A Toolkit for Designing a Quality Improvement Curriculum with a focus on Health Disparities

Karla Curet, DO, MPH
Tamara Goldberg, MD FACP
Thomas Schulz, MD
Sylk Sotto EdD, MBA, MPS

Introduction

The purpose of this toolkit is to provide a guide for educators interested in developing a quality improvement (QI) curriculum with a health equity focus. The toolkit will provide a general outline for curriculum development accompanied by resources and suggestions applicable to all types of programs.

In this guide we will outline the necessary steps to identify learning gaps, create goals and objectives, engage stakeholders, develop educational strategies, incorporate evaluation metrics, and address common pitfalls. We have compiled a resource list at the end of the toolkit. Please note, while this guide is geared mostly to the needs of graduate trainees, much of the literature and resources pertain to medical health professionals of all levels and can be easily adapted as such.

I. General Needs Assessment

Health disparities, also called health inequities, have gained a tremendous amount of attention from physicians and health policy experts over the past few years and most recently during the COVID-19 pandemic. Addressing health disparities requires a multi-level approach and examination of contributing structural and social factors. To understand how our clinical practice impacts health inequities among our patient populations, it is critical to engage in quality improvement (QI) work through a health disparities lens.

Graduate trainee engagement in quality improvement is a vital component of both the Practice-Based Learning and Improvement and Systems-Based Practice competency as outlined by the Accreditation Council for Graduate Medical Education (ACGME). In addition, both QI and health disparities are core focus areas of ACGME's Clinical Learning Environment Review (CLER) program. As such, trainees must demonstrate the ability to investigate and self-evaluate their care of patients. However, according to the CLER Report of Findings in 2016, only 31% of the graduate trainees interviewed reported access to data on quality metrics for their patient population and only 12.6% of medical residents reported engaging in a QI project to reduce health disparities. Furthermore, according to the 2018 CLER report, while most graduate trainees were aware of the populations at risk for health disparities at their respective hospitals, few were engaged in processes to address these disparities at a systems level and cultural competency training rarely addressed the specific populations for whom they cared.

As physicians, we must be knowledgeable about the health outcomes of the communities we serve and develop interventions that address resulting health disparities.

Take Home Message:
Trainee engagement in QI projects as well as their ability to identify and mitigate health disparities is vital to providing patient-centered care and fulfils key ACGME requirements. Yet to date, gaps in knowledge of QI principles as well as limited resident engagement in addressing health disparities are pervasive throughout graduate medical education.

II. Targeted Needs Assessment

In designing a QI project that incorporates health disparities, it is important to understand the specific needs of learners at your own institution. This is an opportunity to identify gaps in knowledge, attitude, or behavior and can be accomplished through a variety of methods.

A. **Trainee Surveys**: an anonymous survey of learners is a feasible way to capture important information in baseline knowledge and attitude about health disparities.
Below are some sample questions:
1. Knowledge of health disparity trends (multiple choice). "Which of the following is the definition of health equity?" "Which of the following are examples of known health care disparities in *breast cancer, heart disease, etc*…..?" "
2. Knowledge of patient demographics. "What percentage of patients at your clinic site are on Medicaid?" "What percentage of patients at your clinic require translation services?"
3. Attitude toward health disparities. "How strongly do you agree with the following statements (likert scales): "It is my responsibility as a doctor to address a patient's social barriers to care."
4. Perceived practice patterns: " How often do you ask your patients about _____(*financial security, food insecurity, housing*)?" "Have you ever evaluated whether disparities exist in quality outcomes for your patients (HTN control, Flu vaccination rates, etc.)?"

B. **Focus Groups**: Focus groups are advantageous for conducting targeted needs assessments since they capture many learners at once and may allow for a deeper understanding of the learners' needs.

C. **Performance Audit**: reviewing objective performance data such as quality metrics of preventive services stratified by demographic factors can help identify gaps in care for specific populations by specific providers.

