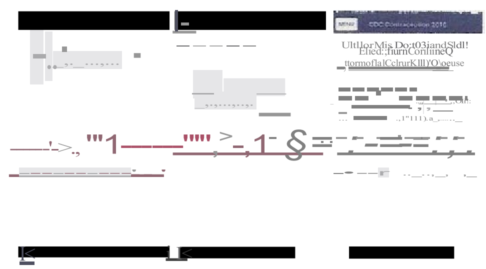
Tips for Prescribing OCP's

- Discuss MC SE's (i.e bleeding). lc:t 1he palicn1 know that mo t SE's diminish by 3 months, give written info 011 SE's to watch out for
- Ensure correcl method us,
  - 21 pill et "'lill11ve 7plll[d:avL2Kp1llpaekc1rt1ll h.w nop.llfo.-.!:cliys
  - lt.lfJ'"ofOl1}·tbere1111com:rskntly ukc tbep111 1-1$C1).lbooealatmM ,-euuudr,
- linprm e access to refills to improve adherence
  - Write for a full yur·.s supplv (90 day supply with refill11) even if patient needs a follo .up visiL
  - PaLi nHcr'lICl"W practl1Je = maoy refills on chronicmed.s
- lmpmve access. lo EC
  - Gi,·e a list of ph•nnacics 1h;,1cany EC
  - Use udva11cc prescriptions al every opportunity

What to do if missed pill?

- C'ani.bi!'l(.'(i OCP
  - MIS EDPILL takeAf>AP(e,mn,UI oe,lone). t!oe1.1.onUmt. it's IJJr,doa,,trEftl oddit.MIlllprok'ctto11
  - IJtuit11t.,. r 01 pill ,nllll.cd..C.CI ru,d 1.,c.• ootxkifl• fo 7,bys
  - E\ll'.lhcr mam nt dtpe1dt 011 wed..:
    - ,...... -.,c ,-• 1...,.n....,. :c ,ri...i...-.. ,i11.r.....,a1,o-nc.i.... t'""•d,·r.-d"
    - 1• .. ..di..11,,,,1..,
    - 3rd week: omit the pill-free week
    - lll14UlUI,. W«u»■1Mpd1... on.,..... •..i.r,-ll
  - Specific instructions on pill packets
- Progesterone only pill
  - r,nSSEDPILL taloA!>APtt,C'll I\llh 00.\lCl).i.!>3 1Dl111!.lall!t.USe forl da}J, ud,;:._,iw<k, EC il'!Xld mtlie l-3-cill:,:i. ts-fo1c, pillo1 l.:.,I ... ..,ii'x tb: mwcdpdl
  - Uulik-i:c,:,whwcdOCP,. lhc-stoah· workfor2,I hon.rs. w the r.a ®"off._..ton<:C!tbis lJn..,epet,o,dI"91 d
- *Bufrum lm :111}.':-r tt,g cvmliutttl OCP, IIIUlllft,tlf,1v111g J/11111 nlim,,g-t/11: mm,11d/*

Using the CDC's lJ.S SPR A1lp



Two MC Prescribed Combined OCP's

- *Otlilo-<;ycjon (ric: norgostimalfHllhiny(ostra<io/) 0.25-35mg'mc,;*
  - Type Ortho-cyclen Into ECW. one d06tl s up
  - Take 1 ta etPOattt.umatlmedllilyx 28c!ays.
  - Olspena.e 3 packets (84 1)1111) x 4 '1flIJ&
- l.oe$Jn11, *J{JntJl, Gi (gensric: Miaogestin, not8fhindron9 8C8tatfH:llhmyt es/radiol)*
  - Type In MlCl"OQeS(jn 08CW. t'"c,oses.witl pop up
  - ,_5f300f 1/20. U!1)' SIM 1 5/30h0',oil rll'pa.Mn1:M!!. natteler!lled BCwel! ln th•pagt or had many hormonal SE's may want tostadi- 1bthelO'N8ll"horffIClles
  - Take 1 tablet PO al the sor'lls ll 1ne daiy A 28 dayS
  - Dispense 3 packets (84 pi:b) x 4 ref1116

Follow-up

- PresCTlbe OCP"$ review at 3 months flu 6months-1year
- Stress to RTC if SE's, problem$. concerns, or change in reproductive plans
- At follow-up visits:
  - Ask sbcl.Jt SE's, con-ed method use, changes in heallh status ind.Jding new meds and smoking status
  - Check BP and \.Yelght
  - Consider if eontraeei:tiOO is still requ!l'l'd and if method should be changed
  - Chad<: whether pelvic exam/cervical cancer screening is due (pap smear)
  - Opporbsiity for patient questions
- Do NOT link refills to provider flu, always give 1 year to improve adherence!

Interactive Case Scenarios

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Case 1

*A 36 year old F with PMHx of obesily, HTN. and DM2 presents to clinic reque.f/irlg contraceptio11. Her **BP** is co11siste11try > 140/90 01111111/tiple office visits a11d a111b11/iJwry 111011itori11g. She also experi£nce.r 111u1orrhagia attd dysmettorrhea d11e to fibroulf. Cttrre11t IPPD smoker.*

- Based on comorbidities, what options are coatraind?
- What are the best options for this patient?
- Which may help her dysmenorrhea/menorrhagia?

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CDC Summary Chart of U.S Medical Eligibility Criteria for Contraceptive Use

- U.S Contraceptl\e Eligibilin Criteria
- Look up contraceptive contraindications based upon co-morbfdll1es

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Case2

*A 17 year ol.d F with ,w **PMH.r** presents to yo11r offiCi!for att a1tm1al physical. D11ri11g ymir discussio11 site ir,q11ires about co11traceptio11, specifically abort/ the "pill". Sire is also i•ery 11en·ous that she will need a pefric exam today* iri *order to start birth co11trol.*

- Whal will you tell her regarding what exams/tests need to be done ptior to initiating OCP's?
- When can she start the pill?
- How will you counsel her regardingOCPuse?

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Summary

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Summary

- Know lhe contra\ndlca:tlons lo estrogen!
  - Helpful tools:
    - CDC Summary Chart of U.S Medical Eligbiity Oitena
    - U.S SPR phooe app
- When approaching ttw contraceptive counseling encounter:
  - Est;1blish rapport, ask open ended questions. & actively listen
  - Assess patient needs. explore method preferences
  - Work interactively to make a plan
  - Provide information, address misconceptions
  - Confirm patien1understanding with teach-backs!

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Take Home Messages
Be Proactive with Contraception!

- Ask about contraceptive needs at all types of visits for a reproductive-aged female!
- Use Quickstart. Most women can start on the day of the visit as long as the provider is reasonably certain that the woman is not pregnant.
- Few, IF ANY, exams or tests are needed before initiating contraception.
- DE-LINK pap smears from birth control prescriptions.
- ROUTINELY prescribe 1-year supply with 3 packs at a time.
- Emphasize high-efficacy methods, but honor women's choice whenever possible.
- Advise to RTC at any time to discuss SE's or method change.
- ***YOU, as a PCP at your clinics, can prescribe OCP's, do not be afraid to!***

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Thank You!

"We've never had an accident – aside from three of our five kids."

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Appendix D

Approach to the Contraceptive Counseling Encounter

1. *First ask a few questions:*

   "What brings you in today?"

   "First I need to ask you a few questions about your health and relationships to decide which methods are most appropriate…"

   - Age
   - Relationship/sexual history (number of partners, STI hx)
   - Menstrual/OBGYN history (dysmenorrhea/menorrhagia/cycle length/cycle regularity)
   - Recent pregnancy/breastfeeding
   - Previous contraception
   - PMHx including thrombophilia, uncontrolled HTN, migraine with aura, cancer, CVA, MI
   - Medications and allergies
   - Social hx including smoking
   - Family hx including breast/cervical cancer, VTE history

2. *What They Like and What They Know*
   - Ask them what they are hoping to get out of the consultation and what they know so far (let the patient lead the consultation)
   - Try to determine which type of method will be most appropriate for the patient:
     - "Do you have any preferences?" (personal, religious, etc.)
     - "What is your preferred delivery?"
     - "Would you tolerate injections?"
     - Ask about patient's desires regarding future pregnancy

3. *Describe a Method in More Detail*
   - Risk of pregnancy
   - How it works/how it is used
   - Treatment course/how often it is used
   - Advantages vs. disadvantages
   - Side effects and effects on menstrual cycles

4. *Briefly Discuss Other Options*
   - Mention alternatives, say you will provide them with additional information on these options to read at home (i.e., pamphlets, printed educational material)

5. *Ending*
   - Let them decide which option is right for them à if pill/SARC, prescribe yourself, if implant/IUD (depending on how comfortable you feel placing) à gyn referral
   - Summarize discussion and confirm that patient has an understanding of the contraceptive method chosen and their plan for correct use (use teach-back).
   - Advise that they can return again if they wish to discuss other options.
   - End the encounter with a friendly close.

Appendix E

Sample Cases:

CASE 1: THROMBOPHILIA Resident 1
A 36-year-old female with a body mass index of 31 kg/m^2 (obese) has a past medical history of protein S deficiency with active lower-extremity deep vein thrombosis, for which she is taking Coumadin. She experiences menorrhagia and dysmenorrhea due to intramural fibroids seen on transvaginal ultrasound. She desires contraception. How do you counsel her?

CASE 2: HYPERTENSION Resident 2
A 36-year-old female with PMHx of obesity, HTN and DM2 presents to clinic requesting contraception. Her blood pressure is consistently >140/90 mm Hg on multiple office visits and ambulatory monitoring. She also experiences menorrhagia and dysmenorrhea due to intramural fibroids.
She desires contraception. How do you counsel her?

CASE 3: MIGRAINE WITH AURA Resident 3
A 36-year-old female with PMHx of obesity, GERD, and migraine presents to the clinic requesting contraception. Her migraines have not changed or worsened in the past few years, stable on sumatriptan PRN abortive therapy and prophylactic propranolol. Migraines are associated with a feeling of numbness that travels up her arm to her face prior to the onset of the migraine, lasting ~10minutes. She also experiences menorrhagia and dysmenorrhea due to intramural fibroids.
She desires contraception. How do you counsel her?

Appendix F

Teaching Case Scenarios with Standardized Patient Script

CASE 1: THROMBOPHILIA Resident 1
A 36-year-old female with a body mass index of 31 kg/m^2 (obese) has a past medical history of protein S deficiency with active lower-extremity deep vein thrombosis, for which she is taking Coumadin. She experiences menorrhagia and dysmenorrhea due to intramural fibroids seen on transvaginal ultrasound. She desires contraception. How do you counsel her?

CASE 2: HYPERTENSION Resident 2
A 36-year-old female with PMHx of obesity, HTN and DM2 presents to clinic requesting contraception. Her blood pressure is consistently >140/90 mm Hg on multiple office visits and ambulatory monitoring. She also experiences menorrhagia and dysmenorrhea due to intramural fibroids.
She desires contraception. How do you counsel her?

CASE 3: MIGRAINE WITH AURA Resident 3
A 36-year-old female with PMHx of obesity, GERD, and migraine presents to the clinic requesting contraception. Her migraines have not changed or worsened in the past few years, stable on sumatriptan PRN abortive therapy and prophylactic propranolol. Migraines are associated with a feeling of numbness that travels up her arm to her face prior to the onset of the migraine, lasting ~10minutes. She also experiences menorrhagia and dysmenorrhea due to intramural fibroids.
She desires contraception. How do you counsel her?

Case 1: Thrombophilia, Resident 1

Date: 2/14/19

Primary Case Author: Heather Viola

Secondary Case Author: Tamara Goldberg

Standardized Patient Educator: Heather Viola

Name of Case: Thrombophilia

Name of educational and or assessment activity: Contraception Counseling Encounter

Patient Name: Barbara

Chief Complaint: Heavy menses associated with painful cramping, desires contraception. Patient has a history of protein S deficiency with an active lower-extremity deep vein thrombosis, for which she is taking coumadin.

Most likely Diagnosis and Differential with rationale from history and/or physical exam:
Contraception initiation for a woman with contraindication to estrogen given known thrombophilia (on coumadin) and active smoker. Must avoid estrogen-containing contraceptives when counseling patient during encounter.
Domains:

- ☐ Communication and Interpersonal skills
- ☐ Medical History
- ☐ Shared Decision Making
- ☐ Patient Education
- ☐ Clinical Reasoning

Type and level of learner: Resident learner

Case Objectives: please list specific objectives for each of the domains you have checked above:
1. Perform a thorough history, including menstrual, obstetric, gynecologic, contraceptive and sexual history.
2. Identify appropriate contraception options for a patient based on medical co-morbidities and patient preference.
3. Demonstrate effective patient-centered contraceptive counseling in the outpatient clinic setting.

SETTING: outpatient, in patient, ED, home, nursing home, rehab, group etc.	Outpatient
PATIENT PROFILE: Information about the "patient" that helps select an SP and helps the learner get an understanding of them as a person. SP will know more information about the patient than learner will ever ask but allows SP to portray a fully developed patient personality. If none of the items below are particulars for the case, please write "all may be used."	
Age range	36

Religious/spiritual background	All may be used
Sex (e.g., male, female, intersex, transwoman, transman)	Female
Sexual Orientation (e.g., heterosexual, lesbian, gay, bisexual, pansexual, queer, asexual)	Heterosexual
Gender expression (e.g., man, woman, gender queer)	Woman
Race/ethnicity:	All may be used
Physical description (e.g., BMI, height range)	Obese (BMI 31)
Physical limitations	None
Patient appearance (e.g., disheveled, hospital gown, business casual, casual)	Pleasant, well-groomed
Moulage + location (e.g., none, bruises, scars, body piercing, tattoos)	None
Affect (e.g., pleasant, cooperative)	Pleasant
Family group (e.g., who is family, who they live with)	Lives with husband and two sons, mother has protein S deficiency, no family history of breast, ovarian, or cervical cancer
Education	All may be used
Level of health literacy	High
Employment, if any - present and past, noting any current stresses	Currently works as teacher
Home/homeless - type of dwelling, number of stories, owned or rented	Domiciled, has home
Financial situation- any current stresses	No current stresses
Insurance Status (e.g., un/under/insured, public/private, HMO/PPO)	Insured
Habits (i.e., diet, exercise, caffeine, smoking, alcohol, drugs)	Current ½ PPD smoker x 15 years, occasional alcohol use, no IVDU
Activities (i.e., hobbies, sports, clubs, friends)	All may be used
Typical day - what is the usual daily routine	Teaches during the week

CASE INFORMATION	
Chief Concern: What the patient will say when greeted by the student. The patient's primary reason for seeking medical care often stated in his/own words.	This is a follow-up in which you desire contraception.
Additional Concerns: Other, if any, concerns the patient has today (i.e., symptoms, requests, expectations, etc.) that will become part of set agenda.	You would like a form of birth control and have heavy periods associated with painful cramping.
THE PATIENT STORY: The SP will be asked to tell their symptom story and the personal and emotion impact for each of their concerns. You will want to write this is the patient voice. The symptom story should be able to answer this question: "Tell me more about [chief concern/additional concern], starting at the beginning and bringing me up to now." The personal context should be able to answer questions concerning the broader personal/psychosocial context of symptoms, especially the patient beliefs/attributions. The emotional context should be able to ask how are you doing with this, how does this make you feel, how has this affected you emotionally? IMPACT: How has this affected your life? How has this been for your family?	You would like to try a contraceptive option other than barrier methods (i.e. condoms) for which you have used since the birth of your son two years ago.

HISTORY OF PRESENT ILLNESS: Although some of the HPI will be given in the patient's symptom story, the learners will expand the story during the direct question section. Below describes the detailed history, usually about the chief concern, which the student must develop in order to make a useful assessment of the problem:

- "What are you hoping to get out of the consultation?" **– essentially, you would like to try a contraceptive option other than barrier methods (i.e. condoms) for which you have used since the birth of your son two years ago.**
- Try to determine which type of method will be most appropriate for the patient:
    - "Do you have any preferences?" – **State you would like an option that is long lasting but reversible.**
    - "What is your preferred delivery?" **– State you would prefer not to take a pill every day.**
    - "Would you tolerate injections?" **– You would, but state that you are also interested in hearing about an IUD or implant.**
    - Ask about patient's desires regarding future pregnancy –**Unsure, so would like a reversible method.**
- ***Describe a Method in More Detail (can use "Birth Control Method Options" chart during the encounter to help you):*** At this point, the resident will describe one of the contraceptive methods to you (IUD, transdermal implant, medroxyprogesterone acetate injection, etc.). They will describe how the method works, the treatment course, the risk of pregnancy, advantages vs. disadvantages, and side effects/effects on menstrual cycles - **If they do not tell you, please ask them about how long the method lasts for, what are the advantages**

of the method, and the side effects/effects on menstrual cycles. Choose any of the options presented to you so that the learner can counsel you on the method.	
REVIEW OF SYSTEMS: Significant positives and negatives	
Positives: heavy menstrual bleeding and cramping	Negative: chest pain, SOB, nausea, vomiting, lower extremity swelling
Past medical history	+protein S deficiency with active lower-extremity DVT, +obesity, +HLD, +pre-DM, no HTN, no cancer, no migraine with aura, no CVA, no MI
Medication allergies (Name and reaction)	none
Environmental allergies (Name and reaction)	none
Illnesses	none
Vaccinations	All may be used
Surgeries	None
Accidents/ injuries/ trauma	None
Hospitalization	Two vaginal deliveries
Inclusive sexual and reproductive history	
Sexual practices Sexual partners Protection: Use of safer sex practices Use of birth control if appropriate Risk of intimate partner violence	Monogamous with husband, no history of STI's, uses condoms intermittently, no other form of birth control ever used. Not breastfeeding.
Ob/GYN HISTORY	Age of onset of menses: 14, +menorrhagia, + dysmenorrhea Age of menopause: N/A Number of pregnancies: 2 Number of live births: 2, no recent pregnancy, last pregnancy two years ago Number of miscarriages 0 Number of abortions 0
Medications	Coumadin 4mg nightly, Lipitor 40mg daily
Immunizations	All may be used
Tobacco products: Cigarettes	o Current ½ PPD smoker x 15 years
Alcohol: wine	o Current, occasional
Drugs	o Never
Diet (describe)	Well balanced, not vegan or vegetarian
Exercise (describe)	Regularly exercises
List any other important social history or information important to this case	N/A
Family history	

Mother, Father, Siblings, Grandparents, and other significant findings.	Mother has protein S deficiency, no family history of breast, ovarian, or cervical cancer
Physical Exam- List exam maneuvers expected for this case and any abnormal findings that SP will simulate. (tenderness, hyper-hypo reflex, rebound, weakness etc.) Learners are **NOT** required to perform a physical exam during the encounter, only a medical history and counseling takes place.	
PHYSICAL EXAM FINDINGS	
1) Written in layman's terms	N/A for encounter
2) General appearance- affect, appearance, position of patient at opening (i.e. sitting, laying down, holding abdomen etc.)	N/A for encounter
3) Vital signs	N/A for encounter
4) Specific findings and affect	N/A for encounter
5) Response to certain physical movements	N/A for encounter
DIAGNOSIS AND DIFFERENTIAL	
Diagnosis with support from positive and negative history and PE findings	Initiate contraception for a woman with contraindication to estrogen given known thrombophilia (on coumadin) and active smoker.
Differential with support from positive and negative history and PE findings	Initiate contraception for a woman with contraindication to estrogen given known thrombophilia (on coumadin) and active smoker.
MANAGEMENT OR DIAGNOSTIC PLAN	Estrogens are contraindicated—except, perhaps, in select cases. This patient has many reasons for heavy bleeding. She is on warfarin, which effectively inhibits synthesis of vitamin K-dependent coagulation factor. She also has fibroids and adenomyosis. The latter is a difficult condition to control, as the location of the intramuscular glands makes treatments such as ablation, dilation and curettage, and oral agents ineffective. All estrogen-containing formulations (pills, ring, patch) are contraindicated in women with acute venous thromboembolism (VTE) and known thrombophilia. The updated CDC guidelines for the use of hormonal contraceptives state that patients who receive anticoagulation for at least 3 months and who have no history of VTE or a low risk of recurrent VTE (no evidence of active cancer, no known thrombophilia) may use estrogen-containing contraceptives in select cases (category 3—theoretical risk outweighs benefits, but not an absolute contraindication). Although this is not common clinical practice, select patients may benefit from menstrual cycle

	control while receiving anticoagulation. However, other contraceptive alternatives are preferred if possible. *Progestin-only treatments* such as the levonorgestrel releasing IUD's: Mirena, Skyla, Kyleena and Liletta (if the fibroids do not distort the uterine cavity), medroxyprogesterone acetate, Depo-Provera (intramuscular or subcutaneous) and the etonogestrel implant (Nexplanon) are nonsurgical options that may reduce menorrhagia and are safer alternatives for patients with thrombophilia. Keep in mind that the implant may not be as effective in those with a BMI>30. The ParaGard (copper) intrauterine device would provide non-hormonal contraception without diminishing menorrhagia. A viable option for women finished with childbearing is hysterectomy, which provides contraceptive benefit and definitive treatment of menorrhagia due to adenomyosis. Laboratory screening for VTE is not required before starting estrogen-containing contraceptives. However, one should take a detailed history and inquire about VTE events or a family history of recurrent VTE.
PROFESSIONALISM ISSUES OR CHALLENGES:	None

Case 2: Uncontrolled Hypertension, Resident 2

Date: 2/14/19

Primary Case Author: Heather Viola

Secondary Case Author: Tamara Goldberg

Standardized Patient Educator: Heather Viola

Name of Case: Uncontrolled Hypertension

Name of educational and or assessment activity: Contraception Counseling Encounter

Patient Name: Barbara

Chief Complaint: Heavy menses associated with painful cramping, desires contraception. Patient has a history of uncontrolled hypertension with all recent blood pressures in the office and at home >140/90. She also has a history of diabetes.

