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# Learning Through Practice: The Design and Implementation of an Advanced Integrative Practicum for DrPH Students

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**Abstract**

Students enrolled in Doctor of Public Health (DrPH) programs accredited by the Council on Education for Public Health complete an applied practice experience resulting in an advanced project. This requirement can vary by program, but it commonly occurs as a singular experience after students have begun coursework. In 2016, we assessed the practicum component for the Doctor of Public Health degree at Claremont Graduate University. We sought feedback from employers and reviewed other professional programs with required practice experiences. Data indicated that successful experiences integrated didactic coursework with practice, suggesting the design of an embedded format versus a stand-alone requirement. The Advanced Integrative Practicum (AIP) was launched in Fall 2017 through a partnership between Claremont Graduate University School of Community and Global Health and Riverside University Health System. The practicum series began with an introduction to the health system through rotations led by Riverside University Health System (AIP-A), continued with students engaging with experts to propose solutions to public health issues (AIP-B), and concluded with a high-level practice-based project (AIP-C) where students, under supervision of a mentor at an external entity, implement projects. Qualitative data obtained through final written syntheses indicated that a majority of students feel the experience was integral to their DrPH training. Steps were taken to address threats to sustainability and a program component that seemed not sufficiently engaging. Although the practicum was not continued in its piloted form, best practices were realized as were lessons learned, ultimately leading to broader modifications in the DrPH program curriculum.

**Keywords**

DrPH, practice experience, academic-practice partnerships, training

## Background and Rationale

The Doctor of Public Health (DrPH) program was established over 100 years ago as a professional public health degree to meet demands in training that distinguish practitioners from researchers. Today, while DrPH programs vary widely in their admissions criteria, curricula, and other requirements, the emphasis on theory and practice still underlies the degree (Lee et al., 2009). A majority of DrPH programs recently surveyed require or prioritize previous professional work experience (Sherman et al., 2017), supporting the notion that the fieldwork component of DrPH programs should amplify previous experience through an emphasis on depth of competence and on applications that are meaningful to public health. Applied practice in the field provides unique opportunities for career growth, including development of professional networks and application of practice competencies outside of the classroom (Hernandez et al., 2014). Fieldwork can also expose students to collaborative, systems-level approaches, which are recognized as necessary to understand and address large-scale public health problems (Leischow et al., 2008).

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In 2011, the Association of Schools & Programs of Public Health (ASPPH) formed the Framing the Future Task Force to advance public health education with a goal of better preparing graduates for success in a changing world and global marketplace (Petersen & Weist, 2014). As part of the Framing the Future Task Force, a DrPH Expert Panel convened in 2014 recommended that DrPH programs should be innovative, current, and proactive to adapt to the ever-changing public health systems and health care landscape; that the practice experience should require collaboration with senior practitioners, researchers, community leaders, and other stakeholders in achieving the students' applied learning goals; and that the curriculum should incorporate as critical content characteristics of complex systems, systems-level interventions, and systems thinking tools (ASPPH, 2014).

A similar aim of better preparing public health graduates to be practice-ready led the Council on Education for Public Health (CEPH) to revise their accreditation criteria in 2016, shifting the focus from core curricula to core competencies and emphasizing the importance of translating knowledge into effective day-to-day practice. CEPH's revised 2016 criteria for DrPH programs specify that students be able to address health issues at multiple levels and to organize multiple partners in proposing strategies to improve health and eliminate disparities. CEPH requires that DrPH students engage in one or more applied practice experiences in which they are responsible for completion of at least one project that is meaningful for an organization and to advanced public health practice. This requirement can vary by program, but it commonly occurs as a singular experience after students have begun coursework.

In 2017, the Claremont Graduate University School of Community and Global Health (CGU-SCGH) piloted an Advanced Integrative Practicum (AIP) for our DrPH program. Our aims were to develop a practicum that would (1) be initiated at the beginning of the DrPH program so that students would be involved in practice experiences earlier, (2) be integrated with didactic coursework, and (3) provide progressively advanced experiences with a comprehensive health system so that students could successfully transition into employment after graduating. Here we describe the development of the AIP, detailing the rationale and considerations in our design and key partners involved. We present our experience with piloting the practicum and report results from our evaluation citing feedback from students and practicum partners. We discuss our achievements, review the lessons learned, and provide recommendations for other DrPH programs endeavoring to create similar practice experiences for students.