Take Home Message:
Curriculum developers can capture the current learning gaps of their trainees through assessment of attitudes, knowledge, and behaviors. Identifying these specific needs up-front will help with optimizing goals and objectives for the curriculum as well as selecting educational methods and designing appropriate evaluation tools.

III. Setting the Stage- Building Blocks and Engaging Stakeholders

After performing a targeted needs assessment of your learners, there are several actions that can be taken to help address these gaps. The Institute for Healthcare Improvement publishes dozens of educational courses focused on quality improvement and its importance. These modules, particularly the ones on improving health equity, can provide a common background in health disparities and ensure that everyone is using the same language and operating with the same understanding.

Perhaps the most difficult, but most important, step is engaging stakeholders. Stakeholders include program directors, clinic and hospital administration, and the communities burdened by health disparities as well as their advocates. Once a health disparity has been identified, strategies for addressing it should be discussed with those who carry the burden. Asking patients, their family members, leaders in the community, and social workers what problems bother them the most and what they need can generate productive conversations, prioritize addressing inequities that create the most burden, and provide powerful evidence for engaging clinic, hospital, and program administration. Ensuring proper buy-in from stakeholders will make a project much more feasible to execute! As a practice exercise, it may help to make a table of each of the stakeholders, how the project benefits them, and potential concerns they may have. Such a list can help prepare for such discussions in advance.

Once a priority list is in place, the learner can work with any necessary experts in addressing health disparities, finding necessary funding, promotion of new programs, or altering policy and procedure in order to limit the burdens felt by the health inequity.

> *Take Home Message:*
> A critical part of a successful QI curriculum focused on health disparities is identifying stakeholders and getting buy-in prior to implementation.

IV. Goals and Objectives

In designing a QI health disparities curriculum, it is vital to develop appropriate goals and objectives. These will help dictate your educational strategies as well as guide your evaluation. (Please refer to *Resources for Curriculum Development* at the end of this toolkit).

Goals are broad statements about the overall purpose of the curriculum.

Objectives are *measurable* and *specific*. Objectives fall into learner objectives (attitude, knowledge, or skill), process objectives (relate to implementation of curriculum) and outcome objectives (how is patient affected or medical problem affected).

Sample goals for a QI Health Disparities Curriculum
Residents will engage in a quality improvement project with a focus on identifying health disparities of their population served.   Providers will improve health disparity outcomes of their clinic population through development of a quality improvement project to address specific gaps.

Objective Type	Sample objectives for a QI Health Disparities Curriculum
Learner	Learners will *rate* as valuable the importance of reviewing health disparity data for their patients. Learners will *define* local health disparity outcomes among the patient population served. (knowledge) Learners will *construct* a run-chart of the QI data over time. (skill)
Process	By the end of the academic year, 80% of residents will have completed 4 PDSA cycles.
Outcome	To improve breast cancer screening of uninsured patients at our clinic. To improve blood pressure control of black patients at our clinic. To increase patient satisfaction scores for patients with LEP.

Take Home Message:
Developing optimal goals and objectives are essential to successful curriculum design and outcome. This will help guide educational strategies as well as evaluation methods.

V. Educational Strategies

Strategies to implement a health disparities QI curriculum include classroom-based, clinic-based, on-line-based and/or community-based experiences. Listed below are the general content areas for a health disparities QI curriculum as well as some potential educational strategies within each topic.

A. Introduction of Core Principles of Quality Improvement

Method	Description	Resources
Classroom-based small group learning	This method provides a way to capture all learners. Allows a venue to introduce key concepts of QI as well as discuss expectations for clinic-based projects.	The Institute for Healthcare Improvement has well-designed modules. Many institutions provide free access. Check with your PD.
Independent Learning (online modules)	This method encourages a learner-driven approach toward understanding the core elements of QI.	IHI offers a pathway for independent online certification.
Clinic-based	- Can be implemented in teams of residents, or individually, with faculty oversight. - Team-based projects can minimize faculty resource needs while achieving core objectives. - The PDSA method can be used in most clinical settings and is feasible and evidence-based.	For a general teaching guide to QI for *all levels* of medical learners, see: QI Teachers Toolkit at IHI.org For a sample of GME QI curricula as well as shared resources, see: GME Interest Group section of IHI.org. As well as MedEd Portal https://www.mededportal.org For innovative tools, check out QI Innovations Exchange to Reduce Disparities

B. Understanding Health Disparities and Community-Level Health Data

Understanding the health disparities within the local community can help to contextualize

patient-level QI outcomes. Knowledge about community-level disparities requires access to online resources.

