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A Qualitative Study Examining the Program Attributes and Perceived Effects of the Interprofessional Student Hotspotting Learning Collaborative

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Introduction

Complex patients who experience multiple chronic conditions combined with behavioral and social needs account for a significant proportion of healthcare utilization and spending in the U.S.[1] Driven in part by value-based payment models, healthcare delivery systems have implemented programs to respond to the needs of complex patients who present the greatest opportunity for improved, lower-cost care.[2,3] These models, though diverse, share common characteristics aimed at addressing medical, behavioral, and social needs through patient-centered, interdisciplinary, team-based care.[3,4]

Health systems experts recognize that the future health workforce must be adequately prepared to practice within these emerging care delivery models.[5-10] However, gaps commonly exist between health education curricula and the knowledge, competencies, and experiences needed to understand and address complex patients' medical and social needs. For example, interdisciplinary, team-based care is a key delivery feature of successful care models for complex patients.[3,11] Interprofessional education (IPE) offerings in medical schools have been increasing,[12] though most bring medical students together with nurses and pharmacists only[12-14]; disciplines such as social work, public health, psychology and other professions are often underrepresented,[12-14] despite their critical role in complex patient care.[8] Additionally, most training in IPE and social determinants of health (SDoH) is simulation or classroom-based, rather than experiential in community-based settings.[13-16] Furthermore, health professions training overall does not reflect the shift in services from the hospital to ambulatory or home setting.[17]

Community-based, interprofessional service learning models are emerging that train prelicensure health professions students to work collaboratively to address the social needs of complex patients.[10,16,18,19] The Interprofessional Student Hotspotting Learning Collaborative (student hotspotting) represents the only national model to "train the next generation of providers to deliver integrated, person-centered care for patients with complex needs." [20] Launched jointly by the Camden Coalition of Healthcare Providers (Camden Coalition), Primary Care Progress, and the Association of American Medical Colleges in 2014, the six-month program brings together medical and other health professions students and faculty advisors to identify, establish relationships with, create a care plan for, and support and navigate the care plan with complex patients. Student hotspotting teams perform patient home visits, accompany patients to clinical visits, and connect patients to community resources, paying close attention and responding to the social determinants of health that may be driving patients' high utilization. Experiential learning is supplemented by a structured, evidence-based curriculum designed to build student competencies and confidence in complex patient care.

Despite the program's reach since being founded (over 40 medical schools in the US have participated in the program to date), research examining student hotspotting is limited, with the few published articles mainly describing program development and implementation and short-term impacts on student attitudes and perceptions.[21-23] All are based on a single institution's experience, and none provides a long-term perspective on program impact on students or participating universities.

The purpose of this study was to qualitatively examine 1) the student hotspotting program model attributes that contribute to alumni-reported learning experiences; 2) the lasting

effects of program participation on alumni; and 3) the programmatic or curricular impacts program participation may have had on host universities.

Methods

The study approach was qualitative and descriptive. Semi-structured 45–60-minute telephone interviews were performed with program alumni and faculty who participated in one or both of the first 2 program cohorts (2014-2015; 2015-2016). These cohorts were purposefully selected to provide the most long-term perspective on individual and institutional-level program effects. Program alumni and faculty were recruited through email, with permission of program administrators at the Camden Coalition of Healthcare Providers.

Alumni interviews were our principal source of data for perspectives on student hotspotting program attributes and individual-level effects. Faculty interviews provided information on the institutional context in which the student hotspotting was initiated and implemented in the first 2 cohort years and the program's influence on university activities and initiatives in the years following participation.

All interviews were transcribed verbatim. Transcripts were independently reviewed and coded by a PhD (MR) and master's level (MZ) researcher to identify and thematically group dominant program attributes and effects. Investigator triangulation was employed regularly throughout data analysis to compare researcher findings and resolve discrepancies.

Ethical approval for this study was obtained from The George Washington University IRB. The study was ruled exempt.

Results

We conducted interviews with 21 alumni and 19 faculty members. Alumni and faculty represented a broad range of disciplines (Table 1), with medicine most heavily represented in both groups, followed by social work. At time of interview, all alumni had graduated from the program they were enrolled in at the time of student hotspotting; 8 were in continuing education settings (PhD, fellowship, or residency) and 5 were working in clinical settings (community health center, hospital, or primary care practice). Faculty and alumni interviewees represented 20 of the 23 universities that participated in student hotspotting cohorts 1 and 2.