Most likely Diagnosis and Differential with rationale from history and/or physical exam:
Contraception initiation for a woman with contraindication to estrogen given uncontrolled hypertension and active smoker. Must avoid estrogen-containing contraceptives when counseling patient during encounter.
Domains:

- ☐ Communication and Interpersonal skills
- ☐ Medical History
- ☐ Shared Decision Making
- ☐ Patient Education
- ☐ Clinical Reasoning

Type and level of learner: Resident learner

Case Objectives: please list specific objectives for each of the domains you have checked above:
1. Perform a thorough history, including menstrual, obstetric, gynecologic, contraceptive and sexual history.
2. Identify appropriate contraception options for a patient based on medical co-morbidities and patient preference.
3. Demonstrate effective patient-centered contraceptive counseling in the outpatient clinic setting.

SETTING: outpatient, in patient, ED, home, nursing home, rehab, group etc.	Outpatient
PATIENT PROFILE: Information about the "patient" that helps select an SP and helps the learner get an understanding of them as a person. SP will know more information about the patient than learner will ever ask but allows SP to portray a fully developed patient personality. If none of the items below are particulars for the case, please write "all may be used."	
Age range	36
Religious/spiritual background	All may be used
Sex (e.g., male, female, intersex, transwoman, transman)	Female
Sexual Orientation (e.g., heterosexual, lesbian, gay, bisexual, pansexual, queer, asexual)	Heterosexual
Gender expression (e.g., man, woman, gender queer)	Woman
Race/ethnicity:	All may be used
Physical description (e.g., BMI, height range)	Obese (BMI 31)
Physical limitations	None
Patient appearance (e.g., disheveled, hospital gown, business casual, casual)	Pleasant, well-groomed
Moulage + location (e.g., none, bruises, scars, body piercing, tattoos)	None
Affect (e.g., pleasant, cooperative)	Pleasant
Family group (e.g., who is family, who they live with)	Lives with husband and two sons
Education	All may be used
Level of health literacy	High
Employment, if any - present and past, noting any current stresses	Currently works as teacher
Home/homeless - type of dwelling, number of stories, owned or rented	Domiciled, has home
Financial situation- any current stresses	No current stresses
Insurance Status (e.g., un/under/insured, public/private, HMO/PPO)	Insured
Habits (i.e., diet, exercise, caffeine, smoking, alcohol, drugs)	Current ½ PPD smoker x 15 years, occasional alcohol use, no IVDU
Activities (i.e., hobbies, sports, clubs, friends)	All may be used
Typical day - what is the usual daily routine	Teaches during the week

<table>
<tr><td colspan="2">CASE INFORMATION</td></tr>
<tr><td>Chief Concern: What the patient will say when greeted by the student. The patient's primary reason for seeking medical care often stated in his/own words.</td><td>This is a follow-up in which you desire contraception.</td></tr>
<tr><td>Additional Concerns: Other, if any, concerns the patient has today (i.e., symptoms, requests, expectations, etc.) that will become part of set agenda.</td><td>You would like a form of birth control and have heavy periods associated with painful cramping.</td></tr>
<tr><td>THE PATIENT STORY: The SP will be asked to tell their symptom story and the personal and emotion impact for each of their concerns. You will want to write this is the patient voice. The symptom story should be able to answer this question: "Tell me more about [chief concern/additional concern], starting at the beginning and bringing me up to now."

The personal context should be able to answer questions concerning the broader personal/psychosocial context of symptoms, especially the patient beliefs/attributions.

The emotional context should be able to ask how are you doing with this, how does this make you feel, how has this affected you emotionally? IMPACT: How has this affected your life? How has this been for your family?</td><td>You would like to try a contraceptive option other than barrier methods (i.e. condoms) for which you have used since the birth of your son two years ago.</td></tr>
<tr><td colspan="2">HISTORY OF PRESENT ILLNESS: Although some of the HPI will be given in the patient's symptom story, the learners will expand the story during the direct question section. Below describes the detailed history, usually about the chief concern, which the student must develop to make a useful assessment of the problem:</td></tr>
<tr><td colspan="2">• "What are you hoping to get out of the consultation?" – essentially, you would like to try a contraceptive option other than barrier methods (i.e., condoms) for which you have used since the birth of your son two years ago.
• Try to determine which type of method will be most appropriate for the patient:
o "Do you have any preferences?" – State you would like an option that is long lasting but reversible.
o "What is your preferred delivery?" – State you would prefer not to take a pill every day.
o "Would you tolerate injections?" – You would, but state that you are also interested in hearing about an IUD or implant.
o Ask about patient's desires regarding future pregnancy –Unsure, so would like a reversible method.
• Describe a Method in More Detail (can use "Birth Control Method Options" chart during the encounter to help you): At this point, the resident will describe one of the contraceptive methods to you (IUD, transdermal implant, medroxyprogesterone acetate injection, etc.). They will describe how the method works, the treatment course, the risk of pregnancy, advantages vs. disadvantages, and side effects/effects on menstrual cycles - If they do not tell you, please ask them about how long the method lasts for, what are the advantages of the method, and the side effects/effects on menstrual cycles. Choose any of the options presented to you so that the learner can counsel you on the method.</td></tr>
<tr><td colspan="2">REVIEW OF SYSTEMS: Significant positives and negatives</td></tr>
<tr><td>Positives: heavy menstrual bleeding and cramping</td><td>Negative: chest pain, SOB, nausea, vomiting, lower extremity swelling</td></tr>
<tr><td></td><td></td></tr>
</table>

Past medical history	+HTN (uncontrolled, consistently >140/90 on recent office visits and on home BP monitoring), +obesity, +DM2, no cancer, no migraine with aura, no CVA, no MI
Medication allergies (Name and reaction)	none
Environmental allergies (Name and reaction)	none
Illnesses	none
Vaccinations	All may be used
Surgeries	None
Accidents/ injuries/ trauma	None
Hospitalization	Two vaginal deliveries
Inclusive sexual and reproductive history	
Sexual practices Sexual partners Protection: Use of safer sex practices Use of birth control if appropriate Risk of intimate partner violence	Monogamous with husband, no history of STI's, uses condoms intermittently, no other form of birth control ever used. Not breastfeeding.
Ob/GYN HISTORY	Age of onset of menses: 14, +menorrhagia, + dysmenorrhea Age of menopause: N/A Number of pregnancies: 2 Number of live births: 2, no recent pregnancy, last pregnancy two years ago Number of miscarriages 0 Number of abortions 0
Medications	Lisinopril 20mg daily, Lipitor40 mg daily, Metformin 1000mg BID
Immunizations	All may be used
Tobacco products: Cigarettes	o Current ½ PPD smoker x 15 years
Alcohol: wine	o Current, occasional
Drugs	o Never
Diet (describe)	Well balanced, not vegan or vegetarian
Exercise (describe)	Regularly exercises
List any other important social history or information important to this case	N/A
Family history	
Mother, Father, Siblings, Grandparents, and other significant findings.	no family history of breast, ovarian, or cervical cancer, no family history of blood clots or thrombophilia
Physical Exam- List exam maneuvers expected for this case and any abnormal findings that SP will simulate. (tenderness, hyper-hypo reflex, rebound, weakness etc.) Learners are **NOT** required to perform a physical exam during the encounter, only a medical history and counseling takes place	
PHYSICAL EXAM FINDINGS	
6) Written in layman's terms	N/A for encounter
7) General appearance- affect, appearance, position of patient at opening (i.e. sitting, laying down, holding abdomen etc.)	N/A for encounter
8) Vital signs	N/A for encounter
9) Specific findings and affect	N/A for encounter
10) Response to certain physical movements	N/A for encounter

DIAGNOSIS AND DIFFERENTIAL	
Diagnosis with support from positive and negative history and PE findings	Initiate contraception for a woman with contraindication to estrogen given uncontrolled hypertension and active smoker.
Differential with support from positive and negative history and PE findings	Initiate contraception for a woman with contraindication to estrogen given uncontrolled hypertension and active smoker.
MANAGEMENT OR DIAGNOSTIC PLAN	*Avoid estrogen-containing products.* Avoid all estrogen-containing formulations (pills, ring, patch) in patients with uncontrolled HTN and diabetes with micro/macro vascular complications. According to the WHO and CDC guidelines, women with controlled or uncontrolled hypertension should not be offered combined oral contraceptives, the patch (Ortho Evra), or the ring (NuvaRing) (category 3—theoretical or proven risks outweigh the benefits, and category 4, an unacceptable health risk if the contraceptive method is used, for systolic blood pressure greater than 160 mm Hg or diastolic blood pressure greater than 100 mm Hg). The progesterone-only pill ("mini pill"), medroxyprogesterone acetate, Depo-Provera (intramuscular or subcutaneous), levonorgestrel releasing IUD's: Mirena, Skyla, Kyleena and Liletta, the copper intrauterine device (ParaGard), and the etonogestrel implant (Nexplanon) are all safer options. The hormone releasing options may give the additional benefit of reducing menorrhagia and dysmenorrhea. Keep in mind that the implant may not be as effective in those with a BMI>30. This patient does not desire to take pills so the long acting reversible options may be best in this scenario. A small subset of patients develop elevated blood pressure after starting hormonal contraceptives. Estrogen-containing hormones can increase the liver's output of angiotensinogen, which is a renin substrate that activates the renin-angiotensin-aldosterone system. If this becomes clinically apparent, these patients should refrain from estrogen-containing products and use progestin-only formulations as a safer alternative. Diabetic patients with microvascular complications of retinopathy or nephropathy and any patient with macrovascular disease (stroke, cardiovascular disease) should not be offered estrogen-containing contraception.
PROFESSIONALISM ISSUES OR CHALLENGES:	None

Case 3: Migraine with Aura, Resident 3

Date: 2/14/19

Primary Case Author: Heather Viola

Secondary Case Author: Tamara Goldberg

Standardized Patient Educator: Heather Viola

Name of Case: Migraine with Aura

Name of educational and or assessment activity: Contraception Counseling Encounter

Patient Name: Barbara

Chief Complaint: Heavy menses associated with painful cramping, desires contraception. Patient has a history of migraines with aura (feeling of numbness that travels up her arm to her face prior to the onset of the migraine, lasting about 10 minutes and then subsiding).

Most likely Diagnosis and Differential with rationale from history and/or physical exam:
Contraception initiation for a woman with contraindication to estrogen given history of migraine with aura and active smoker. Must avoid estrogen-containing contraceptives when counseling patient during encounter.
Domains:

- ☐ Communication and Interpersonal skills
- ☐ Medical History
- ☐ Shared Decision Making
- ☐ Patient Education
- ☐ Clinical Reasoning

Type and level of learner: Resident learner

Case Objectives: please list specific objectives for each of the domains you have checked above:
1. Perform a thorough history, including menstrual, obstetric, gynecologic, contraceptive and sexual history.
2. Identify appropriate contraception options for a patient based on medical co-morbidities and patient preference.
3. Demonstrate effective patient-centered contraceptive counseling in the outpatient clinic setting.

SETTING: outpatient, in patient, ED, home, nursing home, rehab, group etc.	Outpatient
PATIENT PROFILE: Information about the "patient" that helps select an SP and helps the learner get an understanding of them as a person. SP will know more information about the patient than learner will ever ask but allows SP to portray a fully developed patient personality. If none of the items below are particulars for the case, please write "all may be used."	
Age range	36
Religious/spiritual background	All may be used
Sex (e.g., male, female, intersex, transwoman, transman)	Female
Sexual Orientation (e.g., heterosexual, lesbian, gay, bisexual, pansexual, queer, asexual)	Heterosexual
Gender expression (e.g., man, woman, gender queer)	Woman
Race/ethnicity:	All may be used
Physical description (e.g., BMI, height range)	Obese (BMI 31)
Physical limitations	None
Patient appearance (e.g., disheveled, hospital gown, business casual, casual)	Pleasant, well-groomed
Moulage + location (e.g., none, bruises, scars, body piercing, tattoos)	None
Affect (e.g., pleasant, cooperative)	Pleasant
Family group (e.g., who is family, who they live with)	Lives with husband and two sons
Education	All may be used
Level of health literacy	High
Employment, if any - present and past, noting any current stresses	Currently works as teacher
Home/homeless - type of dwelling, number of stories, owned or rented	Domiciled, has home
Financial situation- any current stresses	No current stresses
Insurance Status (e.g., un/under/insured, public/private, HMO/PPO)	Insured
Habits (i.e., diet, exercise, caffeine, smoking, alcohol, drugs)	Current ½ PPD smoker x 15 years, occasional alcohol use, no IVDU
Activities (i.e., hobbies, sports, clubs, friends)	All may be used
Typical day - what is the usual daily routine	Teaches during the week

CASE INFORMATION	
Chief Concern: What the patient will say when greeted by the student. The patient's primary reason for seeking medical care often stated in his/own words.	This is a follow-up in which you desire contraception.
Additional Concerns: Other, if any, concerns the patient has today (i.e., symptoms, requests, expectations, etc.) that will become part of set agenda.	You would like a form of birth control and have heavy periods associated with painful cramping.
THE PATIENT STORY: The SP will be asked to tell their symptom story and the personal and emotion impact for each of their concerns. You will want to write this is the patient voice. The symptom story should be able to answer this question: "Tell me more about [chief concern/additional concern], starting at the beginning and bringing me up to now." **The personal context should be able to answer questions concerning the broader personal/psychosocial context of symptoms, especially the patient beliefs/attributions.** **The emotional context should be able to ask how are you doing with this, how does this make you feel, how has this affected you emotionally? IMPACT: How has this affected your life? How has this been for your family?**	You would like to try a contraceptive option other than barrier methods (i.e. condoms) for which you have used since the birth of your son two years ago.

HISTORY OF PRESENT ILLNESS: Although some of the HPI will be given in the patient's symptom story, the learners will expand the story during the direct question section. Below describes the detailed history, usually about the chief concern, which the student must develop in order to make a useful assessment of the problem:

- **"What are you hoping to get out of the consultation?" – essentially, you would like to try a contraceptive option other than barrier methods (i.e. condoms) for which you have used since the birth of your son two years ago.**
- **Try to determine which type of method will be most appropriate for the patient:**
    - **"Do you have any preferences?" – State you would like an option that is long lasting but reversible.**
    - **"What is your preferred delivery?" – State you would prefer not to take a pill every day.**
    - **"Would you tolerate injections?" – You would, but state that you are also interested in hearing about an IUD or implant.**
    - **Ask about patient's desires regarding future pregnancy –Unsure, so would like a reversible method.**
- ***Describe a Method in More Detail (can use "Birth Control Method Options" chart during the encounter to help you):* At this point, the resident will describe one of the contraceptive methods to you (IUD, transdermal implant, medroxyprogesterone acetate injection, etc.). They will describe how the method works, the treatment course, the risk of pregnancy, advantages vs. disadvantages, and side effects/effects on menstrual cycles - If they do not tell you, please ask them about how long the method lasts for, what are the advantages of the method, and the side effects/effects on menstrual cycles. Choose any of the options presented to you so that the learner can counsel you on the method.**

REVIEW OF SYSTEMS: Significant positives and negatives	
Positives: heavy menstrual bleeding and cramping	Negative: chest pain, SOB, nausea, vomiting, lower extremity swelling

Past medical history	+migraine with aura (stable on sumatriptan PRN and prophylactic propranolol, headaches associated with numbness that travels up your arm to your face prior to onset of migraine, lasts 10 minutes), +GERD, +obesity, no HTN, no cancer, no CVA, no MI
Medication allergies (Name and reaction)	none
Environmental allergies (Name and reaction)	none
Illnesses	none
Vaccinations	All may be used
Surgeries	None
Accidents/ injuries/ trauma	None
Hospitalization	Two vaginal deliveries

Inclusive sexual and reproductive history	
Sexual practices **Sexual partners** **Protection: Use of safer sex practices** **Use of birth control if appropriate** **Risk of intimate partner violence**	Monogamous with husband, no history of STI's, uses condoms intermittently, no other form of birth control ever used. Not breastfeeding.
Ob/GYN HISTORY	Age of onset of menses: 14, +menorrhagia, + dysmenorrhea Age of menopause: N/A Number of pregnancies: 2 Number of live births: 2, no recent pregnancy, last pregnancy two years ago Number of miscarriages 0 Number of abortions 0
Medications	Sumatriptan 100mg PRN, Propranolol daily, Omeprazole 20mg daily
Immunizations	All may be used
Tobacco products: Cigarettes	o Current ½ PPD smoker x 15 years
Alcohol: wine	o Current, occasional
Drugs	o Never
Diet (describe)	Well balanced, not vegan or vegetarian
Exercise (describe)	Regularly exercises
List any other important social history or information important to this case	N/A
Family history	
Mother, Father, Siblings, Grandparents, and other significant findings.	no family history of breast, ovarian, or cervical cancer, no family history of blood clots or thrombophilia

Physical Exam- List exam maneuvers expected for this case and any abnormal findings that SP will simulate. (tenderness, hyper-hypo reflex, rebound, weakness etc.)

Learners are NOT required to perform a physical exam during the encounter, only a medical history and counseling takes place.

PHYSICAL EXAM FINDINGS		
11)	**Written in layman's terms**	N/A for encounter
12)	**General appearance- affect, appearance, position of patient at opening (i.e. sitting, laying down, holding abdomen etc.)**	N/A for encounter
13)	**Vital signs**	N/A for encounter
14)	**Specific findings and affect**	N/A for encounter
15)	**Response to certain physical movements**	N/A for encounter

DIAGNOSIS AND DIFFERENTIAL	
Diagnosis with support from positive and negative history and PE findings	Initiate contraception for a woman with contraindication to estrogen given migraine with aura and active smoker.
Differential with support from positive and negative history and PE findings	Initiate contraception for a woman with contraindication to estrogen given migraine with aura and active smoker.

MANAGEMENT OR DIAGNOSTIC PLAN	Estrogens are contraindicated. All estrogen-containing formulations (pills, ring, patch) are contraindicated in women with migraine with aura. Migraine headaches with aura have been associated with up to a twofold increased risk of stroke in otherwise healthy women taking OCPs. Smoking further increases this risk. For this reason, migraine headache with aura is a contraindication to combined hormonal contraceptives. Stroke risk is not increased in patients with migraine without aura; therefore, combined hormonal contraceptives is not contraindicated unless the patient has other major risk factors for stroke (e.g., smoking, hypertension, diabetes) or unless the patient's headaches are exacerbated when OCPs are started. In general, OCPs may be cautiously considered in women who have migraine headaches if they do not have focal neurologic symptoms (such as aura), do not smoke, are younger than 35 years, and are otherwise healthy. The progesterone-only pill ("mini pill"), medroxyprogesterone acetate, Depo-Provera (intramuscular or subcutaneous), levonorgestrel releasing IUD's: Mirena, Skyla, Kyleena and Liletta, the copper intrauterine device (ParaGard), and the etonogestrel implant (Nexplanon) are all safer options. The hormone releasing options may give the additional benefit of reducing menorrhagia and dysmenorrhea. Keep in mind that the implant may not be as effective in those with a BMI>30. This patient does not desire to take pills so the long-acting reversible options may be best in this scenario.

PROFESSIONALISM ISSUES OR CHALLENGES:	None

Appendix G

Case scenarios with explanations

CASE 1: THROMBOPHILIA Resident 1

A 36-year-old female with a body mass index of 31 kg/m^2 (obese) has a past medical history of protein S deficiency with active lower-extremity deep vein thrombosis, for which she is taking Coumadin. She experiences menorrhagia and dysmenorrhea due to intramural fibroids seen on transvaginal ultrasound. She desires contraception. How do you counsel her?

Estrogens are contraindicated—except, perhaps, in select cases.

This patient has many reasons for heavy bleeding. She is on warfarin, which effectively inhibits synthesis of vitamin K-dependent coagulation factor. She also has fibroids and adenomyosis. The latter is a difficult condition to control, as the location of the intramuscular glands makes treatments such as ablation, dilation and curettage, and oral agents ineffective.

All estrogen-containing formulations (pills, ring, patch) are contraindicated in women with acute venous thromboembolism (VTE) and known thrombophilia.

The updated CDC guidelines for the use of hormonal contraceptives state that patients who receive anticoagulation for at least 3 months and who have no history of VTE or a low risk of recurrent VTE (no evidence of active cancer, no known thrombophilia) may use estrogen-containing contraceptives in select cases (category 3—theoretical risk outweighs benefits, but not an absolute contraindication). Although this is not common clinical practice, select patients may benefit from menstrual cycle control while receiving anticoagulation. However, other contraceptive alternatives are preferred if possible.

Progestin-only treatments such as the levonorgestrel releasing IUD's: Mirena, Skyla, Kyleena and Liletta (if the fibroids do not distort the uterine cavity), medroxyprogesterone acetate, Depo-Provera (intramuscular or subcutaneous) and the etonogestrel implant (Nexplanon) are nonsurgical options that may reduce menorrhagia and are safer alternatives for patients with thrombophilia. Keep in mind that the implant may not be as effective in those with a BMI>30. The ParaGard (copper) intrauterine device would provide non-hormonal contraception without diminishing menorrhagia. A viable option for women finished with childbearing is hysterectomy, which provides contraceptive benefit and definitive treatment of menorrhagia due to adenomyosis.

Laboratory screening for VTE is not required before starting estrogen-containing contraceptives. However, one should take a detailed history and inquire about VTE events or a family history of recurrent VTE.

A 36-year-old female with PMHx of obesity, HTN and DM2 presents to clinic requesting contraception. Her blood pressure is consistently >140/90 mm Hg on multiple office visits and ambulatory monitoring. She also experiences menorrhagia and dysmenorrhea due to intramural fibroids.
She desires contraception. How do you counsel her?

Avoid estrogen-containing products.

Avoid all estrogen-containing formulations (pills, ring, patch) in patients with uncontrolled HTN and diabetes with micro/macro vascular complications.