## Conceptualization and Development of the Advanced Integrative Practicum

In 2015, CGU-SCGH developed a DrPH degree program with a leadership and management concentration, enrolling its first students in Fall 2015. In the original sequence of the program, the practice experience consisted of a single advanced project, which was initiated by students at the conclusion of the DrPH coursework. As the program continued to grow in enrollment, a consensus among the founding Dean, program directors, and other faculty at CGU-SCGH, together with decades of experience in public health, was that a program in which students transitioned from initial classroom-based coursework to fieldwork to the integrative learning experience as seemingly discrete steps without efforts directed to their integration would be insufficient to prepare future leaders. At the same time, the CGU-SCGH DrPH curriculum committee was reviewing feedback collected from student surveys, the career development office, internship supervisors, and employers, which suggested that many students could be better prepared for employment in practice settings. Many students enter the DrPH program with master's degrees in related fields such as social work or public policy rather than an MPH, or have more limited professional public health experience. The DrPH curriculum committee began to explore alternative approaches to the applied practice experience that would achieve a goal of better preparing students for careers in public health and specifically for leadership and management positions. Influenced by advancements in medical education, the committee considered an integrated curriculum model (Quintero et al., 2016). Within this educational approach, students apply what they are learning in the classroom to their practical experience and are taught to think as professionals from the moment that they enter the program (Quintero et al., 2016).

### *Partnership Formation*

A unique opportunity for partnership existed with the Riverside County University Health System (RUHS), an integrated health network in Riverside County, California. From a population health standpoint, Riverside and San Bernardino Counties, together known as the Inland Empire (IE), rank in the bottom one third of California counties in 2019 for health outcomes (University of Wisconsin Population Health Institute, 2019). The IE is challenged by a "brain drain" in which higher educated residents leave the area in search of more skilled jobs in technology, science, and management (UC Riverside Center for Social Innovation, 2018). RUHS was interested in creating avenues to attract and retain DrPH graduates, was willing to collaborate, and offered a unique setting in which DrPH students could take part in

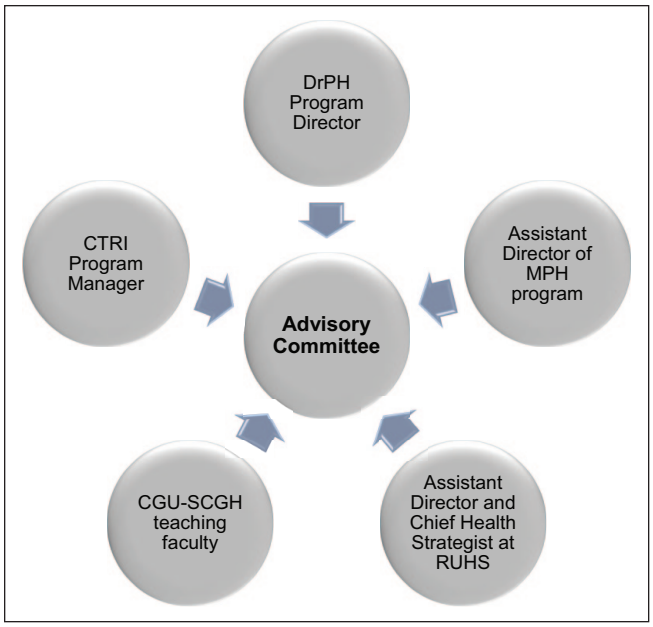


**Figure 1.** Advisory committee members involved in the designing and implementation of the Advanced Integrative Practicum.
*Note*. DrPH = Doctor of Public Health; CTRI = Community Translational Research Institute; MPH = Master of Public Health; CGU-SCGH = Claremont Graduate University School of Community and Global Health; RUHS = Riverside University Health System.

hands-on learning. An added benefit of this partnership was the opportunity for DrPH students who are midcareer professionals to obtain additional experience in various public health settings without the necessity of starting as entry-level interns or volunteers.