TABLE 1. Disciplines and Professional Settings of Alumni and Faculty Interviewees from Cohorts 1 & 2[a] of the Interprofessional Student Hotspotting Learning Collaborative

Alumni by degree-seeking discipline[b] (N=21)		**Alumni by current professional settings (N=21)**		**Faculty by discipline (N=19)**	
Medicine or biomedical sciences	n=9	PhD program or postdoctoral fellowship placement	n=5	Medicine	n=9
Social Work	n=5[c]	Medical residency	n=3	Social Work	n=4
Nursing	n=2	Community health center or FQHC	n=2	Nursing	n=1
Psychology	n=2	Hospital	n=2	Psychiatry	n=1
Pharmacy	n=1	Primary care practice	n=1	Pharmacy	n=1

Clinical Nutrition	n=1	Academic Research Institution (not PhD or fellowship)	n=2	Public Health	n=1
Law	n=1[d]	State government agency	n=2	Anthropology	n=1
		Pharmacy	n=1	Higher education administration	n=1
		Community based organization	n=1		
		Education sector (not higher education)	n=1		
		Law firm	n=1		

[a] Cohort 1: 2014-2015 academic year; Cohort 2: 2015-2016 academic year
[b] Degree being sought at time of program participation
[c] One social work alum was seeking a dual degree in public health at time of program participation
[d] Alum was obtaining a dual degree in social work at time of program participation (not counted in social work total)

Program Attributes

We identified multiple program attributes that facilitated alumni-reported learning experiences and categorized them thematically by the way in which they connected: students and patients; students and other students; and students and the healthcare delivery system (Table 2).

TABLE 2. The Interprofessional Student Hotspotting Learning Collaborative: Program Attributes and Learning Experiences of Alumni Interviewees from Program Cohorts 1 & 2[a]

Program Attributes	**Learning Experiences & Outcomes**	**Illustrative Quotes**
Student-patient connection • Real world, community-based setting • Following patients over time • Working closely with few patients	Observing SDoH in context Building patient relationships and trust Facilitating patient-student communications Understanding patient goals, preferences Observing underlying drivers of healthcare utilization	*…having the ability for the patient to illustrate how their health plays out in their own context I think is really beneficial. – Social Work Alum* *I loved it because it was the perspective of individual people over time…A six-month long intervention that's very divorced from sitting in a clinic… – Medicine Alum* *…to be able to focus on just one particular, two particular patients, really brought life to the work. – Social Work/Public Health Alum*
Student-student connection • Real world IPE[b] • Diverse IP[c] team composition • Trainee-to-trainee learning	Collaborative problem solving Comprehensive patient assessments Dispelling discipline-specific stereotypes Learning scope and value of disciplines	*...my medical curriculum did not teach about, what does a pharmacist do? I learned that a pharmacist can do a whole lot. – Medicine Alum* *…in terms of the hotspotting program, it was really valuable for me to work with social work students. – Medicine Alum*

• Shared goal • Student convening	Sense of community, shared purpose Skill-building in team dynamics	*…we were able to pick up little nuances from all of our disciplines to get a better, broader, greater assessment of our patient. – Social Work Alum* *… if we remind ourselves that we're moving towards the same goal, we just have different ways of approaching it…then it becomes a much easier working environment. –Social Work/Public Health Alum*
Student-healthcare system connection • Accompanying patients to healthcare appointments • Visiting patients in the hospital	Patient perspective observations Witness to patient-provider communication struggles or gaps Understanding system level barriers patients face Recognition of health system deficiencies, gaps in care coordination	*I went to doctors' appointments with my patient, and I watched him not talk. He didn't tell the doctor that he didn't have any insurance…it was eye opening because I had a new appreciation for why these prescriptions come to the pharmacy the way they do, because the patient doesn't talk to the doctor. – Pharmacy Alum* *…we went to visit him [in the ER]and found out how fragmented his service was…He had never been connected to the physical therapy department, which could have saved him a lot of trips, because he didn't realize that there were rehabilitation options for that outside of going to the ER. –Social Work/Public Health Alum*

[a] Cohort 1: 2014-2015 academic year; Cohort 2: 2015-2016 academic year; [b] Interprofessional education; [c] Interprofessional

Student-patient connection: Three program attributes were identified as facilitating the development of authentic relationships of trust with patients and first-hand student exposure to how SDoH play out in context. These attributes were grouped thematically as fostering student-patient connections:

1. Real-world, community-based patient interactions: All of the alumni who had patient interactions (n=19) performed in-home visits with their patients, and most accompanied their patient to clinical outpatient visits.
2. Following patients over time: Alumni credited repeated patient interactions over the course of several months with the ability to "journey" with their patients and observe the often gradual and iterative process of behavior change.
3. Working closely with few patients: Most alumni worked with just 1 or 2 patients during the program, maximizing the time and effort devoted to learning patients' stories, understanding their complex health-related needs, and establishing trust.

