CA APIC Educational Support Award

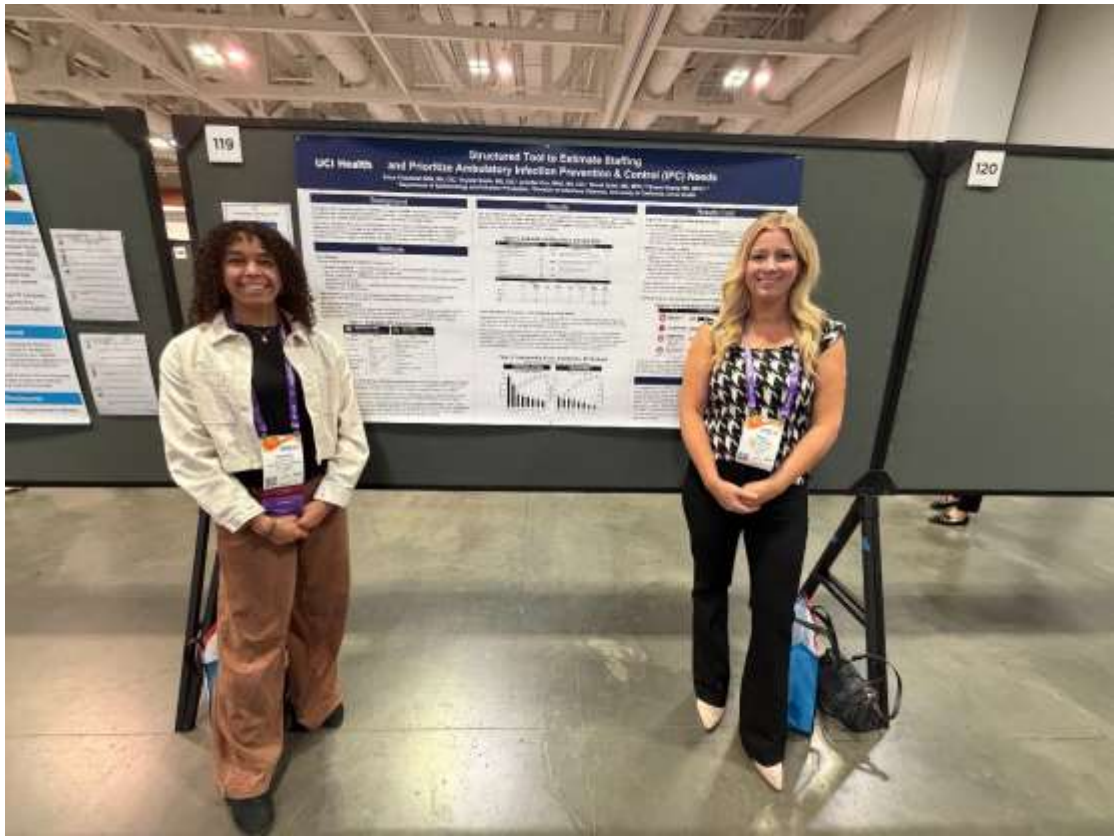
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How I used my ESA

- Attended National APIC Conference ‘26
- Presented my first abstract poster:

Structured Tool to Estimate Staffing and Prioritize Ambulatory Infection Prevention and Control (IPC) Needs



Structured Tool to Estimate Staffing and Prioritize Ambulatory Infection Prevention & Control (IPC) Needs

UCI Health

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Background

Ambulatory IPC programs support increasingly complex outpatient environments, including invasive procedures and high-risk patient populations. However, no widely adopted tool exists to estimate ambulatory IPC staffing, operational prioritization, or prevention coverage needs.

As a result, programs often lack a standardized method to measure workload, justify resources, or define what prevention coverage is operationally needed across ambulatory settings. To address this, we developed an Excel-based ambulatory IPC staffing and workload assessment tool to estimate operational demand, support prioritization, and guide ambulatory prevention resource planning.