According to the WHO and CDC guidelines, women with controlled or uncontrolled hypertension should not be offered combined oral contraceptives, the patch (Ortho Evra), or the ring (NuvaRing) (category 3—theoretical or proven risks outweigh the benefits, and category 4, an unacceptable health risk if the contraceptive method is used, for systolic blood pressure greater than 160 mm Hg or diastolic blood pressure greater than 100 mm Hg).

The progesterone-only pill ("mini pill"), medroxyprogesterone acetate, Depo-Provera (intramuscular or subcutaneous), levonorgestrel releasing IUD's: Mirena, Skyla, Kyleena and Liletta, the copper intrauterine device (ParaGard), and the etonogestrel implant (Nexplanon) are all safer options. The hormone releasing options may give the additional benefit of reducing menorrhagia and dysmenorrhea. Keep in mind that the implant may not be as effective in those with a BMI>30. This patient does not desire to take pills so the long-acting reversible options may be best in this scenario.

A small subset of patients develop elevated blood pressure after starting hormonal contraceptives. Estrogen-containing hormones can increase the liver's output of angiotensinogen, which is a renin substrate that activates the renin-angiotensin-aldosterone system. If this becomes clinically apparent, these patients should refrain from estrogen-containing products and use progestin-only formulations as a safer alternative.

Diabetic patients with microvascular complications of retinopathy or nephropathy and any patient with macrovascular disease (stroke, cardiovascular disease) should not be offered estrogen-containing contraception.

CASE 3: MIGRAINE WITH AURA Resident 3

A 36-year-old female with PMHx of obesity, GERD, and migraine presents to the clinic requesting contraception. Her migraines have not changed or worsened in the past few years, stable on sumatriptan PRN abortive therapy and prophylactic propranolol. Migraines are associated with a feeling of numbness that travels up her arm to her face prior to the onset of the migraine, lasting ~10minutes. She also experiences menorrhagia and dysmenorrhea due to intramural fibroids.
She desires contraception. How do you counsel her?

Estrogens are contraindicated.

All estrogen-containing formulations (pills, ring, patch) are contraindicated in women with migraine with aura.

Migraine headaches with aura have been associated with up to a twofold increased risk of stroke in otherwise healthy women taking OCPs. *Smoking further increases this risk.* For this reason, migraine headache with aura is a contraindication to combined hormonal contraceptives. Stroke risk is not increased in patients with migraine without aura; therefore, combined hormonal contraceptives is not contraindicated unless the patient has other major risk factors for stroke (e.g., smoking, hypertension, diabetes) or unless the patient's headaches are exacerbated when OCPs are started.
In general, OCPs may be cautiously considered in women who have migraine headaches if they do not have focal neurologic symptoms (such as aura), do not smoke, are younger than 35 years, and are otherwise healthy.

The progesterone-only pill (“mini pill”), medroxyprogesterone acetate, Depo-Provera (intramuscular or subcutaneous), levonorgestrel releasing IUD’s: Mirena, Skyla, Kyleena and Liletta, the copper intrauterine device (ParaGard), and the etonogestrel implant (Nexplanon) are all safer options. The hormone releasing options may give the additional benefit of reducing menorrhagia and dysmenorrhea. Keep in mind that the implant may not be as effective in those with a BMI>30. This patient does not desire to take pills so the long-acting reversible options may be best in this scenario.

Contraceptive Counseling and Education Checklist

Counselor Name: _____ **Date:** _____

Observer ame: _____

Purpose: Use this checklist to note and provide feedback to a contraceptive counselor after observing their counseling session. You can also use this checklist to self-assess your own counseling and education skills.

How to Use: When observing a counseling session, notice how the counselor performs the bulleted skills or practices. Mark the level of competence you perceive (1 for needs improvement, 2 for satisfactory, or 3 for excellent). If an item is not done, but should have been, leave it blank. If an item is not applicable, mark N/A. Some items may not be necessaiy for a particular session. Write comments in the space available. Then, after the visit, share your observations with the counselor in a private place and discuss.

Process	Assessment
Beginning (and throughout)	
Establish and maintain rapport with the client	1 Needs Improvement / 2 Satisfactory / 3 Excellent
• Warmly greet the client, introduce yourself..... 1 2 3 n/,	Comments
• Discuss the reason(s) for the visit..... 1 2 3 n/,	
• Explain confidential services..... 1 2 3 n/,	
• Ask open-ended questions..... 1 2 3 ./.	
• Actively listen and share your perceptions ..... 1 2 3 ./.	
• Affirm client responses ..... 1 2 3 ./.	
• Summarize key points..... 1 2 3 ./.	
Other practices observed:	
_____	
_____	
Middle	
Assess the client's needs and personalize discussions accordingly	1 Needs Improvement / 2 Satisfactory / 3 Excellent
• Review and update the client's medical, sexual and social history ..... 1 2 3 ./,	Comments
• Ask about the client's thoughts and desires regarding future pregnancy ..... 1 2 3 ""	
• Explore client preferences regarding method characteristics..... 1 2 3 (risk of pregnancy, how method is used, menstrual side effects, other side effects, and other considerations)	
• Ask about client knowledge and experience with birth control..... 1 2 3 ./,	
• Respectfully explore factors that may influence method preference ..... 1 2 3 "" (experiences, beliefs, cultural and religious considerations, and feelings about the methods)	
Other practices observed:	
_____	
_____	

Over to Continue»

Middle continued

Work with the client interactively to establish a birth control method plan

1 Needs Improvement	2 Satisfactory	3 Excellent

- Help the client identify the method that matches their preferences ..... **1Z 3** ./,
- Ask open-ended questions about concerns related to method choice ..... **1Z 3** ./,
- Discuss partners and others who may influence decision making and method use ..... **1Z 3** n/,
- Help the client make a plan for correct use of their selected method ..... **1Z 3** n/,
- Include information about STD/HIV protection and emergency contraception, as appropriate ..... **1Z 3** n/,

Comments

Other practices observed:

_____

_____

Provide information that can be understood and retained by the client

1 Needs Improvement	2 Satisfactory	3 Excellent

- Actively engage the client in conversation (not a presentation) ..... **1Z 3 n/,**
- Provide accurate information ..... **1Z 3** ./,
  (correct use, effectiveness, benefits, side effects, potential risks, STD/HIV prevention)
- Use clear, understandable words, images, models and/or sample methods ..... **1Z 3** ./,
- Use numbers and comparisons that are easy to understand ..... **1Z 3** n/,
- Provide balanced, unbiased, tailored information ..... **1Z 3** ./,
- Assess and address myths and misinformation in a respectful and affirming way ..... **1 Z 3** .,.

Comments

Other practices observed:

_____

_____

Closing

Confirm client understanding

1 Needs Improvement	2 Satisfactory	3 Excellent

- Ask the client to tell and show the main things they learned (teach-back) and provide additional information as needed ..... **1Z 3** n/,
- Address possible barriers to method use, specific to the client and their method ..... **1Z** 3 .,.
- Confirm the client's plan for correct method use and follow up ..... **1Z 3** ,/,
  (Including what to do if dissatisfied with the method, back-up method, STD/HIV protection, and emergency contraception, as needed)
- Provide contact information and future opportunities for follow up, other methods or services ..... **1Z 3** n/,

Comments

- Summarize key points and end with a friendly close ..... **1Z 3** ,/,

Other practices observed:

_____

_____

Improvement Plan:

_____

_____

_____

Long-Acting Reversible Contraception (LARC) Curriculum

Rebecca A. Berman, MD

At Brigham and Women's Hospital we have developed a three-pronged long-acting reversible contraception curriculum.

All residents (categorical and primary care) get a 2.5 hour didactic and interactive training session on Long-Acting Reversible Contraception Counseling. The first hour of the training is a lecture with an overview of LARC, including efficacy, indications and contraindications and counseling strategies. The second section entails 1.5 hours of small group counseling role plays using cases, with mentorship from general internist and OB-GYN faculty.

For our primary care residents only, we have a representative of Merck train our interns in etonogestrel implant (Nexplanon) placement.

The most challenging portion has been getting residents enough practice doing the etonogestrel implant (Nexplanon) to feel competent. While one is technically competent to place etonogestrel implant (Nexplanon) after the Merck training, we like to have our residents do 2-3 implantations and 3-5 removals to feel comfortable with any potential complications.

We have explored four ways to do this:

1. Family medicine experiences - The major limitation here was low frequency in a busy Family Medicine practice, however, if you have anyone who does dedicated women's health or procedure clinics that could help
2. Gynecology experiences - Again, the limitation was frequency of etonogestrel implant (Nexplanon) placement in a given half day clinic
3. Internal medicine providers in our larger resident/faculty practice who place etonogestrel implant (Nexplanon) during dedicated urgent care half days - This has proved to be our **best experience** since we have more control over how these sessions work. To avoid the issues of low frequency, interested residents schedule their "patient follow up" time during these half days and are paged by the relevant attending when an appropriate patient arrives. The remainder of their "patient follow up" time is spent doing their clinic paperwork from their continuity clinic. Residents can do this multiple times over the year to gain adequate experience. A scheduler makes sure only one resident does it on a given half day.
4. We have also tried having the internists who are trained in etonogestrel implant (Nexplanon) available as on-call preceptors for resident primary care patients willing to get this implant. This is just getting off the ground and has been limited by having enough preceptors who feel competent so that someone is available. Ideally you would have five attendings who are competent so that each day of the week a different attending could be on call. This method avoids the issues of low volume in each half day. No-show rates for etonogestrel implant (Nexplanon) placement are reasonably high in our clinic which has added an extra layer of complication.

Outpatient Point of Care Ultrasound (POCUS) for Internal Medicine Residency Programs

Corey Dean, MD

Introduction

Point of care ultrasound (POCUS) refers to a limited protocol performed at the patient's bedside by a clinician to assess a questionable diagnosis (rotator cuff tear vs. bursitis of the shoulder, etc). The power of POCUS is the internist's ability to acquire and interpret information at the bedside, enhancing the doctor-patient relationship by communicating directly with the patient our findings used to aid in the clinical assessment and improve our diagnostic skills. This is distinctive from formal diagnostic ultrasonography performed by sonographers and interpreted by radiologists with years of training to interpret an ultrasound report. Bedside Point of care Ultrasound has been in use in Obstetrics/Gynecology and Emergency medicine for many years. As the cost of ultrasound is no longer prohibitive, the use of POCUS has increased dramatically over the past 10 years in other areas of medicine. In addition to being cheaper, ultrasound models are smaller and of better quality. The evidence clearly demonstrates that using POCUS improves clinical outcomes, reduces failure and complication rates during procedures (1), helps to narrow differential diagnoses (2), improves clinical accuracy (3), reduces cost (4) and reduces the use of ionizing radiation of computed tomography (CT) imaging (5). In addition, the use of ultrasound at the bedside hopes to improve the doctor patient relationship, increasing patients' confidence in the diagnosticians' clinical skills (6). This has been shown to improve patient satisfaction as well (7).

Each year, more and more medical schools are integrating POCUS into their educational curricula. Multiple studies have shown that the current generation of medical students and residents have increased exposure to POCUS, and they desire more POCUS training during internal medicine residency (8). Therefore, to remain competitive in the recruitment of top-notch medical students, it is important for Internal medicine training programs to incorporate a robust POCUS curriculum.

Aim of POCUS

The key aim in the use of POCUS is to gather additional data and aid in the procedural skills at the bedside to provide better diagnostic acumen for the Internal Medicine physician. POCUS is especially empowering and critical for front-line providers in rural, underserved, or resource-constrained environments where advanced imaging and specialists are in scarce supply (9). Internists are often the providers in these circumstances as they are managing the most complex and ill patients in a variety of settings. Therefore, learning to use this bedside ultrasound tool as an extension of the physical exam and improve procedural skills is crucial for the future of internal medicine residency training.

Knowledge and skills (Ultrasound language and procedural technique)

In the appropriate setting, the resident should demonstrate the ability to apply knowledge of the following:

1. Basic ultrasound use
    - Physics: the frequency, wavelength, power, and intensity as it relates to the ultrasound should be understood as it applies to POCUS knobology.
    - Knobology and POCUS Probe use: understand the appropriate probe selection, potential clinical application, and ultrasound technology (linear probe best for Musculoskeletal, etc.).
    - Images: learn how to use gain and depth functions and understand the key aspects of echogenicity in POCUS use (hypo-, hyper- and anechoic). Understand the concept of anisotropy in POCUS images.

- Transducers: the 4 main types are linear, curvilinear, phased array, and intracavitary; each probe has a different crystal arrangement, size, and footprint that determines its preferred applications.
- Orientation: Sagittal, transverse, and coronal planes; probe positioning and its relation to the patient's body and screen image.
- Scanning techniques: Sliding, fanning, rotating, and rocking.
- Modes: Two-dimensional, M-mode, and Doppler imaging.
- Safety: understand probe cleaning and which studies need sterile vs. aseptic technique.
- Documentation: Understand the importance and methods of archiving and retrieving images; applicability to clinical decision making and quality improvement.

2. Procedural guidance: The physician should be able to identify appropriate ultrasound anatomy, including the appearance of echogenicity with a structure characterized as hyperechoic (white on screen i.e., rim of bone), hypoechoic (gray on screen i.e., tendon) and anechoic (black on screen i.e., fluid) and its translation into identifying appropriate anatomy to aid the procedure. Use of ultrasound images in performing the procedure should be noted in the consent form and procedure note.
3. POCUS as a diagnostic tool-indications for outpatient Ultrasound
   - Skin: abscesses vs. cellulitis, lipomas and cysts
   - Vascular: deep venous thrombosis
   - Neck and Thyroid: solid vs. cystic masses
   - Cardiac: ventricular systolic dysfunction (CHF) and pericardial effusion
   - Pulmonary: hyperinflation (COPD), pulmonary edema (CHF), and pleural effusion
   - Abdomen and Kidney: cholelithiasis, hepatosplenomegaly, ascites or kidney stones
   - Shoulder, wrist, hip and knee aspiration and injection
   - Joint ganglion cysts

POCUS implementation: preparation for the curriculum

The initial key steps in starting outpatient bedside POCUS in your internal medicine residency program are outlined below:

1. Identify your programmatic goals: Enhance physical exam + improve patient care + medical education.
2. Identify a faculty champion and key core faculty: Provide educational support with hands on CME opportunities (ACP, AIUM, AMSSM, etc), longitudinal use of POCUS within the outpatient clinic setting, specialization opportunities (sports medicine, etc.) within your program, and internal review opportunities within the institution to ensure quality standards (aspirational goal: 150 total scans, 25-50 reviewed POCUS scans and/or 5-10 reviewed procedures is the standard for competency).
3. Investment in POCUS equipment: Determine if purchasing handheld ultrasound devices versus portable larger studio ultrasound units is desired by your institution. There are many things you need to consider in this decision, such as cost considerations, portability versus quality of the image, and procedural use.
   - Handheld ultrasound devices: advantages in reduced cost and better portability
   - Portable larger studio ultrasound units: advantages in better quality images and ease of procedural use for hands free procedures.
4. Training and education of residents and peripheral faculty: Focused and longitudinal training via simulation (flexible educational opportunities with built in evaluation testing tools for competency), ultrasound boot camps (short, intense half day training by the core faculty ultrasound experts) and hands on use within the outpatient clinic for improved clinical assessment and procedural skills.

5. Maintenance:
    - Equipment and accessories (sterile probe covers, ultrasound cleaning supplies, ultrasound replacement, etc): Cost and dedicated funding
    - Updated educational & evidenced based curriculum every 1-2 years
    - Billing/Coding: determine as an institution if use of ultrasound is for educational and patient care alone (no billing and coding of US use), or if desire to bill and code for the scans and procedures done during the patient care experiences. In either format, it is important to have a budget to allow for sustainability of the POCUS curriculum in your institution (CME, US replacement costs, etc.).
    - Documentation and consent with patients: Verbal vs. written
    - Cleaning and care of US

Curricular implementation

This curriculum should be taught during both focused and longitudinal experiences throughout the residency curriculum. Specifics of certain approaches have been described in the literature, with consensus being that a POCUS curriculum should contain the following components (9-18).

- Faculty champion: A key component of a successful POCUS curriculum is the presence of a skilled and motivated faculty champion. It is recommended that at least one faculty member should be designated as the curriculum leader for ultrasound education and given adequate protected time to develop as a competent ultrasonographer. Protected time also will be needed to develop and implement the curriculum and train other faculty members as the curriculum progresses (9). Lastly, CME opportunities for continued education and remaining on the cutting edge will be needed for the POCUS champion.
- Formal curriculum: Because POCUS education in internal medicine residency training is in its infancy, each residency will develop its own POCUS curriculum until a more formalized process can be developed (11, 15-18). It is recommended that all curricula contain a combination of didactics, ultrasound trainers, live models, direct patient scanning with hands-on learning, individual portfolio creation, knowledge/skill assessment, and competency evaluation (16).
- Didactic education: POCUS didactics can be taught via residency boot camps (short half day experiences aimed at training the residents in knobology and the vocabulary of ultrasound use) or computerized simulations (asynchronous learning at the pace and availability of the resident). Ultrasound trainers (comprehensive ultrasound models capable of replicating the patient scanning experience) are more costly, but great for practicing image acquisition and interpretation (16). Utilizing both methods of education are helpful in resident training. Simulations are especially useful when skilled faculty time is limited because it is better to allocate teaching time for hands-on learning.
- Hands-on education: POCUS is best taught at the patient's bedside. With the lead of the faculty champion, core outpatient faculty must also be trained to utilize POCUS during patient care to teach and model hands-on education with the residents in training. This can be done with live models with normal anatomy as standardized patients as part of a half day course. Other options for hands-on education include the use of simulation and models. The best scenario for hands on training involves the use of direct patient scanning. After learners have acquired basic POCUS image acquisition and interpretation skills, teaching directly at the patient bedside is a powerful way for learners to solidify their knowledge (16).
- Clinic-based educational ultrasound: Patients should provide informed verbal consent before they are subjected to an educational ultrasound (ultrasounds done by an internal medicine resident in training) (9, 11). In this verbal consent, patients should be informed that the use of POCUS is for educational purposes only. No clinical decisions should be based on educational ultrasounds unless first confirmed with a formal ultrasound examination or discussed with a credentialed provider (9). If anything concerning is found, a credentialed provider should be notified immediately and all resident ultrasound

images should be reviewed by faculty, either during the scan or later by image review. One pearl for educational image review is when a diagnostic ultrasound has been done by a sonographer and interpreted by a radiologist, this is one of the best opportunities to correlate your own ultrasound diagnostic acumen for comparison.

- Knowledge and skill assessment: Knowledge assessment is best done through either hands-on or computerized simulation with well-designed tests to provide residents with formative feedback. Skill assessment is best done under direct observation by the faculty member at the bedside either during simulation (computerized, ultrasound trainers, or live models) or with direct patient care (9, 16).
- Quality improvement/assessment: The implementation of POCUS training within a residency setting should be accompanied by ongoing assessment of quality, including but not limited to image storage and archiving; periodic review and audit of a certain number/percentage of completed exams; attention to training and documentation of clinical activity for those providing instruction in POCUS; and ongoing continuing medical education for the core faculty (CME) (9-18).
- Competency assessment: Competency assessment is done to provide formative (at the bedside) and summative (over the course of the residency training) feedback on the use of bedside POCUS. Each internal medicine residency program should develop its own criteria to quantify the number of precepted scans needed to assess their learners for POCUS competency. Most well-established POCUS curricula have used 150 total scans for general point-of-care ultrasound competency, 25 to 50 supervised scans for a specific diagnostic exam, and 5 to 10 supervised scans for ultrasound-guided procedures (9, 14). This is aspirational for any resident physician and is the goal for the US champion and core faculty.

Evaluation through Competencies and Milestones

The structure of evaluation of competencies in resident education has been well described in the family, emergency and internal medicine literature (9, 10, 16). The key educational competencies are:

- Assess anatomy, physiology, and pathology with POCUS (Medical Knowledge).
- Advance POCUS knowledge with appropriate precepting, electives, and use of website resources (Practice-based Learning and Improvement).
- Communicate the results of a POCUS scan to the patient and treatment team and document the results appropriately in the medical record (Interpersonal and Communication Skills).
- Talk to the patient about the risks and benefits of POCUS and alternatives to POCUS and obtain verbal consent prior to a POCUS scan (Professionalism).
- Utilize POCUS to decrease time to diagnosis, decrease procedure complications, and expedite medical care (Systems-based Practice) (9, 16).

Specific milestones have been mapped in emergency medicine (10). Internal medicine has specific milestones that can be applied to evaluations of the resident's competency in POCUS use at the bedside (11, 16). These milestones fall nicely into:

1. Practice-based learning: learners are evaluated in training stages based on beginner, mid-, and advanced skills attainment in bedside POCUS.
2. Interpersonal communication skills: in advanced levels of bedside POCUS use, learners are evaluated in their ability to convey the clinical information to the patient during the exam.
3. Professionalism: utilizing verbal or written consent, the doctor-patient relationship and professionalism are evaluated with each bedside point of care ultrasound.
4. Systems-based practice: utilizing proper bedside POCUS image acquisition and interpretation, systems-based practice is evaluated with advanced resident POCUS use.