Student-student connection: We identified 5 program attributes that facilitated interprofessional learning opportunities and community building among student participants. These attributes were grouped thematically as fostering student-student connections:

1. Real-world IPE: Experiential IPE opportunities occurred within the context of real-world patient care and problem-solving, teaching the benefits of interprofessional teamwork "in a way that reading in a textbook would have never resonated or taught." Over half of

the alumni we interviewed indicated that student hotspotting filled an IPE gap in their formal education

2. Diverse interprofessional team composition: Student hotspotting teams were comprised of a broad variety of disciplines, which alumni credited with the opportunity to develop an applied understanding of each discipline's scope of practice and role in complex patient care, while dispelling discipline-specific stereotypes.
3. Trainee-to-trainee learning: Alumni noted that they learned about the roles, scopes, competencies, and value of other health professions disciplines directly from the students representing them.
4. Shared goal: Student hotspotting team members worked collaboratively to identify and address a patient's needs and goals, bringing focus and collective purpose to the group.
5. Student convening: Students were brought together from across program sites through case conferences and in-person program meetings. Alumni reported that these convenings helped to establish a sense of community, shared purpose, and momentum while also providing training opportunities and a platform for inter-institutional problem solving.

Student-healthcare system connection: Lastly, alumni reported that student hotspotting provided valuable insights and real-world opportunities to learn about the healthcare delivery system through 1) accompaniment of patients to outpatient healthcare appointments; and 2) patient hospital visits, attributes we grouped thematically as fostering student-healthcare system connections. These system-level encounters provided alumni with firsthand, patient-perspective exposure to the healthcare system, which alumni credited with deepening and applying their understanding of the complexities inherent in the health system and how they can contribute to gaps in care coordination. For some alumni, observing patients' clinical encounters shed light on patient-provider communication gaps, when patients would show reluctance in expressing concerns about their care plan or come away from appointments with a different understanding of what a provider was trying to convey.

Alumni Perspectives on Lasting Program Effects

Alumni reported that student hotspotting participation had lasting influences on their: professional practice style; perspectives on interprofessional teamwork; and career and educational trajectory.

Professional practice style: Alumni maintained that lessons learned during the hotspotting program stayed with them in ways that influenced their current practice style. Dominant sub-themes that emerged were empathy, attention to provider-patient communications, commitment to care continuity, and consideration of SDoH in patient/client care planning.

> *My outlook towards patients and noncompliance is very different than a lot of my coworkers. And because of that, I am able to not get frustrated in providing care. –Nursing Alum*

> *I try having people repeat things back to me, or make it really clear that I want them to ask me questions instead of just accept what I say because I'm a doctor. –Medicine Alum*

We love to write in our discharge summaries 'patient will continue to work in outpatient setting,' but a lot of that stuff gets dropped or missed…So one thing I try to do more is to communicate with the outpatient provider. – Medicine Alum

I still prescribe the medication I should prescribe, but I am always thinking and trying to ask patients about the barriers to actually taking that. –Medicine Alum

Additionally, some alumni noted that the negative light student hotspotting shed on the healthcare system motivated them to proactively address system deficiencies in their current practice.

…hotspotting made me realize that maybe a lot of people are trying to make a difference at the system level, but maybe making that difference is staying in clinical medicine, seeing patients, leading teams, and being a leader influence at your organization…I have to roll up my sleeves and be a part of this in order to change it. –Medicine Alumni

Perspectives on interprofessional teamwork: A few alumni noted that hotspotting spurred lasting insights on the value of interprofessional teamwork in patient care.

I feel like I'm able to help leverage us as a team better than I would be able to if I hadn't done hotspotting. –Medicine Alum

And I took that with me after I graduated. I thought the overriding feeling or motivation is, we need to make sure that the patient has a team .– Clinical Nutrition Alum

Alumni also described how the student hotspotting experience helped them understand the value of interprofessional teamwork as it relates to reducing burden on the individual provider and contributing to job sustainability.