Methods

Tool Design

The tool incorporated three integrated components:

- **IP Staff Availability** — converted ambulatory IPC full-time equivalents (FTEs) into productive annual staffing hours available for oversight activities
- **Clinic Complexity** — stratified clinics based on procedural complexity, invasiveness, and patient population vulnerability
- **Activity Time Allocation** — quantified time devoted to planned maintenance activities and reactive crisis response work

User-editable inputs allowed local adaptation of staffing models and oversight priorities, while automated calculations generated a consolidated capacity-versus-demand summary.

IPC Activity Framework

Ambulatory IPC activities were categorized into planned maintenance activities and reactive crisis response work. Maintenance activities were organized into 17 categories across 8 operational domains. Crisis response activities reflected unplanned events requiring reactive IPC support.

Figure 1. Ambulatory IPC Activity Framework

MAINTENANCE TASKS Proactive, routine activities that support ongoing prevention and program performance		CRISIS TASKS Unplanned, time-sensitive activities that require rapid response and mitigation
DOMAIN	CATEGORY	DOMAIN
INFRASTRUCTURE	• Operational coordination • Policy • Meetings	EXPOSURE / OUTBREAK INVESTIGATION & RESPONSE
SITE VISITS	• Site visits	REGULATORY / PRODUCT IFU CHANGES
DIRECT INQUIRIES	• Isolation guidance & clearance • Staff safety • Cleaning & disinfection • Other	LEAKS & FLOODS
QUALITY METRICS	• Hand hygiene • Water quality • Data collection • Reports	REGULATORY COMPLIANCE
EDUCATION & TRAINING	• Education & training	STAFF SAFETY
PRODUCT REVIEW	• Purchasing review • IFU changes	HIGH-RISK BREACHES – HLD
CONSTRUCTION	• Construction	HIGH-RISK BREACHES – CONSTRUCTION
QI/PI	• QI/PI activities	TJC PREP

Tool Application – Ambulatory Workload Assessment at an Academic Medical Center

The tool was applied to a retrospective review of 2024 ambulatory IP operational effort (hours) and activities across 74 licensed ambulatory locations of an academic medical center (UCI Health).

Workload estimates were derived from calendar review, operational records, meeting tracking, site visit documentation, email and inquiry review to generate hour-based estimates of annual tasks.

Site visit estimates incorporated standardized visit durations inclusive of preparation, travel, onsite assessment, follow-up and documentation activities. Time commitment for site visits were averaged by clinic complexity to provide users with a default amount of time for site visits and a time multiplier by clinic complexity. Time estimates and visit frequency could be adjusted by users.

Results

The UCI Health ambulatory IPC program supported 74 licensed outpatient locations with 1.4 ambulatory IPC FTEs, representing 2,508 productive annual oversight hours. Breakdown of available effort, ambulatory clinic/area risk profile, and effort for site visits is found in **Figure 2**, including 47.3% high-risk, 24.3% medium-risk, and 28.4% low-risk ambulatory locations.

Figure 2. Ambulatory Staffing Hours and Clinic Risk

A — AMBULATORY PROGRAM RESOURCES

RESOURCE CATEGORY (PER 1.0 FTE)	VALUE
Total Staffed FTEs (budgeted positions)	2
Ambulatory (outpatient) FTE Allocation	1.4
Gross Hours	2080
Holiday Hours	112
Vacation Hours	176
Sick Hours	0
Productive Hours	1792
Total Program Ambulatory Working Hours	2508

B — OUTPATIENT AREA RISK PROFILE

RISK LEVEL	DEFINITIONS & EXAMPLES	# OF AREAS
High	Includes invasive, sterile, or device intensive protocols, e.g., ASC/ORs, sterile processing, infusion, compounding pharmacy	35
Medium	Includes mucosal contact, wound care, immunocompromised host, e.g., ENT, dermatology, wound care, burn, oncology	18
Low	Includes intact skin, immunocompetent host, e.g., Primary care, allergy, behavioral health	21
Total		74

C — SITE VISITS

AREA TYPE	CURRENT # OF AREAS	CURRENT ROUNDING HOURS	BASE HOURS	BASE TIME MULTIPLIER	IDEAL HOURS PER VISIT	IDEAL VISITS PER YEAR	IDEAL ROUNDING HOURS	GAP ROUNDING HOURS
High Risk	35	114	--	1.5	9.0	2.0	630	516
Medium Risk	18	0	--	1.3	7.8	1.0	140	140
Low Risk	21	0	6	1.0	6.0	1.0	63	63
Total	74	114	--	--	--	--	833	719

Time Allocation: Prevention versus Reactive Crisis Work

Maintenance activities accounted for 1,811 annual hours (66% of total workload), while crisis response activities accounted for 953 hours (34%). Crisis response most commonly redirected time away from site visits, leaving an 86% site visit gap compared to program need.