Example: Modified according to the Emergency Medicine Residency Milestone Project (10)

Diagnostic and Therapeutic Procedures: Uses goal directed, focused Ultrasound for the bedside diagnostic evaluation of internal medicine conditions and procedural guidance					
Not achieved Level 1	Level 1	Level 2	Level 3	Level 4	Level 5
	Describes the indications for outpatient ultrasound	Explains how to optimize ultrasound images and identifies the proper probe for each of the focused ultrasound applications	Performs goal-directed focused ultrasound exams. Correctly interprets acquired images.	Expands ultrasonography skills to include outpatient procedural skills (MSK, skin, etc.)	Performs a minimum of 25 supervised ultrasound examinations and 10 reviewed procedures.
Comments:					

Suggested Evaluation Methods: OSCE, videotape review, simulation or hand on patient checklist

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Web resources

ACPonline.org/pocus
Point-of-Care Ultrasound: Foundational Skills for Internists courses
Point-of-Care Ultrasound: Advanced Skills for Outpatient Practice
Recorded webinars:
Primary Care Office-Based Ultrasound:
https://www.acponline.org/cme-moc/cme/primary-care-office-based-ultrasound
Pearls on physical exam with pocket sized ultrasound:
https://www.acponline.org/cme-moc/online-learning-center/pearls-a-physical-exam-with-pocket-sized-ultrasound-for-routine-use
TRUSTTM (Train the ultrasound trainer) courses:
https://www.ultrasoundtraining.com.au/courses/category/train-the-ultrasound-trainer-trust
5 minute Sono: http://5minsono.com/
SonoSim.com
AIUM.org
AMSSM.org

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Geriatrics Education in Primary Care Residencies

John P. Moriarty, MD

Introduction

Most of the care of older adults is provided by primary care providers in the ambulatory setting. Although the Accreditation Council for Graduate Medical Education has requirements for geriatric experiences (1), most of these experiences during residency occur in discrete inpatient geriatric services or nursing homes. Training for geriatrics in primary care residency environments has several potential advantages including training residents at the site of most of the geriatric ambulatory care and providing opportunity for longitudinal development of geriatric skills for the primary care workforce.

Program Background

We will present the evolution of the ambulatory geriatric curriculum in the Yale Primary Care Internal Medicine Residency. We use an X + Y scheduling model and our didactic ambulatory education occurs as part of a three-year ambulatory half-day curriculum and in addition residents on ambulatory block participate in pre-clinic didactics for 40 minutes prior to the start of most clinic days. All these sessions are mixed learner sessions with PGY1s, 2s and 3s. In addition to the curricular experiences discussed below, residents also participate in an inpatient geriatric medicine service and a VA based mixed inpatient and outpatient geriatric rotation, averaging 6 weeks of additional geriatric training over the three years of residency.

Curricular Background

In 2015 with support from a Geriatric Work Force Enhancement Program grant, the Connecticut Older Adult Collaboration for Health (COACH) was developed (2). Part of the COACH Program involved redesigning the geriatrics ambulatory curriculum for the Primary Care Residency to include enhanced geriatric topics provided as part of our ambulatory rotations and combined this with a point of care geriatric teaching through a co-precepting model. The co-precepting model included one half day a week a geriatric attending would co-precept with a primary care attending on patients over the age of 65 seen in the continuity clinic. The COACH program core content included a focus on mobility assessment, cognitive assessment, appropriate medication management, managing Alzheimer's disease and related dementias and patient preferences regarding goals of care. 30-minute small group lectures were developed and given by geriatric faculty twice a year on each of the core COACH topics and each topic also came with a developed direct observation tool. When appropriate, geriatric faculty would focus on direct observation of core geriatrics skills in the primary care setting. For example, for the mobility assessment curriculum, a fall risk assessment mini-CEX and faculty guide were created and used focusing on the Timed Up and Go Test and for the cognitive assessment content was direct observation guide focused on the Mini-Cog. As part of the grant evaluation, we were able to show an increase in resident confidence in all core areas of the COACH program at the end of two years of the curriculum (3).

Lessons Learned

Combining geriatric content with an ambulatory focus and direct observation of core geriatric skills was valuable in helping residents feel more confident in their geriatric skills in the ambulatory setting. As the COACH Program evolved, the primary care attending was trained by the geriatric attending to enhance their learning of these core geriatric skills via co-precepting and we were able to phase out the co-precepting model.

Current Curriculum and Ongoing Efforts

As the COACH grant evolved and as our clinical site transitioned to a new federally qualified health center, we continued to adapt our geriatrics curriculum. We continue to have geriatric topics presented in our ambulatory half-day educational series with a focus on core geriatric skills. In addition, we continue to encourage clinic primary care providers to directly observe core geriatric skills and provide observation and feedback for our trainees.

We also have focused on the challenge of polypharmacy and deprescribing in the older adults. Based on experiences from our colleagues at the VA, through the Initiative to Minimize Pharmaceutical Risk in Older Veterans Polypharmacy Clinic (IMPROVE) program. The IMPROVE program includes a multidisciplinary educational and clinical activity that combines a 1-hour trainee teaching session, a 45-minute group visit, and a 60-minute individual clinic visit to work on the complex problem of polypharmacy in older adults (4,5). We adapted similar principles to our polypharmacy curriculum in the academic year starting in 2021, although we did not have as much curricular time as the IMPROVE model. For this program, we used 2 consecutive morning pre-clinic conferences (40 minutes each) focused on polypharmacy and deprescribing. These conferences were repeated over 4, two-week ambulatory blocks, assuring all residents were exposed to the curriculum. In addition to core didactic content delivered by our chief resident and pharmacist on polypharmacy, resident choose a patient from their panel with polypharmacy and in small groups including a pharmacist, they work through analysis of their medication regimen working towards deprescribing with an associated EPIC note template. This program uses resources such as the BEERs list (6) and Stop/Start criteria (7). We are evaluating the impact of this curriculum on learners and polypharmacy outcomes.

Our educational framework employs similar content to those of the geriatric 5 Ms' proposed by Tinetti et al. (8). In this conceptual model, the 5 M's (mobility, mind, medications, multi complexity and matters most) represents a communication framework for communicating the core competencies in geriatrics in a manner that is understandable to those both inside and outside the field of geriatrics. Similar curriculum has been used elsewhere, including the work done by Phillips and colleagues at Boston University in describing a half day educational curriculum focusing on the 5 Ms (9). Post workshop evaluations of this curriculum revealed that learners incorporated resources and tools from the workshop into their practice.

Conclusions

Combining geriatric content with an ambulatory focus and direct observation of core geriatric skills has been valuable in training residents to employ core geriatric principles into their practice. Challenges of application of this curriculum include the need for geriatric-based faculty for helping with teaching, competing curricular content limiting curricular time devoted to geriatrics and the need for ongoing faculty development for generalist faculty in point of care skill assessment in geriatrics. Resources available through the COACH site, MedEd portal and other organizations such as the American Geriatric Society can provide additional resources to assist programs in development of robust primary care geriatric curricula.

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Creating a Home Visit Curriculum

Stacy Charat, MD

Scope of Practice/Goals of Visit

Home visits can address a wide range of goals, and the structure of visits will be informed by the intended scope of practice.

- Social interaction to promote patient-physician relationship
- Social determinants of health exercise
- Home safety evaluation
- Geriatrics assessment/mental status evaluation
- Full medical appointment
- Specific chronic disease management (CHF, hypertension, diabetes)
- Medication reconciliation
- Post-discharge visits and/or readmission prevention

Identify Potential Partnerships

Consider partnering with existing programs at your institution or in the community to harness available resources and ensure sustainability of the program.

- High risk care management programs (often run by nursing staff) that identify high risk patients
- Existing Home-Based Primary Care programs (VA, family medicine, geriatrics, private community physicians)
- Local EMS companies
- Community agencies (local neighborhood or cultural organizations, churches, elder care programs)
- Home care agencies (visiting nurses, home health aide programs)

Legal Concerns

Confer with your local residency program leadership, risk management, and malpractice insurance agency to ensure that your residents are protected for the type of visit that is planned.

- Does your malpractice insurance cover residents for visits provided in the home?
- Will residents be directly supervised by attendings during the visit, or will they discuss the cases after the fact?
- Can you use telemedicine to support supervision during visits?
- How will you document patient visits, if at all?

Financial Concerns

Consider whether you intend to bill for visits

- What are the billing requirements for a home visit in your healthcare system?
- How does attending supervision (or lack thereof) impact billing?

Safety Concerns

Providing guidelines for the careful selection of patients to visit can reduce unnecessary risks for your residents.

- Consider screening for the presence of dogs, weapons, family members, children in the home, mental health/substance abuse
- Research the neighborhoods residents plan to visit to ensure they have safe access to patients (without undermining the educational value for the residents to learn about social determinants of health in neighborhoods with safety concerns)
- Consider whether an attending will accompany residents
- How will residents travel to and from the patient homes? Are there institutional vehicles available? Public transportation? Private vehicles?

Supplies

Provide a "black bag" for residents to take with them for visits and include items that are relevant for the intended scope of practice.

- Blood pressure cuff and stethoscope
- Pulse oximeter
- Glucometer and test strips
- Monofilaments
- Wound Care supplies: gauze, sterile saline, xeroform, tegaderm, Kerlix, ACE wrap
- Blood drawing supplies: tourniquet, tubes, gauze, bandaids, needles, syringes, sharps container, ice packs/cooler
- Mini-mental status or SLUMS assessment forms
- Home safety evaluation checklists (see References)

Example Curriculum from the UCSD Internal Medicine Primary Care Pathway

- During PGY-1 and PGY-2 years, all residents shadow providers in the home-based primary care program at the VA on their geriatrics and continuity clinic rotations
- Primary Care residents participate in a 1-hour lecture/discussion on home visits from providers who perform home visits (partnership with the geriatrics fellowship.)
- We first perform a group home visit with an attending, for a patient in the attending's panel
- Prior to the first independent home visit, we perform a workshop on learning about the neighborhoods of the patients they intend to visit, including a review of common social determinants that impact health. This includes:
    - Google mapping local grocery stores, parks, gyms, community centers, etc.
    - Using the local Department of Public Health website to identify markers of health by zip code
    - Use local public transportation websites to map route to office visits
- Residents go in pairs to visit 2 patients (one from each resident's panel.) Patients are carefully selected by the residents, in discussion with faculty, to maximize safety and educational opportunities.
- We facilitate a group debriefing session to review the home visits and discuss the benefits and challenges

Select References and Resources

- University of Miami Home Safety Module
  https://www.pogoe.org/AngelUploads/applications/homesafety/HomeSafety.html
- University of Miami Home Safety Checklist
  https://www.mededportal.org/publication/1063/
- UC Denver Family Medicine Home Visit Curriculum Overview
  http://www.ucdenver.edu/academics/colleges/medicalschool/departments/familymed/education/predoc/MSA/Documents/Rachel%20Rodriguez%20-%20MSA%20Presentation.pdf
- UC Irvine Checklist for a Home Visit of a Recently Hospitalized Geriatric Patient
  https://www.pogoe.org/productid/20798
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Advocacy Curricula

Catherine Rich, MD & John Moriarty, MD

Advocacy is recognized by our professional organizations as an essential component of physician's professionalism. While by no means is the need for advocacy unique to primary care, many primary care tracks across the country have created robust and long-lasting advocacy curricula as a key component of their program that differentiates them from categorical counterparts. Residents often embrace these curricula as they tap into their innate sense of altruism and can be an antidote to the many frustrations they experience working on behalf of patients.

Advocacy curricula in primary care tracks will vary depending on the expertise of faculty, the interests of residents and the issues that are pertinent to your program/hospital/surrounding community. Most programs contain a didactic and an experiential component. The didactics can focus on skills (how to write persuasively, how to speak influentially, etc), as well as historical and political context for health inequities that residents may experience through their care of patients. An understanding of the social determinants of health is a necessary part of any advocacy curriculum. In addition, basic education on understanding the legislative process and points at which physicians can influence debate can be helpful for residents. The experiential component will draw from local resources and issues. For instance, many programs partner with local advocacy groups to do Hill Days, in which residents are prepped to speak with legislators about issues relevant to health care.

Advocacy curricula are most successful when they are responsive to the needs and interests of the resident adult learner. They require protected time in the curriculum for both didactic and experiential components. Faculty should be selected and supported in their time to ensure a high-quality experience.

Social Determinants of Health (SDOH) Curricula

Joan Addington-White, MD and Peggy Leung, MD

Introduction

Good health for an individual and community is linked with social factors which include access to food, housing, health care, education opportunities, neighborhood safety, and social support and integration. As we teach residents to care for patients' medical needs, we must also teach physicians to recognize the public health threat of unmet social determinants. If we can train clinicians and physician leaders to recognize and advocate for patients who suffer unjustly from socioeconomic factors, such as compromised employment and healthcare access, the lack of educational opportunity, the toll of racism, addiction, incarceration, homelessness, or cultural issues unique to specific regions, then we can begin to provide pathways for residents to reach individuals and communities where they are, and in the process promote enhanced health and healing.

One of the most effective approaches is one that exposes house staff to diverse patient populations in both the inpatient and outpatient setting supported by multidisciplinary teams with the knowledge, insight, and the communication skills required to reach the communities where patients are from. The resident continuity clinic is an ideal place to learn how to participate in this kind of patient care. We recognize we may be addressing residencies that are just starting to develop an approach and curriculum to health inequities, so we want to emphasize how to initiate and enhance an existing curriculum.

Ideally, being a part of a safety net hospital or clinic will provide most of the clinical experiences necessary to focus learning on these issues. However, it is important to bear in mind that health care disparities exist in every community, in urban, suburban, and rural settings.

A. Developing a curriculum

Detailed over the next four pages are samples from several curricular blocks from UCSF's ZSFG Primary Care Internal Medicine Training Program. Having a two-year longitudinal curriculum about vulnerable populations, our curriculum is based on 1-month blocks involving specific objectives, focused reading, didactics, and experiences within the communities we serve. We will demonstrate how we organize parts of these blocks over the course of a typical year. The curriculum is both didactic and experiential, including lectures, journal club, site visits and discussion/reflection on experiences covered under the talk theme. It is also important to think about provider wellness and debriefing needs. Monthly reflective groups on topics such as making medical mistakes and surviving, discharging patients to the street, narrative medicine workshops, or book clubs with dinner can be incorporated as well.

Introduction to Health Equities	
Objectives	1. Distinguish among differences in health, health disparities, and health equity. 2. Explore your own personal & social identity as it relates to healthcare disparities. 3. Recognize how healthcare disparities have affected health outcomes historically and 4. currently. 5. Understand the appropriate diagnosis and treatment of the representative diseases 6. that make up the majority of healthcare disparities.

	Medical topics with disparities in diagnosis and treatment		Understanding bias, privilege, and patient mistrust	
Site visit	*Talk*	*Article*	*Talk*	*Article*
Visit Medical Respite Navigation Center*	HIV	NEJM Perspective: AIDS in America - Back in the Headlines at Long Last	Power and Privilege	White Privilege: Unpacking the Invisible Knapsack Race and Trust in the Healthcare System
	Chronic Renal Insufficiency	The Lancet: Seminar: Chronic kidney disease Adv Chronic Kidney Dis.: Socioeconomic Disparities in Chronic Kidney Disease	Stereotype Threat	Stereotype Threat and Health Disparities: What Medical Educators and Future Physicians Need to Know Whistling Vivaldi and Other Clues to How Stereotypes Affect Us (Harvard Education Review)
	Breast Cancer: A review of diagnosis and treatment.	NEJM Perspective: Structural Racism - A 60-Year-Old Black Woman with Breast Cancer	Disparities in Cancer Diagnosis	Racial and Ethnic Differences in Prostate Cancer Survivors' Perceived Engagement in Treatment Decision-Making

*Medical Respite is a center where homeless patients may be discharged following a hospitalization. There is a nurse on site and patients can stay during the day and overnight to rest. Many other respites and shelters are only available during the day. Wound care, PT, and OT are also available on-site. Residents interface with the respite center's case worker during the patient's hospitalization prior to discharge. Residents can additionally visit their patients at this site. During this site visit, residents capture a greater sense of the resources available during transitions of care.

Substance Use Disorders				
Objectives	1. To describe the burden of substance use on individual and public health 2. Describe and practice Screening, Brief Intervention, Referral and Treatment (SBIRT) 3. Understand particular diseases associated with substance use 4. Understand respective models of care which meet patients where they are in recovery			
	Medical topics		Low Barrier Treatment	
Site visit	*Talk*	*Article*	*Talk*	*Article*
OBIC*	Skin Infections Associated with drug use	NEJM: Bacterial infections in Drug users. NEJM 353;18 www.nejm.org 11/3/2005 https://www.nejm.org/doi/pdf/10.1056/NEJMra042823	Alcohol use disorders	https://www.ncbi.nlm.nih.gov/pubmed/16670409
	Alcohol use disorders and treatment	https://jamanetwork.com/journals/jamapsychiatry/fullarticle/202789	Harm reduction and low Barrier Buprenorphine treatment	https://www.motherjones.com/politics/2016/12/opioid-treatment-clinic-buprenorphine-san-francisco-homeless/ https://www.motherjones.com/politics/2016/12/opioid-treatment-clinic-buprenorphine-san-francisco-homeless/
	Methadone treatment In primary care	Methadone in Primary Care - One Small Step for Congress, One Giant Leap for Addiction Treatment	Chronic Pain associated With Substance use	NEJM: Opioid Abuse in Chronic Pain - Misconceptions and Mitigation Strategies

*OBIC treatment Center-see articles under harm reduction and Buprenorphine Treatment. This is a center in San Francisco that provides low barrier opioid treatment on a daily basis. One of our faculty members is the medical director, Christy Soran MD. She is also a preceptor in the resident clinic and helps residents treat and refer to this program.

Incarceration				
Objectives	1. Understand the history of mass incarceration and recognize how the criminal justice system itself is a social determinant of disease 2. Evaluate the pretrial process as a determinant of health 3. Describe the acute and chronic problems diagnosed and treated in correctional settings 4. Recognize the best ways to work with wardens, guards, police and parole officers 5. Describe the health risks associated with reentry to the community from jail or prison			
	Medical topics Associated with incarceration		The Social implications of Mass incarceration	
Site Visit	*Talk*	*Article*	*Talk*	*Article*
San Quentin Health Fair https://sanquentinnews.com/san-quentin-holds-15th-annual-health-fair/ SF Jail Transition Clinic https://transitionsclinic.org/transitions-clinic-network/	Chronic Medical problems in incarcerated patients	Prevalence of chronic medical conditions among jail and prison. Binswager https://www.ncbi.nlm.nih.gov/pubmed/19648129#	Mass Incarceration	Annu. Rev. Public Health 2012. 33:325–39. Public Health and Incarceration. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3329888/
	How to care for a patient with a history of Incarceration	**ETHICS CASE** **How to Talk with Patients about Incarceration and Health** https://journalofethics.ama-assn.org/issue/incarceration-and-correctional-health-care	An Aging population	Coming Home: Health Status and Homelessness Risk of Older Pre-Release Prisoners Discrimination based on criminal record and health care utilization among men recently released from prison: https://www.ncbi.nlm.nih.gov/pubmed/25642407
	Musculoskeletal Pain in the incarcerated population	The Structural Violence of Hyperincarceration - A 44-Year-Old Man with Back Pain	Reentry to the community.	Transitions Clinic: Creating a Community-Based Model of Health Care for Recently Released CA Prisoners “From the prison door right to the sidewalk, ... Ingrid Binswanger MD https://www.ncbi.nlm.nih.gov/pubmed/21802731

Site Visits:

1. The San Quentin Health Fair is a wonderful opportunity not only to visit a prison but to be an active part of a routine day where residents can discuss concerns and answer questions with inmates. The introduction of the day and these individual meetings informs residents about the resources available. To establish these connections it is helpful to contact alumni who have gone on to work at local jails and prisons. Recognize that there are security checks that need to be fulfilled weeks before residents and faculty can tour these facilities or work in clinics.
2. SF Jail sends patients to ZSFG. When discharging patients back to SF Jail, the residents call the medical director to sign these patients out. Residents can spend time at the jail clinics on this block.
3. Transitions Clinic is an innovative way of caring for patients just released and introduces residents to the importance of community health care workers as a crucial part of the transition process.

B. **Community Tour and Asset Mapping**

In addition to didactics and theme-curated site visits and experiences, we recommend guiding residents through a community tour with an integrated asset-mapping activity, to highlight both the strengths and vulnerabilities inherent to the specific neighborhood they are serving. The community tour could be a walking, driving, or virtual tour depending on the setting of your clinic site. Urban centers with a larger local density of resources could lend themselves better to a walking tour. In areas with more sparsely scattered resources, a virtual tour through online mapping programs (such as Google Maps) may suffice. The tours can be led by faculty members, a senior resident, a patient/neighborhood leader, or a trusted neighborhood community-based organization. Stops could include grocery stores, food pantries, community/senior centers, local parks, integral neighborhood community-based organizations, religious centers, benefits enrollment centers, pharmacies, hospitals, etc. On the tour, residents should note the density of services (banks, check cashing services, title loan business, billboard advertising, fast food restaurant density, etc.), transportation availabilities, travel times, and identify potential barriers.

For a simple start to asset-mapping prior to a tour, residents can use online mapping programs such as Google Maps as a starting point. Or they might utilize the many existing online referral platforms and resource directories that programs such as NowPow, GNYHA's HITE, UCSF SIREN Network, and others to search for services that they think might improve the quality of life in that community. Additionally, the residents can research a community-based organization in order to provide a "tour group" with an introduction to a particular location, and then go on to discuss why the organization is a valuable asset to the community during the tour itself. For a more formalized take on asset-mapping, UCLA Center for Health Policy and Research has developed a full asset-mapping curriculum (http://healthpolicy.ucla.edu/programs/health-data/data-resources/Pages/Asset-Mapping.aspx)

Other helpful tools include:

- The Kaiser Family Foundation's Issue brief, "Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity", which describes the need for addressing SDOH and which public health interventions are currently implemented at the state and federal level that may impact your community. These too could be interesting topics to bring up during a tour. http://files.kff.org/attachment/issue-brief-beyond-health-care
- The US Office of Disease Prevention and Health Promotion's SDOH page, which reviews SDOH concepts and describes national priorities and interventions. They have links to local projects that may involve your community. https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health

- ChangeLab Solutions is a comprehensive resource with case studies from across the nation that highlights how particular SDOH were identified, how CBOs got involved, and how change was eventually implemented. Sharing these case studies with residents can help foster a framework for future innovations to address issues they see while on their community tour. https://www.changelabsolutions.org/our-work/work-areas

C. **How to Establish a Community Based Organization (CBO) Partnership**

Another crucial part of teaching SDOH is to highlight advocates already embedded within the community. Creating resident immersion training programs with a CBO is an integrative way for residents to explore existing structures that address SDOH and recognize their own potential roles in addressing SDOH. Greater New York Hospital Association (GNYHA) provides a clear framework to ensure mutually beneficial partnerships, while creating resident immersion training programs with CBOs. https://www.gnyha.org/wp-content/uploads/2018/09/ImprovingResidencyTookit_WEB.pdf. Their framework is adapted below:

1. *Identify a CBO partner*
   After defining the educational objectives and goals for an immersion training program, the next step lies in identifying local CBOs that already address that issue. The recent rise of online referral platforms and resource directories (such as NowPow, Healthify, GNYHA's HITE, and UCSF SIREN Network), have made the process simpler. It is also important to note that your hospital's community affairs department may often have a list of CBOs that they have previously partnered with on initiatives, or another list of CBOs who have reached out previously in efforts to build a relationship. They can be helpful in establishing initial contacts and providing financial and logistic support.