…this is the work that I feel drawn to do, but I actually might be able to do it effectively and keep myself going for many years if I have a team like (student hotspotting team) working alongside of me. – Medicine Alum

Career or educational trajectory: Over half of alumni interviewees reported that participation in the student hotspotting program influenced their professional decisions or educational track. Four alumni stated that program participation reinforced their decision to pursue primary care, while another 2 reported that the program contributed to their decision to pursue specialties that relied heavily on interdisciplinary teamwork.

(Hotspotting) led to my selection of family medicine…and my choice in residency, in terms of making sure that I went to an FQHC that served multiple populations and that valued and supported home visits. - Medicine Alum

It was being on a multidisciplinary team that really spoke to me…it's kind of why I am specializing in geropsychology now. I want a career where that's the setting: where I don't have to be working with the patient alone. –Psychology Alumni

Four alumni also stated that the program contributed to their pursuit of a community-based practice setting (e.g., Federally Qualified Health Center (FQHC)) or desire to serve a vulnerable or high-needs patient/client population.

> *I ended up doing my internship and now my post-doc in a more community-based area. –Psychology Alum*

> *Hotspotting reinforced that desire to work with folks who are the high utilizing patients, who have a lot of things going on besides their actual physiology. –Medicine Alum*

Another 4 alumni cited an interest in or shift to policy or systems-focused work after program participation.

> *(Hotspotting) reinforced my interest in the health services realm…questions in how we get people, particularly people who are vulnerable, the services they need. – Medicine/Biomedical Sciences Alum*

Two alumni stated that the program played a role in their decision to obtain a Masters of Public Health (MPH) degree.

> *Getting a public health degree was a good way to stay engaged in the work surrounding patients with complex care needs and healthcare utilization, but in a way I found more sustainable. -Social Work Alum*

Faculty Perspectives on Program Effects on Host Institutions

Faculty interviews yielded several key themes. They noted the program filled a gap in existing curriculum but identified a number of sustainability challenges. While there was a significant drop off in participation with the original (i.e., Camden Coalition-founded) model, many faculty reported that the program had some lasting impact on curricular or extracurricular offerings at their institution.

Only a handful of the faculty interviewees reported that their institution had a health professions IPE program in place at time of their participation in the hotspotting program. One school had an IPE center, and another had a clinical integration initiative that provided interdisciplinary opportunities for 10-20 medical students per year. Other schools offered curricular training in the care of complex patients through course work. However, for many of the faculty we interviewed, student hotspotting represented their programmatic foray into IPE.

The majority of faculty cited the availability of external grant funding by student hotspotting founding organizations, a prior interest in the principles and promise of IPE, and student hotspotting's groundbreaking work focusing on social determinants of health as catalysts for their involvement. For some participants, the availability of grant funding to participate in the hotspotting initiative coincided with new or ongoing activities in the areas of care coordination, high-needs complex care patient initiatives, or multi-disciplinary team activities that could be leveraged to give a boost to the hotspotting effort. For example, one program had just begun selecting high-needs patients when the opportunity came along, providing a critical mass of effort to think more broadly about complex care. Another school credited their existing IPE program

with making student recruitment for hotspotting a very easy task. Several faculty referred to the student hotspotting program as a "continuation" or "extension" of IP activities at their schools.

Only one university represented in our faculty interviews still participates in the original student hotspotting program. The most commonly reported reason for ending participation in the program was the discontinuation of grant funding to support student team participation. Given the small number of students generally participating in the program during any given year (typically 3-7 students per team, across 3 or more health professions schools), several faculty mentioned the expense, relative to the small number of students who could take advantage of the opportunity, as making it difficult to justify continuing with the Camden Coalition model. The cost, relative to the size of the program, was mentioned by several interviewees, who questioned its ability to be scaled for a larger cohort of students.

> *So do you think my education dean wants me to spend a tremendous amount of time working on a program that impacts maybe 10 students? Answer's no…Where's the scalable program? - Physician/Faculty*

Half of the universities represented by faculty in our study (n=7) did not continue with the original student hotspotting program but did adapt components of it and customize key elements of its curriculum to their local circumstances. For example, several universities used parts of student hotspotting program didactics and practice protocols to help build their own program. One faculty credited their university's participation in the original student hotspotting program with the subsequent creation of an ongoing interprofessional service-learning project, with teams of medical, social work, pharmacy and nursing students, who help high needs patients navigate complex medical and social services. In 2 cases, schools expanded the number of medical students who participated in the adapted program but did not retain the interdisciplinary nature of the intervention. Several other schools maintained interdisciplinary involvement through student-run hotspotting clubs, service-learning projects, or specially tailored curricular offerings.