The Community Translational Research Institute (CTRI), a local nonprofit organization that works with universities and local governments to support implementation of evidence-based interventions in clinic and community settings, provided critical staff and financial resources. Both RUHS and CTRI had a history of collaboration with CGU-SCGH. Owing to its geographic location, CGU-SCGH is uniquely situated to service the academic and public health needs of the IE and neighboring areas.

### *Advisory Committee*

An initial meeting attended by university, school, and program administration and faculty as well as key leaders from RUHS and CTRI launched the formation of an advisory committee (Figure 1) responsible for designing and implementing the integrative practicum curriculum.

### *External and Internal Data*

The advisory committee distributed surveys to RUHS leadership to help prioritize professional training needs of DrPH students. Survey participants identified program management, translation of theory into practice, written and oral communication, and managing vision and goals as critical skills for DrPH graduates to succeed in leadership positions. Respondents identified DrPH core competencies that could be taught in an applied learning environment. Respondents prioritized public health, community clinics, behavioral health, and hospital services within RUHS as essential for DrPH students to encounter through educational rotations. The advisory committee used survey data to ascertain skills that an enhanced applied practice curriculum could address and to guide development of learning outcomes.

Following an introduction by the CEO of Riverside County, an advisory committee representative presented the initial plan for the practicum at a countywide staff meeting, explaining the rationale for collaboration. RUHS staff had an opportunity to discuss questions. A short form was distributed to collect information from departments interested in participating, including the topics they would cover during rotations, and their availability. Additional department personnel were engaged to help with the planning process.

The committee reviewed other courses at CGU-SCGH that might contribute a framework for the integrative practicum curriculum. In Summer 2016, a "Special Topics in Public Health" course taught by the CEO of Riverside County featured practitioners from RUHS who discussed their role in the health system and programs they managed. We foresaw a practicum experience that would provide students with opportunities to address complex issues facing Riverside County's health system.

### *Integrative Practicum Curriculum*

The committee next mapped out an initial design for the integrative practicum curriculum. We envisioned students being engaged in three phases of increasingly challenging experiences that would build on each other and complement classroom instruction while students progressed through didactic coursework. The incremental design would allow students to better assimilate the knowledge and skills learned through coursework with professional practice in the field. The AIP was piloted in Fall 2017. Students enrolled in three sequential (AIP-A, AIP-B, & AIP-C), 0-unit courses in Years 1 through 3 of the DrPH program (Figure 2), which coincided with the timing of didactic courses in the curriculum sequence. Alternatively, if students had not completed their coursework during this timeframe, they could opt to delay enrollment in AIP-C.

### *Course Descriptions*

*AIP-A: Rotations.* AIP-A was the first in the series of health system–embedded practicum experiences (Figure 2) and consisted of mandatory and elective rotations (Table 1).