2. *Share and define goals for a mutually beneficial partnership*
   It is important to establish a win-win situation with a CBO, through meetings structured to identify factors important to each stakeholder. GNYHA recommends completing a collaborative worksheet to clearly share a mission statement, mutual learning objectives and activities, shared scheduling and logistics, and defining measures and outcomes of success held in common. Also, it is important to discuss what potential legal clearances (background checks or onboarding rules) are needed to start/continue the relationship.

3. *Develop a training agenda*
   Prior to the immersion activity, residents need to be oriented. Orientation activities may include the following: tours of the CBO facilities, meetings with CBO leadership and staff, or presentations by CBO staff on the history/mission/values of the CBO. Discussion by CBO staff on the population they serve, utilizing attending case lectures and conferences, role-playing potential patient encounters with CBO staff are also helpful. Creating a training agenda may require multiple meetings with program directors to develop materials, as well as discussions with the CBO staff in order to prepare them for interacting with residents.

4. *Select the residents who will be involved*
   Please also take into account the complexity of residency scheduling and the CBO's capacity to accommodate residents. This may change the scope of who can participate. One should communicate frequently with those responsible for resident scheduling and those for CBO scheduling to avoid cancelations. The particular independence and clinical skills required of the CBO activities may dictate the appropriate PGY level for those who participate.

5. *Prepare residents and CBO staff on experience*
   Preparing residents may involve readings or didactics to familiarize them with the chosen population. Setting expectations on training goals can better connect residents to the value of the experience. Practicing communication strategies with residents may be helpful for those who may come from a different cultural and social background. Preparing CBO staff is also highly crucial. Sharing and defining resident roles and expectations for the CBO staff will help ensure there is a shared vision. Reinforcing the values that connected the residency to the CBO and the reasons for the partnership will help improve cohesion.

6. *Evaluate residents' experience*
   This can be used to assess if the pre-defined objectives were met and to further improve upon the partnership in future iterations. This can readily be in survey or written reflection form. Also, providing a venue for debriefing and reflection with CBO staff and residents as well as with residents and program leadership can help further solidify the relationship and strengthen the experience.

Developing an Anti-Racism Curriculum

Deborah Oyeyemi, MD, Stephen Holt, MD, MS, & Aba Black, MD, MHS

With the confluence of the COVID-19 pandemic and increased focus on structural racism in 2020, several medical bodies presented a call to arms to address systemic inequities and disparities in healthcare (1-3). Increased awareness of racial inequities in health care delivery and deficiencies of medical schools to counter centuries of racially biased curricular content led Yale School of Medicine to propose a series of initiatives, one of which was the development of the Committee on Anti-Racism Education (CARE). CARE, an interdisciplinary taskforce of Yale residents, would go on to form the Distinction Pathway on Race, Bias, and Advocacy in Medicine (RBAM), Yale's inaugural anti-racism training curriculum for internal medicine residency programs. In the passages below, we describe Yale's path to creating the RBAM distinction, while providing recommendations to other institutions with similar aspirations.

How We Did It

"Distinction tracks", also referred to as "pathways" or "concentrations", have most commonly focused on clinician educator skill building within residency programs (4). Generally, such programs are designed to augment the experiences and opportunities of residents who express an interest in cultivating a specific skillset beyond their residency program requirements. In addition to clinician educator distinction tracks, tracks in research, global health, community engagement, and others have been described (5). At Yale School of Medicine, a framework for distinction pathways had existed within the Primary Care and Traditional Internal Medicine Residency Programs since the inception of the Clinician Educator Distinction Track in 2014, followed by Global Health & Equity, Quality Improvement & Physician Leadership, and Investigation Tracks over the next four years. Each of these distinction tracks provide opportunities for mentorship, experiential learning, and scholarship specific to each track, with a well-delineated rubric for earning "credits" over the course of residency training. Residents who successfully claim sufficient credits are then rewarded with a certificate of completion at the time of graduation, which identifies the resident as having successfully completed their residency program requirements, with "distinction" in a specific area. A notable benefit of the distinction pathway model is that it ensures the sustainability of curricular undertakings, as these distinction pathways are funded by senior educational leadership within the department.

With this framework already in place, CARE developed a mission statement and core pillars for a nascent RBAM distinction pathway that would align with the existing distinction pathway structure (see **Appendix A**). The mission of the distinction was for residents to 1) develop tools for combatting racism and structural bias in healthcare and 2) to learn to apply an anti-racist framework to their future career, whether in academic medicine, community practice, general medicine, or subspecialty care. Importantly, residents who apply for this pathway have a wide variety of career interests ranging from advocacy work, health equity research, direct clinical care of underrepresented populations, and diversity, equity, and inclusion administrative leadership. The pathway's core pillars were introspection, citizenship, and a capstone project. For the pillars of introspection and citizenship, participants were required to attain a minimum of 20 credits, respectively. Credits were assigned based on participation in didactics/workshops, clinical experiences, and conferences; participants submitted reflections after each event. A minimum of 40 credits and completion of a capstone project were required for successful attainment of the RBAM distinction (**Appendix A**).

Faculty leaders worked in conjunction with resident facilitators and were essential to the distinction pathway's structure. Faculty members who joined the RBAM pathway either had a demonstrated record of DEI leadership or a vested interest in mentoring trainees and learning about anti-racism. Faculty leaders were not only vital to the distinction pathway's sustainability but also provided additional mentorship to RBAM pathway residents, ensuring that each participant was on track to meet their goals for the distinction.

What You Can Do

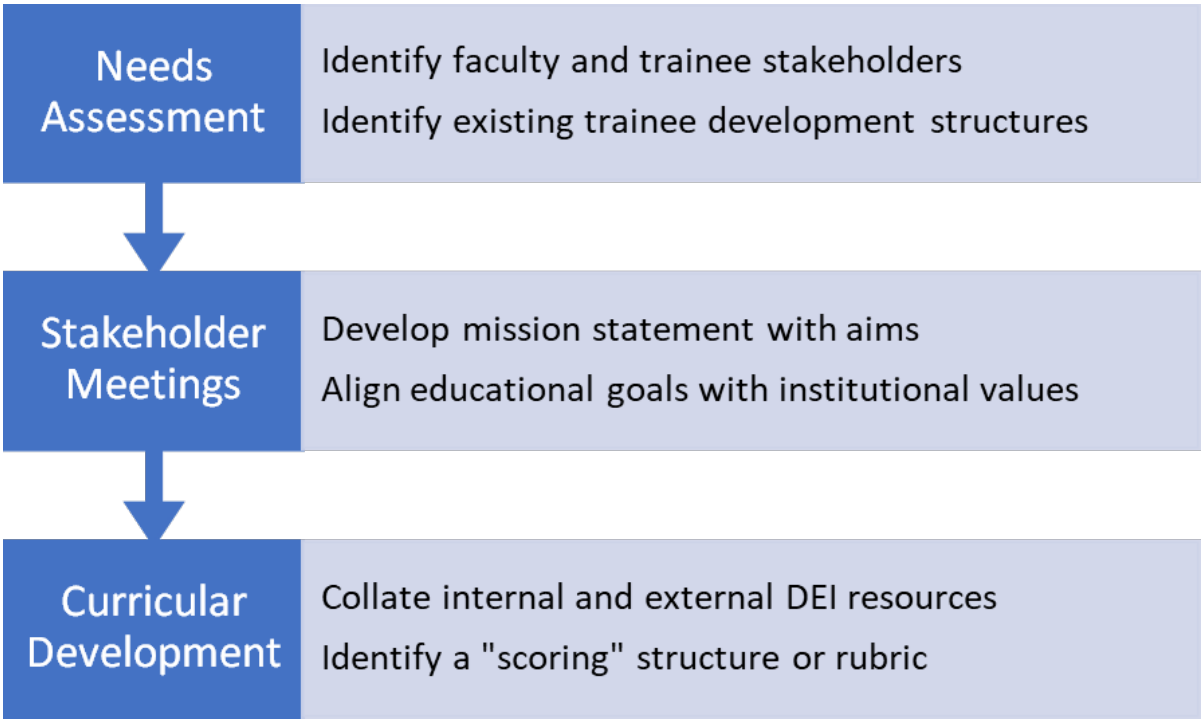

Figure 1. Initial Steps for Anti-Racism Curriculum Development

The above figure illustrates the series of steps taken to create the RBAM distinction pathway. The first step was a local needs assessment to identify a) key trainee and faculty stakeholders and b) existing structures for trainee development or engagement. It should be noted that stakeholders had an interest in anti-racism education but were not required to be experts within the fields of diversity and equity. And while the RBAM curriculum complemented Yale's preexisting distinction pathway structure, we suggest that institutions aiming to adopt anti-racism curricula survey their own sites for existing training and development frameworks.

The second step involved meetings between stakeholders to develop the curriculum's mission statement, aims and core pillars. This information was used to engage senior leadership (i.e., Chair of Medicine, Vice Chair of Education) whose support was essential to program development and informed the subsequent step of curricular development. For example, reflection and introspection were identified as core pillars of the RBAM distinction pathway. Thus, reflections from trainee participants were incorporated into the scoring structure of the curriculum. An additional aim was for trainees to develop a degree of DEI expertise so the final project was incorporated as an opportunity for individual inquiry. The capstone project in the RBAM pathway is highly individualized and can range from community-based research to quality improvement to even narrative medicine or physician advocacy.

The third step we will discuss is that of curricular development and involved the collation of internal and external DEI resources. We recognize that not all residency training programs will have access to DEI experts at their home institutions. However, we encourage programs to take advantage of local community resources and/or resources at neighboring institutions. It should be noted that there are also several external resources, many of them virtual, to complement any anti-racism programming at your institution. We include some of these resources below.

It should also be noted that the above distinction pathway was one of several initiatives spearheaded by the Department of Medicine's Office of Diversity, Equity, and Inclusion. DEI curricula targeting trainees should ideally be developed in concert with other programs at the departmental and health system level. For example, while the distinction pathway was being developed for trainees, internal medicine faculty were joining task forces to address diversity equity and inclusion in the following areas: innovation, scholarship, recruitment and retention, and early pipeline development.

Keys to Success

- Identify educational frameworks that will provide structure and sustainability for anti-racism content
- Propose a clearly defined mission and set of aims to engage senior institutional leaders
- Leverage the interests and skills of faculty allies who do not necessarily have DEI expertise
- Incorporate trainee leaders into program development and propagation
- Utilize existing DEI resources to ensure a robust curricular experience

Conclusion

The Race, Bias, and Advocacy in Medicine distinction pathway was created to address gaps in existing internal medicine curricula and to promote the development of residents who desired additional knowledge and skills germane to the realm of diversity, equity, and inclusion. We encourage all programs to similarly incorporate anti-racism teaching into their education framework and provide opportunities for interested trainees hoping to gain some level of expertise within the field.

Resources

- AAIM Diversity, Equity, and Inclusion Resources
  https://www.im.org/resources/diversity-inclusion/dei-resources
- AAIM Health Disparities Collaborative Learning Community Resources
  https://www.im.org/resources/ume-gme-program-resources/resources-disparities
- AAMC Diversity and Inclusion Toolkit Resources
  https://www.aamc.org/professional-development/affinity-groups/cfas/diversity-inclusion-toolkit/resources
- Academic Medicine December 2020 Supplement, Volume 95: "Addressing Harmful Bias and Eliminating Discrimination in Health Professions Learning Environments"
  https://journals.lww.com/academicmedicine/toc/2020/12001
- ACGME Equity Matters Initiative
  https://www.acgme.org/what-we-do/diversity-equity-and-inclusion/ACGME-Equity-Matters/

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Appendix A

Race, Bias and Advocacy in Medicine Distinction Requirements

Pillar 1: Introspection and Education

Experience	Description	Credit
Didactics, Workshops	Didactics and workshops will occur throughout the academic year in the form of morning reports, noon conferences, or evening distinction events as part of the RBAM curriculum to improve knowledge surrounding physician advocacy, health equity, social justice, and anti-racism in medicine. Evening distinction events will also be an opportunity to participate in small group discussions, reflections, and interactive workshops curated by established physicians and leaders in the New Haven community.	Morning Report: 1 credit Noon Conference: 1 credit Evening Lecture: 2 credits Total Credits Possible: 16 credits
Clinical Experiences	Participation in certain clinical experiences and electives may be counted for distinction credit if they provide insight on racism and bias in medicine or a better understanding of the New Haven community, such as participation in HIV training track, refugee clinic, Community Health Care Van, etc.	4 Credits Total Credits Possible: 16 credits

Walking Tours	The Ethnic Heritage Center (EHC) of New Haven has created walking tours that tell the "pre-1970 stories of the experiences, contributions and hardships faced in New Haven by five of the cultural and ethnic groups that have enriched our community." The goal is to embark on the walking tour together to better understand the community in which we practice medicine and how said hardships may have contributed to health and health outcomes we see in our patients.	3 credits per tour Total Credits Possible: 12 credits
Other (e.g. Book Club)	There is no dearth of introspective/ educational activities related to anti-racism, social justice, and health equity that residents can pursue, and residents could earn distinction credit for additional experiences not expressly offered by the distinction pathway. Participation in certain book club meetings (Ex: How to be an Anti-Racist) can earn distinction credit. Distinction leaders will make clear which books count towards credits.	2 credits Total Credits Possible: 10 credits
Conference Attendance	Yale RBAM Annual Event	3 credits Total Credits Possible: 3 credits

*Minimum Credits Required in Introspection: 20

Pillar 2: Citizenship

	Experience	Description	Credit
Hospital/Residency/ Medical School	Teaching opportunities	Teaching co-residents and/or medical students in the form of morning report, noon conference, or other established educational venues on a topic related to social justice, advocacy, racism/bias in medicine.	5 credits Total Credits Possible: 15 per year

	Anti-Racism Curriculum Development	The anti-racism curriculum created by this new distinction is just the beginning of our efforts in tackling race and bias in medicine. We envision expansion of the curriculum such that every internal medicine resident, even those who do not participate in the distinction, are equipped with basic knowledge and awareness of the role systemic bias and oppression plays in their practice of medicine. This could also be curriculum directed at the medical school or hospital system. There are several ongoing projects independent of the distinction that distinction members can help develop or participate in and earn credit toward the distinction. E.g.: Race and Morbidity/Mortality Grand Rounds E.g.: Advocacy/SDOH curriculum E.g.: Increasing voter registration among patients	5 credits Total Credits Possible: 15 per year
	Institutional inquiry	This credit focuses on the importance of critical inquiry on the hospital system, medical institution, and medical education as structures that require constant evaluation and improvement towards becoming anti-racist. Participants would gain distinction credit for any efforts to motivate change within the hospital system.	10 credits Total Credits possible: 10 credits
Community/National	Written scholarship	Submission of an original op-ed piece (or other form of written scholarship) on race/ racism, bias, and/or healthcare disparities. This opportunity for distinction credit highlights the importance of writing as a form as advocacy work.	10 credits Total Credits Possible: 10 credits
	Community Partnership	We are actively working to find ways our residents can be involved in volunteer efforts and community organizing/engagement. Attendance at RBAM-sponsored community partnership events would earn a participant distinction credit, and we would encourage longitudinal involvement with the organization as residents are able.	5 credits Total Credits Possible: 15 credits

*Minimum Credits Required in Citizenship: 20

Pillar 3: Capstone

Experience	Description	Credit
Capstone	A capstone project can manifest in many ways be it community-based participatory research, quality improvement, narrative medicine, clinical research, physician advocacy, and/or community engagement. Access to high quality mentorship and guidance will be crucial to facilitating successful completion of desired capstone projects.	N/a. Required for distinction graduation.

Total Credits Required: 40 + Capstone project.

Gender Affirming Healthcare Curriculum

Ilana Garcia-Grossman, MD, Anthony Dao, MD, Gifty-Maria Ntim, MD, MPH, Jennifer Schmidt, MD, Joan Addington-White, MD, Jennifer Siegel, MD

Background

Transgender and gender diverse (TGD) individuals experience significant health inequities and frequently face discrimination in healthcare settings and in broader society.[1,2] Approximately 50% of transgender respondents in a national survey reported they had to teach their healthcare provider about basic gender affirming care,[2] underscoring the need for clinicians to be trained to deliver care for this patient population. Although LGBTQIA+ education is increasingly being incorporated into medical training, few undergraduate or graduate medical education programs have a dedicated curriculum on gender affirming healthcare for TGD patients.[3,4] This content is critically important for ensuring that Internal Medicine physicians, and particularly primary care providers, can provide culturally sensitive and evidence-based gender care for TGD patients. Integrating transgender health content into residency curricula is one way to address health inequities faced by this patient population.

Gender Affirming Care

Since most TGD patients receive their care in general primary care clinics rather than specialized gender health clinics, it is important for our physicians-in-training to receive formal training on gender affirming care and have familiarity with patient and provider resources. Medical education on the health of TGD patients encompasses many topics, including terminology, health and healthcare disparities, and the impact of local and national policies on gender diverse individuals. Perhaps the most critical element though is patient-centered communication and practice-based knowledge for creating a welcoming and inclusive clinical environment for patients of all genders. Medical education also can cover aspects of gender affirming care which may include social, medical, or surgical interventions. Some TGD patients may use gender affirming hormones, so primary care physicians should be comfortable with initiating and managing hormones. Clinicians caring for this population must also understand the mental health experiences of TGD patients and be familiar with local behavioral health resources. Furthermore, clinicians must be able to assist patients with navigating gender affirming services such as hair removal, using gender affirming compression devices or prosthetics, voice therapy, fertility preservation, and gender affirming surgeries. Finally, healthcare providers should understand the physician role in name or gender marker changes for legal documents.

Our Experience

To prepare this chapter, we reviewed aspects of gender health curricula from several institutions, including Boston Medical Center, Washington University in St. Louis, University of California Los Angeles, and University of California San Francisco (UCSF). We have chosen to highlight the experience of the UCSF Internal Medicine residency program to demonstrate two approaches to teaching gender affirming care– a more focused curriculum for all resident learners, and an expanded curriculum for primary care residents. Both curricula consist of didactic lectures led by clinicians providing gender affirming care at one of UCSF's affiliated institutions or in the local community. We have provided an overview of the topics and objectives covered within both the limited and expanded curricula below.

Focused Curriculum

UCSF designed a three-hour curriculum that is delivered during ambulatory didactics to all residents over the course of their residency training. This curriculum was designed to cover a broad swath of gender health knowledge that would be applicable to Internal Medicine residents at any point in their variable careers.

Year	Topics	Objectives	Length
1st year	Terminology Disparities Chart Documentation Healthcare Maintenance	• Demonstrate familiarity with health/health care disparities. • Demonstrate comfort using LGBTQIA terminology. • Understand best practices for collecting gender identity and sexual orientation data and documenting gender health information in the medical record. • Identify ways to create an inclusive clinical environment. • Identify healthcare maintenance recommendations for transgender and gender diverse patients.	1 hour
2nd or 3rd year	Gender History Hormone Therapy	• Understand culturally sensitive ways to ask patients about their gender identity and gender history. • Describe pre-initiation screening, counseling, and lab monitoring for gender affirming hormones. • Identify clinician resources about gender affirming hormones.	1 hour
2nd or 3rd year	Compression Garments & Prosthetics Gender Affirming Surgeries	• Identify commonly used gender affirming compression garments and prosthetics. • Demonstrate familiarity with common gender affirming surgeries. • Understand the primary care provider's role in helping patients access gender affirming surgeries.	1 hour

Extended Curriculum

The goal of this curriculum is for future primary care physicians to gain the knowledge and skills to provide evidence-based gender affirming care for TGD patients. Residents in the UCSF San Francisco Primary Care (SFPC) track participate in a more extensive gender health curriculum during their third-year outpatient didactics. Over the course of the month, residents participate in 8-10 sessions on gender affirming health care. All speakers are encouraged to make the sessions interactive through discussion questions, case studies, or patient testimonies. A sample of the lecture topics and objectives are outlined below. Although there is some overlapping content with the residency-wide curriculum, this month-long didactic series allows residents to go into much greater depth on these topics and to gain confidence and practical skills applying this content to patient care.