> *The amount of money that's set aside for all of service learning is less than the amount that Camden was asking for. So we are continuing… but we're not doing it as part of Camden anymore. - Physician/Faculty*

Nearly half of the schools represented by faculty in our study (n=6) did not continue hotspotting activities following their exit from the Camden program, in large measure because they were unable to obtain funding to maintain activities. Overall, faculty interviewees indicated that while the program had a profound impact on students and faculty, it had more modest impact at the school or university level from their vantage point. Faculty expressed appreciation for the hotspotting experience as an opportunity for IP training as well as exposure to the real-life challenges that patients face navigating complex lives and clinical conditions. Several also expressed disappointment that they were unable to continue IPE activities once hotspotting activities concluded. Despite the emphasis on student hotspotting as a patient intervention, the majority of faculty observed that the program's primary contribution was the opportunity it provided students for meaningful IPE and its potential to prepare health professions students for patient care in interdisciplinary, team-based settings.

For the students, it was all about learning how to deal with a patient. But it was very clear to me that…it was all about the interaction between (the students) at the table… It was more about how do you come together and work together to improve that patient's life? - Physician/Faculty

Discussion

Alumni who participated in the student hotspotting program were overwhelmingly positive about the experience and the profound impact it had on understanding the complexities of patients' lives, the depth of professional colleagues' skills and value to a health care team, and the complicated and often inhospitable nature of healthcare systems. We identified several program attributes that facilitated these learning experiences by fostering meaningful connections between students and patients, other students, and the healthcare system.

Of the program attributes described in this study, the IPE it provided was cited by both alumni and faculty as a dominant program strength. The IPE inherent in student hotspotting meets and exceeds the definition of, "…two or more professions learn(ing) about, from and with each other…"[24] and stands out in the health professions education landscape. Student hotspotting brings together health professions students from far more than 2 disciplines and beyond those typically represented in IPE curricular offerings (namely, medicine, nursing, and pharmacy).[12-14] The alumni interviewees in our study sample represented disciplines including law, clinical nutrition, and public health, while the student hotspotting program at large boasts student involvement from more than 20 disciplines as varied as business, health administration, and anthropology.[20] Secondly, the trainee-to-trainee learning model endorsed by student hotspotting ensures that students learn from students representing other health professions, a program element alumni in our study reported as valuable and one which is described as "critical to the success of IPE" by leading health professions accrediting bodies.[25] Lastly, the IPE central to the student hotspotting model is highly experiential, allowing students to apply and observe the benefits of interprofessional teamwork in direct patient care. This IPE learning modality may serve to prepare health professions students for the reality of working in interprofessional team-based care settings and prime medical students for the competencies expected of them upon entering and while in residency, such as the ability to collaborate as a member of an interprofessional team[26] and demonstrate a systems-based practice approach.[27]

While existing studies report the short-term outcomes of student hotspotting[21-23] or other health professions education initiatives that integrate IPE[13,14] and SDoH,[15,16] this is the first study to describe program alumni's perspectives on the lasting effects of student hotspotting participation. Interestingly, many of the longer-term effects we report align with short-term program evaluation findings. For example, patient empathy,[21,23] appreciation for IP collaboration in complex patient care,[21,23] understanding how SDoH affect health,[21,22] and awareness of healthcare system complexities[21] are reported short-term outcomes of student hotspotting. These outcomes on student attitudes and knowledge were reiterated in our study sample but also operationalized in alumni's self-reported current practice behaviors and patient interactions (e.g., assessing patients' social needs, assembling interprofessional care teams for patients, facilitating care continuity upon hospital discharge, and employing communication strategies to ensure patient comprehension). This study begins to fill a need for IPE and SDoH program

outcomes to be evaluated longitudinally[13,16] and suggests that short-term outcomes of the student hotspotting program may translate to practice outcomes for some program alumni several years after participation.

We further find that student hotspotting may impact participants' professional trajectory. While most of the alumni we spoke with acknowledged that student hotspotting participants were a 'self-selected' group already on a service-oriented or primary care path, the majority credited the program with "reinforcing" or "strengthening" their resolve to pursue work of this nature. There is an ongoing need to bolster the primary care workforce in the US, especially for the underserved.[28] Our study findings suggest that student hotspotting or other interprofessional service-learning experiences may be one tool medical educators and policy makers can promote at the undergraduate level to push interested but undecided students in this direction. This finding is in line with other research indicating that targeted training programs in undergraduate and graduate medical education can increase likelihood of selecting a primary care specialty[29] or practicing in an underserved area.[30]