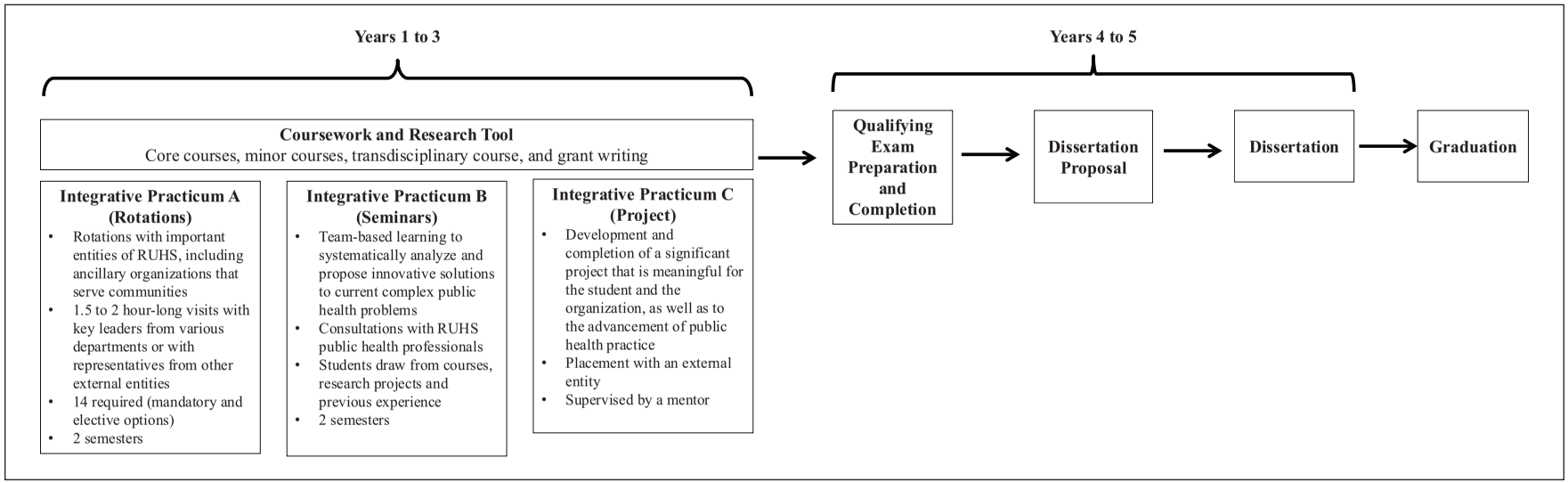


**Figure 2.** Overview of sequence of DrPH curriculum at School of Community and Global Health, Claremont Graduate University.
*Note*. DrPH = Doctor of Public Health; RUHS = Riverside University Health System.

**Table 1.** Rotations Offered to AIP-A Students in Fall 2017 and Spring 2018.

| Mandatory rotations | |
|---|---|
| Fall 2017 | Spring 2018 |
| • RUHS–Urban Planning and the Built Environment<br>• RUHS–Epidemiology<br>• RUHS–Strategic Health Alliance Pursuing Equity Portal and Data Exchange Network<br>• American Cancer Society<br>• RUHS–Public Health Nutrition<br>• RUHS–HIV/STD Program<br>• RUHS–Community Action Partnership<br>• RUHS–California Children's Services, Children's Medical Services<br>• RUHS–Emergency Management Department<br>• RUHS–Public Health Nursing/Maternal, Child, and Adolescent Health | • RUHS–Injury Prevention<br>• RUHS–Ambulatory Care Services<br>• RUHS–Family Planning<br>• Giselle Sorial–Health Policy Advocate<br>• Reach Out<br>• RUHS–Tobacco Control<br>• RUHS–Nutrition Education Obesity Prevention<br>• RUHS–Behavioral Health<br>• Inland Empire Health Plan<br>• Prevention Institute |
| **Elective rotations** | |
| Public health meetings coordinated by RUHS (e.g., coalition meetings, community meetings)<br>Continuing education seminars<br>Public health events (if approved by the course instructor) | |

*Note*. RUHS = Riverside University Health System; HIV = human immunodeficiency virus; STD = sexually transmitted disease.

Rotation presenters initially set the agenda for student visits. Subsequently, presenters were provided with a suggested agenda and topics for discussion to better facilitate the experience for both students and presenters. Prior to attending each rotation, students were encouraged to obtain background information about the entity being visited, and whenever possible, materials provided by the entity were shared with students. Students were expected to lead and participate in discussions and to submit a written reflective response to instructor-constructed questions after each rotation (Supplemental Appendix A).

*AIP-B: Seminars.* In AIP-B, teams of student were assigned a public health issue chosen by the assistant director of RUHS–Public Health, and were expected to develop a proposal (Supplemental Appendix B) to address the problem. Issues selected during Fall 2018 were sexually transmitted diseases, vaccination, and vaping; in Spring 2019 issues were cannabis use, public health nursing shortages, and opioid abuse. To facilitate development of their proposals, students consulted with public health professionals identified by the assistant director of RUHS–Public Health, through coordinated meetings. Periodic check-ins were established throughout each semester, during which teams were asked to share progress and lead discussions to obtain input from their peers. In order to promote and facilitate team cooperation, students were asked to submit a group contract outlining an action plan, group expectations, policies, procedures, and consequences (Supplemental Appendix C). At the end of each semester, student teams presented their proposed solutions to an expert panel of key stakeholders from RUHS (see Supplemental Appendix D for presentation rubric).

For both AIP-A and AIP-B, at the conclusion of two required semesters, students completed a final written synthesis responding to instructor-constructed question prompts (Supplemental Appendix A).