Topics	Objective(s)	Length
Terminology Disparities	• Demonstrate competence with using LGTBQIA terminology and gender-inclusive language. • Understand best practices for collecting and documenting gender identity and sexual orientation data. • Understand existing and historical health disparities. • Identify ways to create an inclusive clinical environment.	1 hour
Communication Skills	• Strengthen communication skills for working with TGD patients. • Practice trauma-informed and patient-centered communication.	2 hours
Hormone Management	• Describe pre-initiation screening, counseling, and lab monitoring for gender affirming hormones. • Identify clinician resources about gender affirming hormones. • Develop confidence initiating and managing gender affirming hormones. • Identify harm reduction practices for working with patients who are using unprescribed hormones and/or using supratherapeutic dosing.	1-2 hours
Voice Therapy	• Understand options for gender affirming voice therapy and what a typical course of therapy entails. • Understand how to refer patients to gender affirming voice therapy.	1 hour
Adolescent Gender Care	• Identify differences in adolescent care from adult gender affirming care. • Identify resources for supporting young gender diverse patients and their families.	1 hour
Mental Health	• Recognize unique mental health experiences faced by TGD patients. • Understand the role of mental health pre-surgical assessments for gender affirming surgeries.	1 hour
Prosthetics Compression Garments	• Identify commonly used gender affirming compression garments and prosthetics. • Understand how to counsel patients on safe use of compression devices and prosthetics.	1 hour
Gender Affirming Surgeries	• Demonstrate familiarity with common gender affirming surgeries. • Understand the primary care provider's role in referring patients for gender affirming surgeries and assisting with perioperative management.	1-2 hours
Legal Document Changes	• Understand how clinicians can support patients seeking to change their name or gender marker on legal documents. • Identify community resources that assist patients with seeking legal document changes.	1 hour

Experiential Learning

It is critically important for residents to have the opportunity to practice and apply the skills and knowledge they acquire in didactics settings. Programs can utilize many different educational modalities to facilitate these learning experiences. For example, in group teaching sessions about gender affirming care, facilitators can use case discussions, clinical reasoning exercises, or role playing to help learners apply and reinforce the material. Patient experiences or panels are another powerful tool for helping learners understand best practices for providing inclusive and patient-centered care. We strongly recommend that patients should be compensated for their time in teaching residents. In simulated settings, learners can develop communication skills and consolidate their knowledge by working with standardized patients or participating in Objective Structure Clinical Exams. Involving residents in undergraduate medical education on gender health also can further hone their skills and solidify their understanding of key concepts. Finally, offering clinical experiences in clinics providing gender affirming care can be invaluable for promoting trainee knowledge and confidence in delivering gender affirming care. Ideally residents should be able to provide gender affirming care within their own continuity clinics. Supplementing didactics with any combination of these interactive educational experiences will strengthen the learning experience and promote a deeper understanding of this content.

Conclusions

Internists, and particularly primary care providers, must have the knowledge and skills to provide trans-competent gender affirming health care in order to reduce existing health disparities. Incorporating gender health content into residency training is one way to ensure the next generation of providers are prepared to care for this marginalized patient population.

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Sexual and Gender Minorities Healthcare Curriculum

Anthony Dao, MD, Jennifer Schmidt, MD, Ilana Garcia-Grossman, MD, Gifty-Maria Ntim, MD, MPH, & Jennifer Siegel, MD

Introduction

Undergraduate medical education (UME) curricula have introduced healthcare topics related to sexual and gender minorities (SGM), which includes lesbian, gay, bisexual, transgender, queer, intersex, asexual, agender (LGBTQIA+) and more. However, there are limited educational opportunities for graduate medical education (GME) residents.[1] The Association of American Medical Colleges published competencies for SGM education within UME in 2014; subsequent curricula in literature discusses competency implementation through didactics, case-based learning, patient exposure, and clinical rotations.[2] In 2018, the Association of Continuing Graduate Medical Education reviewed its Common Program Requirements with the goal of increasing diversity and inclusion within GME programs, although they do not specifically list SGM.

SGM individuals face healthcare disparities including obtaining less preventative care, have higher risk of heart disease, and having worse self-reported physical and mental health.[3,4] Multiple barriers, including decreased insurance coverage, discomfort and or discrimination in the healthcare setting, and minority stress contribute to these disparities. With these significant health disparities and inconsistent SGM curricula in GME education, there is an opportunity to address these health disparities and improve care for SGM individuals.[5]

Overview of Curricular Objectives

Physicians from Washington University School of Medicine, Massachusetts General Hospital, University of California, San Francisco, and University of California, Los Angeles reviewed the existing curricula at their respective institutions and created a consolidated list of objectives that they recommend primary care trainees should learn and achieve during their residency training.

The following topics are topics that significantly impact the SGM community; however, it should be noted that programs should be careful to not label topics unique to SGM health (e.g., PrEP or HIV). Where feasible, we would recommend integrating the content into core internal medicine topics. We have divided objectives into broad domains where SGM health is practiced and may provide a framework for implementation.

Basics

- Explain the importance of cultural competency and humility in caring for SGM patients, including harms associated with misnaming and misgendering
- Know and describe the differences among terminology specific to SGM care, including sex, gender identity, gender expression, and sexual orientation
- Demonstrate how to sensitively ask a patient about their pronouns, gender identity, and sexual orientation
- Be familiar with the 2-step method for asking patients assigned sex at birth and current gender identity
- Understand how to document patient pronouns and gender identity within the local medical record system
- Identify how to create an inclusive clinical environment as an individual practitioner and as an interdisciplinary team
- Introduce the concept of minority stress
- Be familiar with additional nuances with intersectionality among the SGM population

Community and Sociopolitical Context

- Understand the historical, political, institutional, and sociocultural factors that impact health disparities seen among SGM patients
- Be familiar with local and national laws, policies, and procedures pertaining to the SGM community, including policies that discriminate against SGM individuals
- Be familiar with "families of choice" and how one's chosen family may be a support system or healthcare proxy rather than biological family
- Understand the physician's role in advocating for SGM patients
- Emphasize advance care directives for elderly SGM patients
- Discuss tools for effective advocacy to help SGM patients
- Know the common local LGBTQIA+ organizations to refer patients for additional resources
- Understand the process and physician's role with changing one's legal names and/or gender marker on legal documents, like on a passport and driver's license

Preventative Health

- Understand that cancer screenings should be offered to SGM patients according to existing age-appropriate guidelines and based on the patient's existing anatomy
- Understand which patients are at increased risk of anal cancer and for which patients it would be reasonable to offer anal Pap smears in the absence of national guidelines
- Identify immunizations that have a specific recommendation for SGM patients, including meningococcal, Hepatitis A, Hepatitis B, and Human Papillomavirus
- Screen for intimate partner violence in a manner that is inclusive of the SGM community

Sexual Health and Infectious Diseases

- Learn to take an inclusive and gender-neutral sexual history
- Counsel patients on STI screening and safer sexual practices in a manner that is inclusive of patients of all genders and sexual orientations
- Demonstrate understanding of procedures for STI testing, STI prevention counseling, and STI treatment regimens
- Understand how to provide sensitive, trauma-informed pelvic exams and cervical cancer screening for SGM patients
- Learn the indications, prescription regimens, and monitoring parameters for pre-exposure prophylaxis (PrEP) to prevent HIV
- Learn to prescribe HIV medications in uncomplicated cases
- Screen, diagnose, and treat hepatitis C

Mental Health and Substance Use

- Understand how mental health disparities disproportionately affect SGM patients and discuss related management challenges
- Discuss resilience in SGM patients and highlight protective factors that promote resilience in this group
- Recognize mental health experiences and treatment needs of SGM patients, including gender dysphoria, anxiety, depression, suicidality, eating disorders, attention deficit hyperactive disorder, post-traumatic stress disorder, trauma, social/family stigma, discrimination, and substance use disorders
- Counsel patients on tobacco cessation and prescribe pharmacotherapy to promote cessation
- Understand how to treat patients with substance use disorders (SUD) and how to prescribe pharmacotherapy for SUDs

Family Planning

- Understand the full range of contraceptive methods
- Use patient-centered and gender-neutral language for contraceptive counseling and decision making
- Understand how to counsel patients about egg and sperm preservation before gender affirming hormone therapy or gender affirming surgeries
- Understand the impact of gender affirming therapies on fertility and how to counsel patients about the process, risks, and benefits of pursuing a biological child after they have started gender affirming hormone therapy
- Be familiar with the family planning process, including options for adoption, artificial insemination, assisted reproductive technologies, surrogacy, and any legal implications

Gender Affirming Care

See separate chapter "Gender Affirming Healthcare"

Experiential Learning

To complete these objectives, we recommend combining the use of classroom and clinical experiences.

Classroom Experience

The classroom experience will increase residents' exposure to different aspects of the SGM community. We recommend varied structures, including traditional didactics, workshops with case-based learning, and panel discussions. An example of a panel discussion would be to invite members of the SGM community or faculty and staff to share personal stories with their barriers to accessing healthcare that reinforce healthcare disparities. These experiences will provide residents the opportunity for residents to directly ask questions to the SGM community.

Clinical Experience

To further engage with the content, we recommend residents rotate through clinical experiences to build practical experience and engage with the SGM community. Clinical opportunities will vary by residency program based on offerings available. Clinical experiences could include the below, although this is not an exhaustive list.

- Primary Care (cancer screening, mental health screening, STI prevention and treatment, sexual health screening)
- Infectious Diseases Clinic (HIV, STIs)
- Gender Affirming Care
- Family Planning
- Speech Therapy
- Mental Health Services
- Multi-disciplinary Care Clinics
- Social Work

Recommended Procedures

- Cervical Cancer screening
- STI screening (vaginal, rectal, pharyngeal swabs)
- Long-acting reversible contraception placement (IUD, implant)
- Anoscopy

Conclusion

SGM individuals share many of the same health problems as the general population; however, when adding the additional health disparities and intersections with race, age, religion, social classes, and social determinants of health, many SGM individuals face significant barriers to quality health care. In racially discordant physician-patient relationships, effective communication and patient centeredness have led to improved patient satisfaction, better adherence to treatment recommendations, and improved health incomes.[6] Extrapolating this data, teaching effective communication and patient centeredness with SGM patients should lead to improved patient care and outcomes. Incorporating SGM topics into GME curricula is one way to achieve this goal.

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Health Care Systems & Leadership

Mina Ma, MD

The UCLA primary care track added a health care system and leadership curriculum to fulfill the increasing need for physicians to be "at the table" in health care systems management and leadership decisions. To create sustainability in primary care, transformation of our current model of health care to newer innovative models that can provide high value care for all our patients will require physician leaders who can serve as "change agents".

Providing trainees with a working knowledge of the health care systems they currently work in, as well as exposing them to systems outside of their own, provides a framework to help them understand who the "players" are, that they will need to influence. Small group discussions with the Chief Medical Officer, Chief Financial Officer, and Chair of Medicine and Chief Quality Officer exposes them to the language of the executives in the C-Suite that many seasoned faculty learn after years of being in practice. Field trips to competing hospital systems such as Kaiser and Caremore to hear presentations from their leadership as well as a meeting with the Director of the Department of Health Services for Los Angeles County all provide exposure to the mission and vision of various organizations all dedicated to providing the best quality care for our patients. Underlying all these organizations are financial constraints, thus providing the trainees with this aspect of medicine is unpleasant, but necessary. As an additional benefit to increasing the trainees' knowledge about the non-medical components of healthcare, they gain understanding of the various practice options they can choose from for their future careers. Each of the sit-down sessions serves the dual purpose of a "practice" group interview.

Curriculum Overview:

1. *Patient Centered Medical Home*
   This lecture provides the foundation for elements of a well-functioning patient centered medical home which gives the trainees background for understanding the different health care sites that they will see during the rotation. See attachment for questions provided to the trainees.

2. *State of the Department*
   Small group discussion with our Chairman of Medicine who provides a brief introduction to the state of the department, along with vision and goals.

3. *Health Care Leadership*
   Discussions with the Chief Medical Officer, Chief Financial Officer, Vice Dean and others are informative for the trainees. Asking the individual to focus on their career trajectories provides a more personal view of the individuals that run our health care system.

4. *Value Based Care*
   As our nation's healthcare costs continue to rise, more insurance companies are looking towards a model of payment to providers based on the outcome of the patient. Understanding Fee for Service vs. Value Based Healthcare as well as Merit-based Incentive Payment System (MIPS) and the Medicare Access and CHIP Reauthorization Act (MACRA) will be important for our trainees as they begin to understand the business of medicine.

5. *Money and Medicine Documentary*
   This film examines the escalating costs of health care in America. Trainees can watch together or by themselves prior to a group discussion regarding the information found in the film, which highlights Intermountain Health in Utah vs. UCLA (not in a good light).

6. *Understanding Physician Compensation*
   Review the RVU and MGMA data found in our health systems provider compensation and production report with trainees which informs their knowledge regarding industry wide standards as well as provides insight into incentives to attract and recruit physicians.

7. *Leadership Training*
   Since leadership has a lot to do with knowing yourself, communicating, and approaches to leadership situations, these sessions are designed to get them reflecting and sharing their thoughts with each other.
   a. Myers-Briggs Type Indicator (MBTI) personality inventory or Metarasa (MMDI) Personality Test
   b. Lecture on Organizational Behavior from a Health Policy and Management professor
   c. Share examples of current leadership conundrums (ie. you are the lead physician in a practice, and one of your physicians habitually comes in late; you are a senior female physician and one of your colleagues with lesser credentials has just been asked to lead a project that you had been defacto lead on, and/or you find out that all the males on the team spent the weekend golfing together and you were not invited) and role play your handling of these situations.

8. *Retirement Planning*
   A personal financial planning session is provided in this curriculum block to ensure that they are strategically investing in their future.

Field trips that have been included:

1. Veteran's Administration – Greater Los Angeles Healthcare System – West Los Angeles Medical Center
2. County Hospital – Olive View Medical Center or Martin Luther King, Jr. Hospital
3. Kaiser Permanente, Southern California
4. CareMore – Integrated health plan and care delivery system for Medicare and Medicaid patients
5. Community Health Centers

Quality Improvement Curriculum

Rachel Wong, MD & Patricia Ng, MD

Educational Goals and Objectives

- Understand fundamental principles and concepts in quality improvement.
- Gain familiarity with models of quality improvement, basic terminology and applications of quality improvement tools.
- Obtain skills in redesigning health systems and enhancing quality and safety of patient care through implementation of a QI project.
- Apply knowledge through identification of areas for improvement, data collection and storage, analysis, implementation of continuous quality improvement and reporting.
- Engage in interdisciplinary collaboration to improve care processes and patient outcomes and provide meaningful contributions at an institutional level.
- Understand the role of quality improvement in individual and institutional practice, and in relation to national priorities and benchmarking in quality initiatives.

Expected Outcomes

It is the expectation that by the end of PGY3 year of training in Internal Medicine, residents will be familiar with the principles, methodology and practice of quality improvement and that they will be ready for unsupervised practice in the below activities:

- Analyze own clinical performance data and actively work to improve performance
- Actively engage in quality improvement initiatives
- Demonstrate the ability to apply common principles and techniques of quality improvement to improve care for a panel of patients

Teaching Methods

- Didactic Learning
- Quality Assurance Experience (eg. Patient Huddle, Peer Review/QA Case)
- Project-Based Experiential Learning

Didactic Materials

- IHI Open School courses 101-105 (intro), 201-202 (intermediate), 301 (project-based)
  - http://app.ihi.org/lms/onlinelearning.aspx
- QI and Research: SQUIRE 2.0 Guidelines
  - http://www.squire-statement.org
- QI and EBM: JAMA Guide How to Use and Article About Quality Improvement
  - http://jamanetwork.com/journals/jama/article-abstract/186967

Project-Based Experiential Learning Materials

- PDSA (Plan-Do-Study-Act) worksheet
- SMART Aim Statement
- Root Cause Analysis: Fishbone Diagram
- Flow Chart
- Run Chart/Control Chart

Project-based QI "X + Y" Structure (EXAMPLE "4 + 1")

Example 1

- 5 QI projects for the clinic (1 project/grp)
- Protect QI time for each resident group q5weeks (1 session)
    - Same residents/same project
- Each QI group completes all tasks for each project cycle (PDSA planning, implementation, evaluation q5 weeks)
- Interrupted resident implementation of the PDSA at q5 week intervals
- Complete 2-3 PDSA cycles/year (depending on # of weeks needed for implementation)
- Requires 5 faculty project preceptors
    - Meet q5 weeks with same QI Grp

Date	QI Group	Project	Weekly QI Task
7/8/16	QI2	Smoking Cessation Project	PDSA Cycle Planning
7/15/16	QI3	Obesity Management Project	PDSA Cycle Planning
7/22/16	QI4	Diabetes Management Project	PDSA Cycle Planning
7/29/16	QI5	Vaccination Project	PDSA Cycle Planning
8/5/16	QI1	Colon Cancer Screening Project	PDSA Cycle Planning
8/12/16	QI2	Smoking Cessation Project	Implementation
8/19/16	QI3	Obesity Management Project	Implementation
8/26/16	QI4	Diabetes Management Project	Implementation
9/2/16	QI5	Vaccination Project	Implementation
9/9/16	QI1	Colon Cancer Screening Project	Implementation
9/16/16	QI2	Smoking Cessation Project	Evaluation
9/23/16	QI3	Obesity Management Project	Evaluation
9/30/16	QI4	Diabetes Management Project	Evaluation
10/7/16	QI5	Vaccination Project	Evaluation
10/14/16	QI1	Colon Cancer Screening Project	Evaluation

Example 2

- 2 QI projects for the clinic (longitudinal grp)
- Randomize residents to Project 1 or 2
- Protect weekly QI time for residents from each project (1/2 session)
    - Different residents/same project
- "Shift" leadership for PDSA cycles
    - Grp 2 leads PDSA cycle 7/8-8/12
    - Grp 3 leads PDSA cycle 8/19-9/23
- Facilitates continuous resident implementation of PDSA cycles over the "4+1" 5-week block
- Complete 10 PDSA cycles/year
- Peer evaluation of PDSA Cycle Planners
- Requires 2 faculty project preceptors
    - Meet weekly with different QI Grp

Date	QI Group	Project 1 (9-10:30)	Project 2 (10:30-12)
7/8/16	QI2	PDSA Cycle Planning	PDSA Cycle Planning
7/15/16	QI3	Implementation	Implementation
7/22/16	QI4	Implementation	Implementation
7/29/16	QI5	Implementation	Implementation
8/5/16	QI1	Implementation	Implementation
8/12/16	QI2	Evaluation	Evaluation
8/19/16	QI3	PDSA Cycle Planning	PDSA Cycle Planning
8/26/16	QI4	Implementation	Implementation
9/2/16	QI5	Implementation	Implementation
9/9/16	QI1	Implementation	Implementation
9/16/16	QI2	Implementation	Implementation
9/23/16	QI3	Evaluation	Implementation

- Faculty: +/- QI or Patient Safety Associate Program Director, Clinical Preceptors
- Staff: Care Coordinators, secretarial staff, RNs, LPNs, CAs

Program Checklist

- Identify QI high priorities areas for your organization (eg. clinic reporting metrics) to align resident QI projects with institutional goals
- Map out the process and requirements for obtaining permission to carry out QI at your institution, such as IRB or CMO approval
- Identify interested faculty preceptors, faculty members with QI expertise, and bio-statistical resources at your institution for project support
- Create a QI schedule with protected time for residents to plan, implement and evaluate their QI projects
- Identify institutional, regional or national opportunities for residents to present their QI work
- Discuss with QI or clinic administrators if there are opportunities for resident involvement in QI processes such as patient huddles, review of QA cases, etc.

Assessment

- IHI Open School Modules on Quality Improvement certificate
- Residents are evaluated using Direct Observation Tools during their QI project sessions (example below)
- QI preceptors provide biennial feedback to Clinical Competency Committee

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PDSA Worksheet Template

Problem Statement:

SMART Aim Statement: (Specific, Measurable, Achievable, Realistic, Time-Oriented)

Objectives

Describe the objectives of your PDSA	Measure to determine success

Plan

List the tasks needed to set up this test of change	Person responsible	When to be done	Where to be done

Do

Describe what happened when you ran the test

Study

Describe the measured results and how they compared to the predictions

Act

Describe what modifications to the plan will be made for the next cycle from what you learned (Adapt/Adopt/Abandon)

PDSA Feedback Worksheet

FEEDBACK FOR QI PDSA CYCLE PLANNERS

Objectives:

Intervention:

Time Period:

Group Leaders:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The intervention was effective to meet the stated goal					
This intervention was feasible in this setting					
The intervention adds value to patient care					
This intervention is sustainable in this setting					
This intervention should be adopted into practice					

Comments/Suggestions:

Review of Aim Statement Worksheet

Coalition Name: _____

Aim Statement being reviewed:

Review the Aim Statement for the components of a SMART AIM = Specific, Measurable, Achievable, Realistic and Timely

1. **SPECIFIC** – Is the statement precise about what the team hopes to achieve?

2. **MEASURABLE** – Are the objectives measurable? Will you know whether the changes resulted in improvement?

3. **ACHIEVABLE** – Is this doable in the time you have? Are you attempting too much? Could you do more?

4. **REALISTIC** – Do you have the resources needed (people, time, support?)

5. **TIMELY** – Do you identify the timeline for the project – when will you accomplish each part?

Opioid Education Strategy

Stephen Knaus, MD

St. Vincent Internal Medicine Residency in Indianapolis holds a 3-day Clinic Boot Camp during new intern orientation during the last week of June. One half day of that Clinic Boot Camp is devoted to a workshop on prescribing of controlled substances with a focus on opioids. The workshop includes:

- 30-40 minute didactic from Clinic Director/APD on evidence-based use of opioids in chronic non-cancer pain (review of the literature)
- Review of Clinic Controlled Substances Policy
- Review of State Laws surrounding opioid prescribing
- Proper EMR documentation of chronic pain visits
    - Learn to use a macro in EMR to prompt proper documentation
- Review of the Clinic's Controlled Substances Treatment Agreement/Contract
- Review of the DEA Drug Schedules (Schedules I-V) and implications for prescribing
- How to order and interpret Urine Drug Testing
- Review of recommended tools for risk assessment including COMM, PHQ-2/9, SOAPP-R, Opioid Risk Tool
    - Practice finding the tools in the EMR
- Set up access to INSPECT pharmacy database

We do not authorize our new interns to prescribe controlled substances in the continuity clinic during the first 6 months of intern year (the faculty staffing the case with resident prescribes). Interns are provided a set of articles to read and then required to complete a 20-question quiz on an electronic platform (Quizzegg) prior to being authorized to prescribe.