Top contributors in maintenance were infrastructure (meetings, onboarding a new IP), direct inquiries (cleaning and disinfection of shared patient equipment, isolation guidance), and product-related work (evaluation of new devices requiring high-level disinfection or sterilization). Top contributors in crisis were regulatory compliance (licensing 2 new multi-story high-risk ambulatory centers), survey preparation (triennial accreditation survey window), and exposures/outbreaks (tuberculosis, varicella).

Figure 3. Understanding Drivers of Ambulatory IPC Workload

Pareto Analysis of Maintenance vs. Crisis Activities



Results Cont.

Site Visit Coverage and Maintenance Gaps

Crisis Activity Insights

- The tool identified that 1/3 of program hours were spent on reactive crisis activities.
- While licensing new clinics led to unavoidable unplanned IPC effort, the distribution of effort provided by the tool raised questions about how preventative educational materials and reminders could help reduce urgent calls for exposures, outbreaks, and TJC preparation.

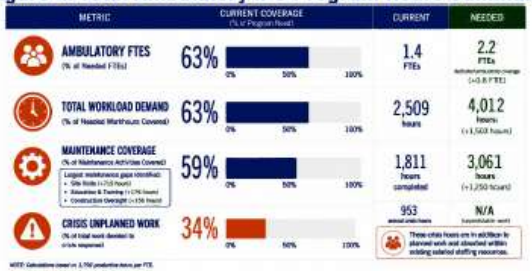
Maintenance Activity Insights

- Infrastructure (meetings, policies) accounted for 29% of maintenance activities, leading to an assessment of options for efficiency.
- The high volume of direct inquiries and product reviews also highlighted the need to increase educational efforts and readily accessible protocols.
- Missed site visits were the largest gap within the ambulatory IPC program. Limited effort meant that visits focused on high-risk clinics, with limited preventive oversight in medium- and low-risk settings. A total of 719 gap hours were identified.

The tool identified a total annual maintenance gap of 1,250 hours across oversight, education, quality, and construction-related activities. While hours training a new IP and licensing multiple new clinics could be recouped, crisis activities are the norm and require ample budgeting.

Current Program Coverage Compared to Program Need

Figure 4. Total Ambulatory IPC Program Hours Summary



Because the tool enabled user input of ideal maintenance activity hours, it could quantify the projected ambulatory IPC workload for an ideal program. The tool translated operational workload into needed staffing FTEs and enabled discussions about reprioritizing effort among the IPC categories to efficiently use ambulatory IPC resources.

Conclusion

This ambulatory IPC staffing tool provided a practical user-input framework to evaluate the distribution of ambulatory IPC workload by categories, including maintenance vs crisis hours, and activities within those categories. Quantified hours showcased the large segment of time spent on unanticipated crises, which was exacerbated by multiple licensing urgencies from new clinics. Even without those activities, strategy is needed to decrease the crisis-vs-maintenance distribution of effort. Tool visualizations helped quantify gaps in IPC activities, including site visit coverage of medium and low-risk clinics.

This tool helps IPC programs assess gaps and justify resources for increasingly complex ambulatory settings.

Presenting the Poster

- Met other ambulatory IPs across the country
- Variety in ambulatory program stages
- Many programs do not know how to staff for ambulatory
- Some misunderstandings beyond EOC
- Applicability to inpatient
- Inspired a website for IPs to utilize and customize: Ambulatory Tool for Leadership, Assessment, and Strategy (ATLAS) | UCI Health | Orange County, CA

Thank you, CACC!

Questions?