Method (s)	Description	Resources
Lecture	- Allows for introduction of key concepts regarding health disparities and health equity. - Additionally, can highlight specific community-level disparities relevant to your learners' patients. - Allows for accommodation of large groups of learners	For general introduction to health disparities, see: *Resources for Health Disparities (General)* at the end of this toolkit. For online sources of community-level health outcome data see: *Resources for Community-Level Data* at the end of this toolkit.
Classroom-based exercise in pairs	Consider the use of patient cases to guide the session. Residents can use online resources to answer a variety of questions about health disparities within their local community that impact patient health.	
Community-based	- Increasing literature supports the importance of trainee engagement in community-based experiences to better understand health disparities impacting their patients. - Examples include community-based service learning, exploring local service resources, and neighborhood assessments	For sample community-based curricula visit MedEd Portal

D. Understanding Practice-Level Health Data and Disparities

In order to conduct QI projects with a focus on disparities, it is vital to collect and review patient demographic data on reports to understand what disparities exist.

Method	Description	Resources
Classroom-based small group review sessions	• Classroom-based sessions can be used to deliver individual and/or team-based panel reports to trainees for review. • Faculty can help drive the discussion with the goal of selecting one area of focus for the practice-based project.	For sample panel reports and an equity approach to resident panel review, see AAMC "Teaching Residents Population Health Management" pg. 28-32
Independent data review and self-reflection	• Residents can independently review their panel report/ quality metrics which can help informa a practice-based project proposal. • Not all programs can accommodate an in-person session for empanelment review, so this is an alternative option when faced with limited resources.	

Take Home Message:
A variety of educational strategies can be utilized to introduce key principles of health disparities and quality improvement, as well as for review of community-level and practice-level data on health disparities. Reviewing sample curricula can help curriculum developers decide on the methods that best meet the needs and resources of their program.

VI. Evaluation

    A. The evaluation of your curriculum should assess both the individual learner and the curriculum itself. Evaluations may be *formative* (ongoing, help towards improvement) or *summative* (an overall judgment of performance). *Please refer to David Kern's book for overview of evaluation of curriculum, listed at the end of this document.*

    B. Evaluating outcomes of the QI project itself is typically done through assessing three types of measures: outcome, process, and balancing. Before designing an intervention, it is important to determine which measures will best assess whether a change is an improvement. The [Institute for Healthcare Improvement](#) is an excellent resource for understanding measures.

    C. Interpreting QI outcome disparities of your patient population must be contextualized and critically analyzed to avoid potentially harmful generalizations. See *Implementation Challenge* section below.

Type of Measure	Definition
Outcome	What are the end results (lab value, clinical outcome)? *Examples:* A1c, surgical complication rates, mortality, patient satisfaction
Process	Are the steps in the system leading to the outcome working? *Examples*: % staff following handwashing protocols, % patients with MI discharged on aspirin
Balancing	How are the changes being made to improve one part of a system affecting another part of the system? *Examples:* Does increased nurse screening questions increase visit duration for the patient?

Take Home Message:
Evaluation strategies should include both 1) learner and curriculum evaluation and 2) QI outcome evaluation. More detailed resources can help you design the optimal evaluation tool for the project to assess your objectives.

VII. Implementation Challenges

Approaches to reducing health disparities face a unique set of challenges stemming from multiple levels including the healthcare system, individual providers, and the patient population. We have identified the top challenges that we have faced and provide some tools to address them.