Establishing a Meaningful Opioid Use Disorder Curriculum within your Residency Program

Rani Nandiwada, MD, MS, Anthony Accurso, MD,
Ryan Graddy, MD, Stephen Holt, MD, Marc Shalaby, MD

Background

Opioid use disorder (OUD) and other substance use disorders are major contributors to adult morbidity and mortality in the U.S. The expansion of access to life-saving treatment for OUD, particularly buprenorphine, is a crucial part of reducing the health burden of this disease. The use of buprenorphine for office-based treatment for OUD in primary care settings has been approved in the U.S. since the early 2000s following an 8-hour physician training to obtain a buprenorphine waiver and has been shown to be highly effective with or without adjunctive behavioral interventions. Preparing the next generation of physicians to treat patients with OUD is an important responsibility for medical educators. Providing residents with clinical experiences and curricula in addiction medicine gives them an opportunity to work with patients with OUD and other substance use disorders (SUDs) in a meaningful way in the outpatient setting, learning and directly applying skills. This also affords residents a chance to see patients with SUDs in varying stages of disease including recovery, hopefully avoiding the cynicism that can accompany clinical encounters with patients admitted to the hospital with sequelae of uncontrolled or untreated SUDs. An extensive literature review of models for resident training in OUD shows that many programs integrate a combination of didactics, role play, standardized patients, OSCEs, and interactive workshops, but only infrequently include direct patient contact. Creating venues in which trainees can gain clinical experience prescribing buprenorphine and working with patients with OUD will allow them to hone the skills necessary to treat this disease. As more medical schools and residencies offer waiver training for learners to prescribe buprenorphine and naloxone training, creating venues for learners to continue to develop these skills with direct patient care becomes vital.

Introduction

This document is meant to serve as a reference for those interested in building an OUD curriculum within their residency (or medical student) program. Establishing a robust educational curriculum around OUD depends on a number of factors including programmatic and institutional priorities, local resources and expertise, availability of trained faculty, and clinical environments where learners can participate in "experiential learning." While some programs are lucky enough to have all of the necessary "pieces" to build a fully functioning, high-level program, most may/must choose to build smaller educational programs that have the opportunity to grow later as priorities and resources allow.

It is important to note that not all of the curricular components discussed in this document are necessary to have a meaningful OUD curriculum. It is our intention that educators will take bits and pieces of the document to tailor their curricula to meet the needs of their individual programs. We start off with the most critical components to any curriculum (Learning Objectives and Conference Curriculum) and then provide guidance on building variable levels of experiential learning.

Learning Objectives

1. Identify patients who have OUD and learn local resources for addiction treatment
2. Gain familiarity with the use of buprenorphine for OUD
3. Understand and use de-stigmatizing language when discussing SUD-related topics
4. Understand common medications used to treat patients with SUDs
5. Effectively use behavioral strategies to work with patients with SUDs, such as motivational interviewing techniques
6. To gain the necessary skills and experience to be comfortable and competent when treating patients with OUD with buprenorphine in a primary care setting

Conference Curriculum

Depending on the availability of resources at your institution, exposure to content provided by faculty and local experts can go a long way towards covering core topics in addiction medicine. A robust conference curriculum provides a means to meet the educational needs of a large number of learners and can be a shared resource among the many residencies and fellowships within your institution. Given its wide importance in undergraduate and graduate medical education, building of this conference series may align well with the educational priorities of most academic medical centers (both community- and university-based). This alignment may help garner resources (or may at least provide an opportunity to share the expense) for the construction of the conference curriculum.

Core Topics:

- Screening, Brief Intervention and Referral to Treatment (SBIRT)
- DSM diagnosis of substance use disorders, intoxication, withdrawal, and tolerance
- Medications for Addiction Treatment (MAT) – methadone, buprenorphine-naloxone and extended-release naltrexone
- Patient-centered communication skills and person-first language
- Analysis and interpretation of urine toxicology data
- Harm reduction strategies, including naloxone teaching
- Interviews with patients with substance use disorder

In addition, many programs offer (or require) their trainees to complete the buprenorphine waiver training necessary to prescribe this medication after graduation and licensure. This previously had been a big hurdle because in-person, 8-hour sessions were time-consuming for faculty and learners. In addition, such sessions, even with national grant funding, were a limited resource with limited numbers of educators to lead the sessions. In response to this, regulations have softened to allow for free on-line training (https://learning.pcssnow.org/p/onlinematwaiver). This online content can augment, complement, or replace in-person training sessions.

Experiential Learning - Starting an Addiction Medicine Clinical Experience

The idea of creating a new clinical experience can be intimidating especially when incorporating new modalities of care such as MAT. However, even identifying just one or two local champions or prescribers of buprenorphine can significantly increase training opportunities for your residents. Below are three different models of exposure depending on local resources and leadership. Generally speaking, as treating OUD is direct patient care, there is minimal additional costs incurred for faculty time to directly care for these patients or to precept residents. From an administrative standpoint, however, it is helpful (but not completely necessary) to have some salary support for faculty to develop and maintain the operation of this clinical experience, at least in the beginning.

Model 1. Shadowing Experiences

Shadowing experiences require very little resources and are an excellent way to expose residents to the clinical nuances of caring for patients with substance use disorders. All that is required are faculty interested in hosting learners, signed program letters of agreement, and administrative support to schedule learners in the various clinical venues.

These faculty could be institutional employees or local prescribers in the community. There may be potential faculty in community health programs or affiliated addiction treatment programs. In addition, there may be mental health and/or other addiction professionals willing to host learners. It is important to note that these prescribers/providers need not be formally trained in addiction medicine, or even trained in internal medicine. Many community prescribers are trained in family medicine and psychiatry. There are also many nurse practitioner prescribers as well. And because all of these prescribers/potential faculty are providing a unique clinical experience for residents, there are no conflicts with residency regulations stemming from a lack of board certification in internal medicine.

Model 2. Incorporating Patients with OUD into Resident Panels

As the care of patients with OUD moves from formal addiction providers into the primary care realm, it would follow that many primary care physicians will be charged with caring for a number of patients with OUD. As such, we need to train the next generation of physicians to be comfortable caring for these patients. And as this drift towards primary care continues, it would make sense that in time, resident primary care clinics will too be charged with integrating these patients into their resident panels. In fact, some might say this integration is necessary to provide residents with consistent exposure to OUD. This integration is possible, but only if enough of the precepting faculty is waiver-trained to ensure that when these patients are seen by residents, they can receive MAT. While a resident clinic could preferentially schedule patients with OUD during certain sessions that would have waiver-trained faculty available, this could become burdensome when there are only a few waiver-trained faculty. It is far easier with a full host of waiver-trained faculty in the clinic. Waiver-training for all clinic faculty could serve as a relatively inexpensive, convenient, and incredibly effective means to fulfill residency requirements for faculty development within your department. As per the DEA once you have completed waiver training you are qualified to prescribe buprenorphine. In our opinion having a resident follow even 1 to 2 patients longitudinal or even 2 half days of a dedicated buprenorphine clinic would give them enough exposure to feel confident in prescribing this medication. Buprenorphine-naloxone is actually much safer than many other medications we prescribe on a regular basis the more complex side is developing a patient relationship focused on harm reduction and understanding when a higher

level of care is needed. The aiver training and home induction process is sufficient to be competent in induction protocols. We recommend for any new provider to have a network of peers or mentors who are more experienced which can be found through resources such as https://pcssnow.org/mentoring/, the UCSF warmline http://nccc.ucsf.edu/wp-content/uploads/2016/12/CCC-Substance-Use-Warmline-Flier-EST-7.25.16.pdf and through developing your own peer network locally.

Model 3. Creating an Addiction or Buprenorphine Clinic

This is the most resource intensive model, but also has the most robust outcomes in achieving trainee competence with prescribing buprenorphine. Having at least a half-day clinic ensures a high exposure rate to patients who are on buprenorphine and so the deliberate practice is more intensive than individual patients being scheduled. The downside to this model is there may be less patient continuity for the resident to see a patient over an extended period of time1 includes a description of 4 academic programs and the breakdown of clinical exposure to patients with OUD. In addition, providing opportunities for increased exposure for interested residents at a second clinical site, or nominating a resident or chief resident champion, can further engage trainees to prescribe after graduation and increase competency (see Holt et al, 2017).

10 Steps to starting your own Buprenorphine Clinic

1. *Build Your Human Network*
   Perform a local needs assessment to identify collaborators in program leadership, staff, and among practice leadership. Additionally, identify colleagues who are already treating OUD or are interested in taking on this clinical and teaching responsibility. Stakeholder identification and understanding local lab capabilities, access to mental health, referrals to higher levels of care, and existing institutional resources are key. Referral sources can be broad and range from the emergency room to inpatient admission to internal referrals within a practice. Engaging social work teams and emergency room/inpatient providers can help transition these patients safely to the outpatient setting, especially if they have already been inducted.
2. *Become a Faculty Champion*
   As a faculty champion, it is important to be comfortable in your own clinical practice first. If you have not prescribed buprenorphine before, we recommend starting with a small, very carefully select group of patients that you can incorporate into your own schedule. If there are other providers prescribing locally, then spending some time shadowing to understand their workflows can be very helpful. Similarly, spending a day shadowing at another residency practice that already prescribes buprenorphine can be equally fruitful. Identifying a liaison in your hospital lab who can help with interpretation of complex urines is also a helpful resource when possible (see Donroe et al, 2018). For many of us, understanding how to use a new medication is the first hurdle, however once given, it becomes clear that this is as simple as prescribing any other medication.
3. *Choose When to Do It: Adjusting your schedule*
   With buprenorphine there is a need for flexibility in appointment times because of urgent patient needs and changes in frequency of monitoring due to relapse. Having the ability to move someone who is stable and getting seen every 4 weeks to weekly when they need more support needs to be built into

the scheduling system. When starting prescribing as a faculty champion, just blocking a few patient slots a week allows the necessary flexibility to start taking on a few patients of your own first. With the resident clinic half day model, there are generally more available slots to be able to move patients as needed. This could also be done through having a slot reserved in these particular resident schedules throughout the week. With the half day model, it is important to think about preceptor continuity and we recommend having the same preceptors on for at least 4 to 6 weeks to help with patient continuity.

4. *What Services Will You Provide?*
   Within the realm of OUD treatment, buprenorphine and injectable naltrexone (Vivitrol) are the only two FDA-approved treatments for primary care-based management. Office-based injection of naltrexone requires coordination with your pharmacy support team, and prior authorization issues will need to be addressed prior to the visit. Additionally, patients with OUD may have other coinciding substance use disorders including cocaine, benzodiazepine, alcohol, and tobacco. Deciding which of these other diagnoses will need to be prioritized in a practice treating OUD is important. Notably, the absence of on-site specialty treatment for other SUDs is not a contraindication to office-based OUD treatment (Martin 2018 Annals paper). There are also high rates of underlying mental health diagnoses in patients with OUD. We have found it necessary to address many of the underlying mental health issues such as anxiety and depression either internally, or when complex, to refer elsewhere as an important part of the comprehensive care for their OUD. Many insurances require that you have the ability to refer out or are actively treating their mental health issues as part of a comprehensive care plan for their OUD. As treating anxiety, depression, and smoking cessation are already core primary care practices this is an additional area for deliberate practice for trainees.
5. *Define Your Office Workflow*
   Collaborating with your office staff to get everyone on-boarded to the process of a buprenorphine visit is the next step. Speaking with your internal staff to streamline the prior-authorization process for buprenorphine is helpful, and many insurances are doing away with the prior authorization making this even easier. The treatment team will also need to make a decision regarding home induction versus office induction as their default approach. All of the authors here support home induction, in keeping with a growing body of evidence that supports this approach.
6. *Create Best Practices, Templates & Smartsets*
   Standardized order sets and templates help to ensure high quality patient care in any model of OUD treatment (Appendix A). If you would like more examples, please e-mail deepa.nandiwada@pennmedicine.upenn.edu and we can provide you a best practice guide of templates that have built-in documentation standards and example order sets for the electronic health record.
7. *Create Continuity of Care*
   As this is a complex and continually evolving patient population, having a way to ensure safe hand-offs and continuity of care is imperative. Lists to track patients and their follow-up appointments, a no-show protocol, and sign-outs are all effective tools to ensure patients are getting high quality care.
8. *Build a Supplemental Curriculum*
   An OUD curriculum can vary from the free online waiver training alone to a more comprehensive addiction medicine curriculum that covers the full spectrum of addiction disorders and their treatments, with a range of didactics, workshops, and clinical opportunities (see Graddy, et al, 2019). Suggestions for core topics are listed above.

9. *Troubleshoot Challenges*
   Once you have started your clinic, your patient panel will grow in size. Attending schedules need to be blocked far enough in advance to precept or coordination of appointments with a waivered preceptor needs to be assessed prior to scheduling. Other questions to consider are when to defer accepting new patients. Many programs are working to streamline the transition of these patients from the ED or inpatient to outpatient settings as well. Peer mentors can be very helpful in discussing new questions that arise once you have started prescribing.
10. *Evaluate your Clinic*
    This is a key aspect to ensure that residents are having a high-quality experience and taking home the skills they need to incorporate buprenorphine into their clinical practice as they graduate.

The longitudinal care of treatment-seeking patients with OUD in the outpatient setting is enormously rewarding. Having residents work with this population during training is an effective way to decrease barriers to prescribing, as it quickly becomes clear that MAT is similar to treating other chronic disease states such as diabetes or heart failure. We have noted that even a few days of high intensity exposure goes a long way to overcome many of the barriers to prescribing MAT and clarifies that this similar to treating other chronic disease states such as diabetes or heart failure.

	NYU Internal Medicine Residency Program in Brooklyn	University of Pennsylvania Primary Care Program: START Clinic	Yale Primary Care Internal Medicine Program: ARC Clinic	Johns Hopkins Bayview Medical Center - Comprehensive Care Practice	
Type of Clinic	Subspecialty clinic	Half Day Clinic	Half Day clinic	SUD and HIV Rotation	2-year Continuity Clinic
Clinical Experience	4 half days over two weeks	2 to 3 half days over a month	1 half day per week for 1 month	14 half day sessions over 2 weeks	3 half days per week for 4 months
Training Year	PGY 2 or 3	PGY 2 and 3	All PGY years	PGY 2 or 3	PGY 2 and 3
# of Scheduled Hours During Residency	12	20	48	42	288

Table 1: Comparison of clinic models among 4 academic residency programs

Resources:

- Boston Medical Center: Words Matter Pledge https://www.bmc.org/sites/default/files/Patient_Care/Specialty_Care/Addiction-Medicine/LANDING/files/Words-Matter-Pledge.pdf
- Person First Language: https://www.whitehouse.gov/sites/whitehouse.gov/files/images/Memo%20-%20Changing%20Federal%20Terminology%20Regrading%20Substance%20Use%20and%20Substance%20Use%20Disorders.pdf
- Waiver Training Sites: https://elearning.asam.org/buprenorphine-waiver-course
- Free online waiver training: https://learning.pcssnow.org/p/onlinematwaiver
- Buprenorphine-Naloxone prescribing resources: https://www.samhsa.gov/medication-assisted-treatment/training-materials-resources/buprenorphine-physician-training and https://pcssnow.org/medication-assisted-treatment/
- UCSF Warmline – Direct line for prescribing questions 10-6 M-F http://nccc.ucsf.edu/wp-content/uploads/2016/12/CCC-Substance-Use-Warmline-Flier-EST-7.25.16.pdf
- Free SBIRT Training: https://www.integration.samhsa.gov/clinical-practice/sbirt/training-other-resources
- For more details or a phone consult on starting your own addiction clinic or for additional templates and slides please email Deepa.nandiwada@uphs.upenn.edu

Teaching Articles:

- Zoorob R, Kowalchuk A, Mejia de grubb M. Buprenorphine Therapy for Opioid Use Disorder. Am Fam Physician. 2018;97(5):313-320.
- Martin SA, Chiodo LM, Bosse JD, Wilson A. The next state of buprenorphine care for opioid use disorder. Ann Int Med 2018;169(9):628-36.
- Holt S, Segar N, Cavallo D, Tetrault J. The Addiction Recovery Clinic: A novel, primary care-based approach to teaching Addiction Medicine. *Academic Medicine,* 2017; 92:680-683.
- Graddy R, Accurso AJ, Nandiwada DR, Shalaby M, Holt SR. Systematic review of opioid addiction curricula during residency training. *Current Addiction Reports*; https://doi.org/10.1007/s40429-019-00271-1.
- Donroe JH, Holt SR, O'Connor PG, Sukumar N, Tetrault JM. Interpreting quantitative urine buprenorphine and norbuprenorphine levels in office-based clinical practice. *Drug and Alcohol Dependence,* 2017. 180:46-51.

Appendix A

Note Template: Intake Visit
@NAME@ presents for buprenorphine/naloxone intake visit.

Review of substance use history (first use, substances used, any illicit purchases): ***

Last substance used: ***

If last substance used was non-opiate, last opiate used (type, dose, route, withdrawal symptoms): ***

Mental health history: ***

Current counseling/behavior health provider: ***

Pt has Opiate Use Disorder by the following DSM-5 criteria: *Keep those that apply*

- Opioids taken in larger amounts or over a longer period than intended
- Persistent desire to cut down
- A great deal of time is spent to obtain/use/recover from the opioid
- Cravings to use opioids
- Use resulting in a failure to fulfill major role obligations
- Continued opioid use despite persistent social or interpersonal problems
- Important activities are given up or reduced because of opioid use
- Recurrent opioid use in situations in which it is physically hazardous.
- Use despite knowledge health problems caused by opiates
- Tolerance
- Withdrawal

@HISTORY@

@MED@

Physical Exam

@VSRANGES@

Clinical Opiate Withdrawal Scale: Highlight Applicable COWS scoring (you can choose to make this a drop down if the patient is coming for an in-office induction in the note template)

- Resting HR:
    - 0 for < 80
    - 1 for 81-100
    - 2 for 101-210
    - 4 for HR > 120

- Sweating:
    - 0 for no chills/flushing
    - 1 for subjective chills/flushing
    - 3 for beads of sweat on brow/face
    - 4 for sweat streaming off face
- Restlessness:
    - 0 able to sit still
    - 1 subjective difficulty sitting still
    - 3 for frequent shifting or extraneous movement
    - 5 for unable to sit still for more than a few second
- Pupil size:
    - 0 pinpoint or normal
    - 1 for possibly larger than normal
    - 2 for moderately dilated
    - 5 for only iris rim visible
- Bone/joint pain:
    - 0 not present
    - 1 mild diffuse discomfort
    - 2 severe diffuse aching
    - 4 objectively rubbing joints/muscles and obviously in pain
- Runny nose/tearing:
    - 0 not present
    - 1 stuffy nose/moist eyes
    - 2 nose running/tearing
    - 4 nose constantly running or tears streaming down cheeks
- GI upset:
    - 0 no GI symptoms
    - 1 stomach cramps
    - 2 nausea or loose stool
    - 3 vomiting of diarrhea
    - 5 multiple episodes of vomiting or diarrhea
- Tremor observation of outstretched hands
    - 0 no tremor
    - 1 tremor can be felt but not observed
    - 2 slight tremor observable
    - 4 gross tremor or muscle twitching
- Yawning
    - 0 no yawning
    - 1 yawning once or twice during assessment
    - 2 yawning three or more times during assessment
    - 4 yawning several times per minute

- Anxiety or irritability
    - 0 none
    - 1 patient reports increasing irritability or anxiousness
    - 2 patient obviously irritable/anxious
    - 4 patient so irritable/anxious that assessment is difficult
- Gooseflesh
    - 0 skin is smooth
    - 3 piloerection of skin can be felt or seen
    - 5 prominent piloerection

TOTAL: ___

***(If inducing in office, recommend delaying buprenorphine until COWS scale > 12 to avoid precipitated withdrawal)

Assessment and plan:

Based on a review of the patient's medical history including substance use and mental health factors, and physical exam, @NAME@ is a suitable candidate for MAT with buprenorphine/naloxone. UDS and confirmation ordered

I have discussed HIV and Hep C screening with this patient. I have reviewed and prescribed naloxone use with this patient in case of an emergency.

I have counseled the patient on the usual format for MAT in our clinic, provided them with an MAT welcome letter, and they have agreed to our agreement as signed in the chart.

Induction in clinic:

Buprenorphine/naloxone 4 mg once, followed by 1-2 hours of observation in clinic. I have instructed the patient how to appropriately take this medication, including placing under tongue with head relaxed for 10 min and allowing to dissolve without chewing or swallowing tab, and nothing to eat or drink for 15 subsequent minutes.

Reassessment 1 hour post-initial dose: pt still having withdrawal symptoms, gave additional 4 mg.

Reassessment 3 hours post-initial dose: pt still having withdrawal symptoms, gave additional 4 mg. Total daily dose after induction is ***

Plan to prescribe ***

Home Induction:
I have instructed the patient how to appropriately take this medication, including placing under tongue with head relaxed for 10 min and allowing to dissolve without chewing or swallowing tab, and nothing to eat or drink for 15 subsequent minutes. They have been told not to start taking the medication until they are having significant signs of withdrawal and I have explained the concept of precipitated withdrawal to the patient.
Please print the instructions listed within the smart set to be printed with the after-visit summary

Intervisit Care
The care coordinator will call patient the following morning to assess symptom burden, and determine need for additional dose titration and contact me with any questions. We discussed this medication must be kept in a safe place and away from children.

Plan to see the patient back in 1 week in clinic, with option for sooner appointment based on patient and provider preference.

Patient was encouraged to call the office and speak with care coordinator about any urgent concerns.

Note Template: Maintenance Appointment
@NAME@ presents for buprenorphine/naloxone follow up visit. I have reviewed the prior induction visit, follow up visits, and telephone encounters relevant to opiate use disorder (OUD) treatment.