*AIP-C: Project.* AIP-C required that students synthesize, integrate, and apply their skills, knowledge, and training to a practicum project. Through placement with an external entity and under the supervision of a mentor, students develop and complete a significant project that is meaningful for the student and the organization, as well as to the advancement of public health practice. The experience is a planned, approved, supervised, and evaluated practical experience that is intended to provide DrPH students an opportunity to apply their training acquired through courses of study, to gain professional experience in a public health work environment, and to work on advanced public health practice projects that are of particular interest. The practicum is a three-way partnership between the student, CGU-SCGH, and the sponsoring agencies/organizations. Examples of student projects include policy reviews, curriculum development, program evaluations, and analyses of survey data.

The sequential nature of the AIP series provides students with opportunities to be introduced to potential field sites and supervisors through AIP-A, to develop ideas for a project in AIP-B, and to facilitate field placement for

**Table 2.** Trainee Perspectives of AIP-A and AIP-B by Most- and Least Liked Aspects Excerpted From Final Written Syntheses.

| AIP-A | AIP-B |
|---|---|
| Most liked aspects noted by trainees | |
| • Opportunity to network with public health professionals working in the field<br>• Gaining insight on employment and work culture within RUHS<br>• Being exposed to different aspects of an integrated health system<br>• Engaging with fellow DrPH students in their cohort | • Opportunity to address change relating to real-world issues currently affecting Riverside County<br>• One-on-one engagement with public health professionals in leadership positions<br>• Exposure to health topics students would not have otherwise had the opportunity to address |
| Areas noted for improvement | |
| • Commute times involved with off-campus rotations<br>• Lack of transparency in employment opportunities offered by external entities<br>• Insufficient time with presenters<br>• Ensuring the content presented in the rotations is of consistent quality and at a level appropriate for doctoral students | • Include greater attention to facilitating and promoting positive group experiences<br>• Ensuring participating health professionals have a sincere and genuine interest in working with students<br>• Realistic consideration given to the amount of work required of students particularly for a 0-unit course<br>• Addressing topics that are of most concern currently to the public health system |

*Note*. AIP = Advanced Integrative Practicum; RUHS = Riverside University Health System; DrPH = Doctorate of Public Health.

AIP-C. Opportunities extend to students interested in global health who may choose placements with international organizations or domestic organizations that do international work. Given the sequence of the DrPH curriculum, AIP-C is timed to be completed at the conclusion or near the completion of didactic coursework.

## Evaluation of AIP

A review of the AIP was conducted in the first 2 years, and major changes were recommended based on (1) the perception among some at CGU-SCGH that the AIP's sustainability could be strengthened if it was broadened to include experiences in addition to those within one health system (RUHS) and (2) the view among some faculty and students at CGU-SCGH that AIP-A was too brief an overview of too many health system elements without sufficient processing and ongoing interaction with rotation instructors.

### *Trainee Perspectives*

Final written syntheses submitted by students provided rich commentary on their participation in AIP and were used to summarize the most- and least liked aspects (Table 2). A majority noted that the experiences were valuable and applicable to their training in public health leadership and management.

Although it was initially assumed that students would gain more from experiences if they were implemented within the field, public health programs may consider utilizing online meeting platforms, and are encouraged to offer ride sharing services for students. While students did not incur additional tuition due to the practicum being 0 units, students may find the work of 0-unit courses to be excessive and may not be motivated to put in substantial time and effort. Public health programs may explore options to offer practicum courses for units or choose to embed some practice experience in didactic courses.

A case of one group of DrPH students exemplifies how the incremental design of the AIP functioned as intended. In Fall 2017, students were introduced to the RUHS-HIV/STD (human immunodeficiency virus/sexually transmitted disease) program as an AIP-A rotation. During the subsequent Fall, an AIP-B student group developed and proposed a project to address the increasing rates of HIV/STDs in Riverside County with input and consultation from RUHS-HIV/STD staff. Their project included a patient advocacy sheet consisting of questions about sexual activity to help facilitate patient-provider discussions, a patient advocacy application to connect patients to county resources, and a health promotion campaign to promote HIV/STD testing that incorporated a colored wristband to stimulate conversation. Because of the positive reception at the HIV/STD department within RUHS, students presented their proposal to stakeholders at a community meeting, and then had the option to implement and/or evaluate different aspects of the project in AIP-C.