From the faculty perspective, funding, institutional buy-in, and the availability to scale the program posed the main threats to student hotspotting sustainability and program model fidelity. Half of the universities represented by faculty interviewees, although unable to proceed with the original Camden Coalition model, developed their own home-grown hotspotting alternatives. In some cases, expanded hotspotting programs are thriving on campuses, though not always inclusive of the IPE component, which alumni and faculty cited as an underpinning of the original model. These findings indicate that for some universities, student hotspotting serves as a program model template that can be adapted to meet the needs of and operate within the programmatic and fiscal realities of the institution. To this end, the core student hotspotting program attributes identified in this study take on additional importance, providing qualitative evidence that could be referenced in the design of interprofessional service-learning programs.

We note that very few of the inaugural student hotspotting universities currently participate in the program, despite the strong sentiments from alumni and faculty about the value of the experience. Tensions between the cost of participation and the benefits of the program for such a small number of students have caused many programs to drop the initiative altogether. Of the universities represented in our interviews, the single one remaining in the program credited their program's sustainability to an innovative funding model reliant upon an agreement with a local managed care organization. This scenario is consistent with published findings that identify the availability of a dedicated funding stream as a key determinant of the viability of interprofessional service-learning programs.[18,19] Despite these findings and those showing the benefit of such programs, there is no consensus on who should foot the bill for them.

Federal workforce training funding for the health professions, such as that offered through the Primary Care Training and Enhancement Program, is limited at the undergraduate medical education level and pales in comparison to the $15 billion funneled into graduate medical education.[31] At this time, no federal funding initiatives are explicitly intended for programs that prepare prelicensure health professions students for working with complex patients - the highest utilizers of our healthcare system. These fiscal realities, combined with a

growing emphasis on value-based payment reform and academic institutions that are unable – or unwilling – to absorb additional programmatic costs, beg the question of who should be responsible for funding programs like student hotspotting and whether these programs are feasible to scale without systemic buy-in. Despite having no clear answer to these difficult questions, it's reassuring to note that some institutions are building entire undergraduate medical education programs around constructs central to patient-centered, complex care, such as health equity and IPE. For example, the recently opened Kaiser Permanente School of Medicine is waiving tuition for its first five classes to encourage graduates to pursue family medicine or work with the underserved and will teach students using a highly interdisciplinary integrated care model.

The student hotspotting model has evolved since its original design, shifting to a de-centralized "hub and spoke" model in 2017 with the intent to grant more autonomy and oversight of the program to universities while expanding program reach. Our study did not address the evolution of the program model or the variation in team participation over the past few years. Evaluation of the student hotspotting program under this decentralized model may be warranted. Further research in this area should aim to inform discussions on return of investment for student hotspotting and similar programs by providing longitudinal data on student and patient outcomes.

Limitations

We acknowledge several limitations to this study, mostly rooted in the qualitative nature of the research. First, our sample size represented about 20 percent of students and faculty who participated in the 2 inaugural student hotspotting cohorts, limiting the generalizability of our findings. Nevertheless, our interviews allowed us to reach saturation with study results capturing a broad range of perspectives from both alumni and faculty. Second, we used a convenience sampling strategy, complemented by snowball sampling, to yield study participants, which could introduce bias into the findings. Third, institution-level program effects and information pertaining to existing program offerings were based on faculty perspectives and recollection and were not independently verified. We recognize that faculty we interviewed may not be familiar with all interprofessional or service-learning activities underway at their university. Lastly, we acknowledge that program challenges were largely omitted from our findings. This evaluative component was outside the scope of our research aims. However, multiple challenges in program implementation and participation - particularly logistical barriers - have been reported in other literature on student hotspotting[21-23] and IPE.[14] Despite these limitations, faculty and student feedback was robust and thematically consistent.

Conclusion

As healthcare delivery systems adapt to address the needs of an increasingly complex and aging patient population, health professions education must "adapt to not just what the market is, but to what it will be", heeding the recent calls of innovation leaders in this space.[5] The Interprofessional Student Hotspotting Learning Collaborative has the potential to prepare the future health workforce by building health professions students' competencies in areas that align with best practices in complex patient care, including patient-centeredness, health equity, cross-sector collaboration, and interprofessionalism. Though student hotspotting as a package may be

difficult for academic institutions to sustain and scale, it serves as a unique example of how a program that creates meaningful opportunities for health professions students to connect with patients, students from other disciplines, and healthcare systems can have lasting influence on their future practice approaches and perspectives.

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