Current daily dose: ***

Induction Start Date: ***

Current follow up interval, in weeks: ***

The patient has been adherent to the buprenorphine for OUD contract: Y/N
Challenges during their treatment plan and triggers for relapse:

UDS History

HPI:
Patient adherent to suboxone yes/no
Ongoing opiate use yes/no
Other drug use yes/no
Engaged in behavioral health yes/no

Exam:
@VSRANGES@

***

Assessment/Plan:

Medication management –
patient is (***/is not) doing well on current daily dose, which is continued today at ***. UUDS ordered and PA PDMP has been checked and the patient is a candidate for MAT.

Follow up interval: every *** weeks

This patient has ***/has not required *** recommitment contract(s) while using buprenorphine in this practice.

Chronic Pain Management Curriculum

Patricia Ng, MD & Rachel Wong, MD

Educational Goals and Objectives

Through this curriculum, residents will be able to:

1. Define chronic pain
2. Describe the physical and psychological factors that may contribute to chronic pain
3. Perform a comprehensive pain assessment (Ex. PEG score)
4. Describe pharmacological and non-pharmacological therapies available for chronic pain
5. Identify when opioid analgesics are indicated
6. Screen and risk stratify patients for opioid misuse (Ex. Opioid Risk Tool)
7. Describe the risks and benefits of opiate use
8. Screen and identify opiate dependence, tolerance, and misuse
9. Understand the elements of a chronic pain policy and initiate a pain patient agreement
10. Monitor and titrate chronic opiate therapy, including calculating opioid dosages to convert medications
11. Demonstrate how to use the state's prescription drug monitoring program (PDMP)
12. Educate patients on opiate overdose prevention and treatment (ex. Prescribing naloxone kit)
13. Interpret urine toxicology tests and manage an abnormal urine screen
14. Identify local referral networks for chronic pain management, which may include Pain Management specialists, Addiction Medicine specialists, Orthopedics, Physical Therapy, Mental Health Providers, etc.
15. Identify local resources for treating opiate misuse, including Narcotics Anonymous, mental health centers, addiction medicine specialists, substance abuse detox/rehab programs, etc.

Teaching Methods

- Didactic learning
- Self-learning online modules
- Specialty clinic rotation
    - Pain Management
    - Addiction Medicine / suboxone or methadone clinics
    - Substance abuse detox/rehab
    - Physical Therapy
    - Orthopedics
    - Chiropractors
    - Acupuncture
    - Osteopathic Manipulative Treatment Clinic
- Community based organization learning
    - Narcotics anonymous meeting
    - Chronic pain support groups

Didactic Resources

- CDC Guidelines for Prescribing Opioids for Chronic Pain https://www.cdc.gov/drugoverdose/prescribing/guideline.html
- CDC checklist for prescribing opiates https://www.cdc.gov/drugoverdose/pdf/pdo_checklist-a.pdf
- Substance Abuse and Mental Health Services Administration (SAMHSA) https://www.samhsa.gov/
- SCOPE of Pain: Safe and Competent Opioid Prescribing Education https://www.scopeofpain.com/
- *Free online modules created by Boston University to educate providers on safe opiate prescribing. Website includes a trainer's toolkit and videos on performing pain assessments and counseling patients on aberrant behavior.*
- CAPC: Center to Advance Palliative Care https://www.capc.org/ Free online case-based modules to improve palliative care and pain management skills for providers. There are several clinical skills sections, including 14 modules on pain management.
- Boston University's Immersion Training in Addiction Medicine http://www.bumc.bu.edu/care/education-and-training-programs/crit/ This is a 4 day immersion training for incoming chief residents, their faculty mentors, and junior faculty on state-of-the-art methods to diagnose, manage, and teach about addiction medicine.
- Opiate Risk Tool (ORT) https://www.drugabuse.gov/sites/default/files/files/OpioidRiskTool.pdf
- American Chronic Pain Association https://theacpa.org/
- Prescribe to Prevent: Prescribe Naloxone, Save a Life http://prescribetoprevent.org/
- Narcotics Anonymous https://www.na.org/

Program Checklist

- Learn your state laws and requirements for opiate prescribing and prescription drug monitoring
- Identify pain management referral resources available in your area (Ex. Pain management, addiction medicine, suboxone/methadone prescribers, palliative care providers, substance abuse rehab/detox centers, acupuncture, physical therapy, etc.)
- Create a chronic opiate use policy for your office
- Create a chronic opiate use patient agreement
- Create a chronic opiate use clinic note template
- Develop a clinic workflow for managing patients with chronic opiate use
    - How often do patients need to follow up?
    - Who manages refills?
    - How often should there be urine tox screen?

Sample Curriculum

Stony Brook Internal Medicine Residency Program: 4 + 1 Schedule

- Didactics
  - Clinic orientation
  - Pre-clinic conferences
  - CAPC modules on pain management
  - SCOPE of Pain online modules
  - Workshops on safe opiate prescribing, screening and treatments for substance abuse led by pain management and addiction medicine specialists
- Rotations
  - 1 week at Stony Brook Pain Management Center (includes participating in injection clinic an following a pain psychiatrist)
  - 2 weeks at a local mental health clinic and VA Psychiatry
  - 1 week with a community primary care physician who is a suboxone prescriber and also manages a local hospital substance abuse detox unit
  - 2 weeks of musculoskeletal block where residents rotate with orthopedics, physical therapy and occupational therapy
  - 1-week palliative care elective
- Continuity Clinic
  - Patients who are prescribed chronic controlled substances are on a 5-week follow-up (if high risk for substance abuse) or a 15-week follow-up schedule
  - Residents use a Pain Ambulatory Assessment (PAA) Clinic Template for each visit
  - Medication refills received between follow-up visits are reviewed by a designated clinic nurse and forwarded to an assigned clinic attending for review

Sample templates below:

- Chronic Non-Cancer Pain Treated with Opiates Policy
- Controlled Substance Patient Letter
- Controlled Substance Treatment Agreement
- Pain Ambulatory Assessment (PAA) Clinic Visit Template
- Clinic Workflow for patients on chronic opiates

Sample Policy: CHRONIC NON-CANCER PAIN TREATED WITH OPIATES

Providers will adhere to New York State regulations and current Standards of Medical Care with respect to chronic pain evaluation and management. Providers will prescribe opioid medication, when necessary, for patients with chronic pain in a safe and effective manner.

Area: Outpatient practices of the Division of Geriatrics, General Internal Medicine and Hospital Medicine, Department of Medicine at SUNY Stony Brook

Guideline: CDC Guideline for Prescribing Opioids for Chronic Pain – US, 2016

Purposes:

- Provide a framework for management of chronic pain in the primary care setting for adult patients (ages 18+).
- Provide guidelines regarding prescription and monitoring of controlled substances for long-term therapy.

Note: This policy does NOT apply to patients with chronic pain who are receiving active cancer treatment, palliative care or end-of-life care nor does it apply to patients with severe mental or physical incapacity whereby the person is unable to express himself/herself in a manner understood by others.

Chronic Pain Definition: Pain lasting >3 months or past the time of normal tissue healing.

Procedures

Overview: The practice will follow the *CDC Guidelines for Prescribing Opioids for Chronic Pain – United States, 2016* (see attached CDC Recommendations and Checklist for prescribing opioids for chronic Pain.) The practice will train patient care teams consisting of patient care coordinators, clinical nursing assistants, nurses, nurse practitioners and doctors to support high-risk patients in safe self-management. The practice will strive to use non-opioid medication and other therapies such as physical therapy before prescribing opioid treatment. The practice will utilize "universal precautions" including pain agreements, urine drug testing and pill counts, when necessary, Opioid Risk Tool and refill and cross-coverage systems to assure patient safety.

Counseling: The patients and providers will establish personal health targets with regard to pain control, functional status, compliance, and weight, which will be recorded in the care plan.

Education: Staff will provide patients with educational materials and information on community and online resources to help them control their persistent pain.

Office Workflow

Primary Care Provider (PCP) Responsibilities

Assessment: At a minimum, patients on chronic opiate therapy will be assessed **initially** (preferably before long-term narcotics are prescribed) and **at least annually**. More frequent assessments may be needed based on risk of opioid abuse or overdose.

1. Primary Care Providers will perform a **detailed history** (including onset, location, radiation, quality, duration, alleviating/exacerbating triggers and medication history) and **physical exam** to characterize the pain and to determine the most likely cause and mechanism of the pain (e.g., neuropathic, inflammatory, muscular, mechanical/compressive). Providers will also assess patients for psychiatric causes of pain (e.g., depression, anxiety or other comorbid psychiatric disorder) and assess **current functional status**.
2. Providers will order any further testing necessary for evaluation of pain, place referrals to appropriate specialists, including pain management experts when indicated, and review diagnostic studies and consultation reports
3. Providers will complete the Ambulatory **Opioid Risk Tool** available in the *ad hoc* section of the EMR. A score of 3 or lower indicates low risk for future opioid abuse, a score of 4-7 indicates moderate risk for opioid abuse and a score of 8 or higher indicates a high risk for opioid abuse.
4. Providers will order **screening urine toxicology**. Patients will be asked to record the exact narcotic intake on the day of and 48-72 hours prior to toxicology testing.
5. Providers will assess patient adherence to various aspects of treatment and screen patients for any substance abuse. "Red flags" will include certain patient behaviors such as seeking pain medications from multiple providers, requesting pain medications after hours, losing prescriptions, etc.

Treatment

1. Providers will treat patients with non-pharmacologic and non-opioid pharmacologic therapy and only consider opioids if the expected benefits for both pain and function outweigh the risks to the patient.
2. When opioids are used for **acute** pain, providers will prescribe the lowest effective dose of immediate-release opioids and prescribe no greater quantity than that needed for the expected duration of pain severe enough to require opioids. Providers will adhere to New York State law which only allows for **7 days** of opioid therapy for acute pain for the initial prescription. Providers may reorder pain medications after assessing the efficacy of the opioid analgesic in alleviating the acute pain versus the side effects of the drugs.
3. Before starting opioid therapy for chronic pain treatment, providers will document the lack of effectiveness of more conservative therapies and establish, in conjunction with the patient, goals of care, including a realistic goal for pain control and function and anticipated duration of therapy. Providers will discuss with patients known risks and realistic benefits of opioid therapy and patient and clinician responsibilities for managing therapy. Patients must sign a **Pain Agreement** to document these discussions and their agreement with the plan of care.

4. When starting opioid therapy for chronic pain, providers will prescribe immediate-release opioids instead of extended-release/long-acting (ER/LA) opioids and initiate stepwise treatment starting with the lowest effective dosage. Providers will utilize "**Morphine Equivalent**" analgesic charts to select appropriate starting doses and frequencies of the selected narcotic drug and clearly delineate medication directions and the quantity prescribed on the prescription form. **With rare exceptions, providers will only prescribe narcotic analgesics during business hours** and patients will be informed of this policy.
5. Providers will evaluate benefits and harms of narcotic analgesics with patients at each visit but especially within the first few weeks of starting therapy or of escalating dose. Providers will denote in the care plan the frequency of visits needed for pain management. In general, patients on chronic narcotic analgesics will be seen at least every three months but those who are deemed high risk for substance abuse or drug overdose will be seen more frequently – e.g., every 4-5 weeks and those deemed very low risk for whom it is a hardship to come to the office may be seen less frequently at the discretion of the provider.
6. Providers will incorporate into the management plan strategies to mitigate risk, including considering offering naloxone when factors that increase risk for opioid overdose, such as history of overdose, history of substance use disorder, higher opioid dosages (≥50 ME/day), or concurrent benzodiazepine use, are present. Fentanyl patch will only be prescribed for patients with moderate to severe pain who have already been receiving opioid therapy for two weeks or more and who are on a narcotic daily dose equivalent to 60 mg or more of morphine sulfate. Providers will warn patients and families of the risk of hypoventilation occurring with high dose long-acting narcotics.
7. Providers will review PDMP (I-Stop) data when starting or renewing opioid therapy for chronic pain. When prescribing opioids for chronic pain, providers will use urine drug testing before starting opioid therapy and consider urine drug testing at least annually to assess for prescribed medications as well as other controlled prescription drugs and illicit drugs. For low-risk patients, providers may order a 30-day supply of medication with two renewals by labeling the prescription "Schedule D".
8. Providers will offer or arrange evidence-based treatment (usually medication-assisted treatment with buprenorphine or methadone in combination with behavioral therapies) for patients with opioid use disorder.
9. Providers will designate which patients require pre-visit planning for Pain Management the week prior to the anticipated visit.

Documentation

A **Pain Ambulatory Assessment (PAA) template** is recommended for documentation purposes, as it includes all necessary elements (see Figure 1) although it is not required so long as the evaluation is documented, the nature and cause of the pain are specified, and the plan of care is carefully delineated in the note. These visits for chronic opioid treatment will be labeled in the EMR as "**Pain Ambulatory Assessment**" (PAA) notes.
At a minimum, a plan for chronic opiate prescription and pain management should be documented at each visit. This plan should include explicit treatment goals as well as directions on whether to continue, change or taper the current pain medication regimen, whether specialty follow up is required, and the timeline for frequency of toxicology screening and future visits. A sample Pain Assessment and Plan template is included in Figure 2.

Nursing, PCA, and Clerical Staff Responsibilities

1. Patients who require frequent renewal of controlled substances will be scheduled for a **Controlled Substance Medication Renewal Visit** (20-minute allocation) every 4-5 weeks that is separate from regular continuity or urgent care visits.
2. **Pre-Visit planning** - Prior to the scheduled pain visit or established follow up visit in which pain and opioid therapy will be reviewed, pre-visit planners will record for the primary care provider the following information: type of pain, controlled substance dose and frequency, date of last Pain Ambulatory Assessment note, last Ambulatory Opioid Risk Score and date, date of last urine drug testing and results, date of last refill of controlled substance, a copy of the I-Stop recent drug prescription profile, the Current Pain Management Plan, including frequency of visits, and whether or not the patient is due for a urine toxicology screen.
3. **Medication Refill Requests** will be triaged through Nursing. Patients will be advised to call 3-5 business days before they will run out of medication. The triage nurse will gather the information listed in section b above and will send this information to the PCP or covering provider and will also denote the date of the next follow up visit in the message. Medication refill frequency will be determined by the Primary Care Provider and denoted in the EMR. Medications will be refilled for 30 days but for patients with chronic pain the PCP or covering provider may designate "Schedule D" on the prescription and order 2 refills for a total supply of 90 days if the patient is deemed to be "low risk" for substance abuse or overdose.

Personal Care Assistant (PCA) Responsibilities

1. At every visit, the Personal Care Assistant (PCA) will inquire about pain and will ask the patient to rate their pain and its impact on their function and quality of life using the PEG Scale (see attached).
2. The PCA will ask the patients which medications require refill or prescription. The PCA will report the level of pain and medications for renewal to the PCP.
3. If urine toxicology is required, the PCA will fill out the toxicology laboratory forms for the controlled substances specified by the PCP and send the urine sample to the lab. Currently such requests will go to the Aegis laboratory.

Quality Improvement

The Quality Improvement Committee will perform random chart audits of patients on chronic opioid therapy to determine whether the cause and severity of pain are documented using standardized tool and whether or not a follow up plan is documented when pain is present.

Attachments

- Summary of CDC Guideline
- Information for Patients
- ORT Tool
- PEG Score
- Pain Agreement

Controlled Substance Patient Letter Template

Dear Patient,

You are receiving this letter because you are a patient in our Resident Clinic at __and receive prescriptions for a controlled substance on a chronic basis. We are writing to inform you of a new policy that we are instituting to improve the continuity and quality of your care.

Our previous policy required a monthly office visit for prescriptions of controlled substances, but to streamline this process, we will now be able to renew these prescriptions directly to your pharmacy with electronic prescriptions.

We will still require an office visit **every ___weeks** and continued adherence to our clinic's opioid prescribing policy and procedures. A copy of this policy may be obtained at any time at your next office visit.

Instructions for medication renewal prior to office visit:

- Our practice may only prescribe a 4-week supply of controlled substances at one time.
- At least **3-5 days business days** prior to running out of medication, request medication renewal via **telephone or patient portal email** in order to avoid lapses in your prescriptions.
- Please contact our office at _____and leave a message with our nurse ____requesting renewal of your medication for pain or anxiety medications only.
- Prescriptions will be filled from **9am to 5pm** on **Monday through Friday**.

We hope this transition will improve your continued care. As always, please feel free to contact our office with any questions or concerns you may have with our new policy.

Sincerely,

[Insert Resident Clinic]

Controlled Substance Treatment Agreement Template

Dr. _____has explained the risks and benefits of the controlled substance (medications may include opiates, benzodiazepines, sedatives, muscle relaxants and stimulants) and I give my consent to treatment with controlled substances in my medical care.

I, _____, understand that I must comply with the following rules or I will not be given a prescription for the controlled substance.

I agree to use only one pharmacy for filling prescriptions for any controlled substance.

Pharmacy_____ Telephone _____

Goals: The goals of chronic pain management are

1. To improve your ability to function in your daily life
2. To lower your pain

Efficacy: Some people who take opiates will get relief from their chronic pain. I understand that my provider may decide to stop the opioid if after increasing it adequately, my pain and function have not responded positively.

Side Effects: I understand these medications have significant side effects and potential adverse, effects, which include but are not limited to: impaired ability to concentrate, constipation, dizziness, drowsiness, itching, nausea of GI upset, difficulty urinating, skin rashes, trouble breathing, mental slowing and loss of coordination, sexual dysfunction.

Dependence: Taking opioids regularly for a long period of time usually causes physical dependence which means that your body adapts to the medication and experiences withdrawal if the medication is stopped or lowered too quickly. Symptoms can include runny nose, difficulty sleeping, agitation, abdominal pain and severe discomfort.

Addiction: Addiction can occur in a small amount of people who take daily opioids, and is characterized by behaviors such as loss of control of drug use, compulsive use and craving, and continued use despite harm or risk to the person.

Risk Of Overdose: There is potential for overdose, which could cause you to stop breathing with risk of death if you take too much opiate medication, or if it is used in combination with benzodiazepines (eg. Xanax, Valium), hypnotics (e.g. Ambien, Lunesta) or alcohol.

Agreements:

- I agree to take my medications exactly as prescribed by my doctor.
- I will abstain from drinking alcohol or using any recreational drugs.
- I will not operate heavy machinery, or service in any capacity related to public safety.
- I am aware medications may impair my ability to drive and I should use caution or designated driver particularly immediately after dose and when starting new medication.
- I agree to meet regularly, as recommended by my practitioner to monitor ongoing effectiveness of therapy and renewal of medication.
- I agree to see a specialist in the management of these medications if it becomes necessary.
- I agree to random laboratory drug screens or other diagnostic tests when ordered by physician.
- I will not share, sell or trade my medications with anyone.
- I will not attempt to obtain any controlled medications, including opioid pain medicines, controlled stimulants or antianxiety medicines from any other physicians.
- I will safeguard my pain medicine from loss or theft. I understand that lost or stolen medicine will not be replaced.
- I agree that refills of my prescriptions for pain medicine will be made only during regular office hours. No refills will be available during evenings or weekends.
- I agree that if I escalate my dose of pain medication without consulting my practitioner, that this may indicate a problem in my ability to use the medication as prescribed and may necessitate termination of the use of the medication.
- I will make every effort to participate in self-help activities to improve my overall conditioning and pain tolerance (e.g. Physical therapy, swimming, yoga, Tai Chi, meditation, stress management relaxation or pain program).

Failure to comply with any part of this contract may necessitate termination of the use of the medication.

By signing this form, I authorize my provider's office to contact any and all groups and organizations involved with my care and involved in the investigation of medication and drug abuse. I give permission to my provider to discuss my care with past caregivers, all pharmacies and policing agencies. This also gives these caregivers and pharmacies permission to share with my provider information about my past treatments and care.

Patient Signature Date

Witnessed Date

Pain Ambulatory Assessment (PAA) Clinic Note Template

History of Present Illness:

Location ===
Duration ===
Radiation ===
Quality ===
Severity (1-10) ===
Exacerbating Factors ===
Alleviating Factors ===
PEG Score (0-10) ==

1. Date of last refill of controlled substance: ===
2. Prescription Monitoring Program (PMP) registry consistent: Reference # ===
3. Last intake of controlled substance (Date/Time): ===
4. Last urine drug testing (Date): ===
5. Pain contract documented in the chart (Date): ===
6. Prior established functional treatment goal:

Type of controlled substance: Opiates/Anxiolytics/Sedatives/Other ===
Opioid Risk Tool Score:
Concurrent use of benzodiazepines: yes/no
Prior pharmacologic treatment:
Prior non-pharmacologic interventions: Physical Therapy/steroid injections/trigger point injections/acupuncture/counseling

Relevant Imaging:

Symptoms: Controlled/Uncontrolled
Compliance: Taking medications as prescribed/Not taking medications as prescribed
Etiology of Pain: Musculoskeletal/Neuropathic/Inflammatory/Neoplasm/Trauma/Other
Functional Status: Fully functional/Functional Limitations with extended activities/Functional with Assistive Devices/Functional Limitation with ADLs
Red Flags: None/Persistently Increasing Pain/Fever/Confusion/Falls/Weight Loss
Side Effects: None/Constipation/Nausea/Vomiting/Itching/Sedation
High Risk: Failed urine drug screen in the past/Referred to Substance Abuse in the past/Hospitalized for overdose in the past/ORT score ≥8
Mental Health Disorders: None/Depression/Anxiety/Substance Abuse/Bipolar Disorder/PTSD/Schizophrenia/ADHD

Physical Exam:

Labs/Imaging:

Assessment/Plan:

Plan: Continue current regimen/Change medication regimen/Taper or discontinue controlled substance

- Advised that medications may impair ability to drive or operating heavy machinery
- Advised to avoid bed rest
- Counseled and provided educational materials and resources

Follow up: Follow up in 5 weeks/ Follow up in 15 weeks
Specialty Follow up: None/Requires Pain Management/Requires Substance Abuse Program/Other
Recommended toxicology screen: Every 5 weeks/Biennial/Annual/Other===
Established functional treatment goal:

Sample Flow Diagram for Controlled Substance Management in Resident Clinic