Challenge	Solutions	References
QI Topic Identification	- Align topics with priorities of the clinical learning environment. - Assign teams to specific quality metrics.	[Quality Improvement Models in Residency Programs](#)
Resident Engagement and Buy-In	- Introduce curriculum early in training - Highlight opportunities for publication - Promote project presentations during grand rounds, morning reports or clinic conferences. - Encourage active resident participation in topic selection - Consider protected time	[Tips for engaging residents in QI](#)
Faculty Availability	Consider ways to incentivize faculty: - CME/MOC credits - Teaching/Publishing opportunities - Offer protected time - Streamline resources	[Resources for starting a QI Curriculum](#) See *Resources for Health Disparities* below.
Ensuring Proper Faculty Training and Development	Consider faculty development in areas of health disparities, inequities, and bias in medicine.	[Sample Curriculum for Faculty](#)
Funding	Funding a QI project can be challenging. Focus on sources of funding targeted specifically towards health	**For sources of funding, consider:** National Institute of Minority Health

	disparities.	● Institutional funding ● Local philanthropies ● Gates Foundation. ● Local Department of Health programs
Obtaining Patient-Level Demographic Data	● Advocate for the development of tools that incorporate social determinants of health data into the medical record such as the PREPARE screening tool. ● Advocate for self-reported ethnicity and race to avoid misclassification	PRAPARE:SDH Screening Tool
Data Interpretation and Intervention Design	● Use caution when interpreting health disparities data. Findings may unintentionally do more harm for populations when they are used to draw global conclusions about racial and ethnic groups without contextualization. ● Consider designing health disparities QI interventions at different levels other than just the clinic setting.	NEJM commentary racial disparities Levels of QI Intervention

Take Home Message:
It is important to anticipate some of the common implementation challenges of a QI curriculum focused on health disparities such as; topic selection, resident engagement, faculty availability and training, funding, data interpretation and intervention design..

Useful Resources:

Resources for Curriculum Development:
- AAMC "Teaching Residents Population Health Management" https://store.aamc.org/downloadable/download/sample/sample_id/311/ 2019
- Graduate Medical Education Interest Group, Institute for Healthcare Improvement, http://www.ihi.org/education/IHIOpenSchool/Chapters/Groups/Faculty/Pages/GMENetwork.aspx
- IHI Open School Faculty Guide
- Kern, David. *Curriculum Development for Medical Education, A Six Step Approach,* Third Edition, Johns Hopkins University Press, 2016
- MedEd Portal https://www.mededportal.org

Resources for Quality Improvement in Healthcare & Equity:
- Agency for Healthcare Research and Quality Innovations Exchange: https://innovations.ahrq.gov/articles-and-collections
- Clinical Learning Environment Review reports: CLER National Report of Findings
- Institute for Healthcare Improvement

Resources for Obtaining Community-Level Data:
- Department of Health (can look up by state +/- city)
- County-Health Rankings https://www.countyhealthrankings.org/
- Healthy People 2020 (state-level data) https://www.healthypeople.gov/2020/data-search/Search-the-Data#statemap=1;

Resources for Health Disparities (General)
- Kaiser Family Foundation https://www.kff.org/disparities
- A primer on structural competency https://www.feinberg.northwestern.edu/sites/cpci/docs/Structural-Competency-Handouts-Berkeley-Rad-Med-Critical-Social-Medicine..pdf
- Current literature on health disparities https://jamanetwork.com/collections/5679/health-disparities
- National Healthcare Quality and Disparities Reports https://www.ahrq.gov/research/findings/nhqrdr/index.html
- National Institute on Minority Health and Health Disparities https://www.nimhd.nih.gov/
- UC Davis Center for Reducing Health Disparities https://health.ucdavis.edu/crhd/our-purpose.html

Toolkit Conclusions

Addressing health disparities is a vital component of effective population health management. We hope this toolkit has provided a useful overview in QI curriculum development and we look forward to expanding these topics in the future as we incorporate the work of others. A special thanks to the AAIM Health Disparities Collaborative Learning Community.