### *Resulting Modifications to the DrPH Curriculum*

The implementation and evaluation of the AIP presented an opportunity to review, assess, and improve the DrPH curriculum. One result was that public health practitioners were integrated as instructors, and a pipeline was forged allowing for the exchange of information and resources between CGU-SCGH and external public health entities, particularly RUHS. CGU-SCGH formed relationships with RUHS departments to help facilitate student field placements, and RUHS was able to disseminate information regarding public health initiatives in which our students and faculty could participate. While one design solution would have been to focus on fewer health system elements during Years 1 and 2, an eventual decision eliminated AIP-A and AIP-B and replaced them with required concentration courses. This change ensures that all DrPH students would receive the same important content in leadership and management formerly covered by the practicum and that otherwise could be variable depending on the rotations selected (AIP-A) or solutions devised (AIP-B) by students. The change thus also adheres to CEPH accreditation guidelines specifying how required competencies and their assessments may be associated with educational requirements in DrPH curricula. Four new courses (Advanced Topics in Leadership and Management, Foundations of Population Health, Health Systems Engineering and Integration, Community-Based Translational Research) provide a mix of preparatory and processing opportunities in the classroom and experiential opportunities in the field within Riverside and Los Angeles counties. These courses are sequenced to be taken in the second or third year of the program once students have completed core courses.

## Reflections on Academic-Practice Partnerships

Because the successful implementation of practicum experiences heavily relies on contributions made by public health entities outside of academia, it is important that the partnerships between academic and field entities are mutually beneficial and can be sustained. Although the leadership of external entities may agree to form a collaborative partnership with an academic institution, the responsibility of implementing practicum experiences may fall on staff, who may find additional responsibility burdensome. The adoption and implementation of the AIP at RUHS were led by high-level managers whose enthusiasm was not uniformly shared by all staff. With RUHS, we revised our selection of staff in between academic years during which AIP-A was offered so as to include those who were the most amenable to participating in the AIP. Although field professionals who participated in AIP-A may be able to utilize available materials for the rotations as a means to reduce the burden of time involved, more time and effort may be required to engage with students in AIP-B. We note that training students is not the primary focus of their work. Practicum experiences that are linked to existing public health projects could relieve health professionals of some of the responsibility of engaging with students on new projects, and students could potentially contribute to such projects. Field entities may receive not direct but rather distal benefits for participating in the practicum. Their contributions to help students be better prepared upon graduation do not guarantee that DrPH graduates will seek employment from partnering entities. In order to address some of these challenges, a memorandum of understanding could be developed between key stakeholders from partnering entities that would detail the responsibilities and expectations from partners, and include a time period after which the agreement will be reviewed and revised as needed. If feasible, academic institutions may choose to provide financial compensation and/or confer an academic title (e.g., adjunct professor) to major contributors.

Weeks before the original launch of AIP-A, the CEO of Riverside County, a strong supporter of the AIP, retired. As we were aware of the leadership change, the advisory committee advanced the implementation time line in order to capitalize on existing opportunities. Ultimately, this accelerated time line added an increased burden on both partners, who already operate on different annual schedules (i.e., fiscal vs. academic years). In our case, RUHS represented a unique opportunity for partnership given its reasonable size, proximity to campus, ability to accommodate students, and commitment to training/learning and to our academic institution. Such a parallel opportunity did not exist with other neighboring counties at the time we developed the AIP, and may not for other academic institutions with DrPH programs. It would be judicious for programs to consider identifying and collaborating with more than one field entity to avoid reliance on a single partner, to provide a breadth of experience for students, and to ensure the continuity of the student training. The RUHS partnership was conceptualized as a starting point for health system–embedded experiential training. Concurrent with the development and implementation of the AIP, relationships were bridged with several largely disconnected health and community systems in east Los Angeles County (LAC) for a project to engineer a virtual health system crossing both the public and private realms. The purpose was to create a replicable model to improve diabetes risk outcomes at the population level through community-based translation of prevention science. Several DrPH students with PhD and Master of Public Health counterparts at CGU-SCGH participated alongside graduate students from two other universities' school of social work and school of nursing,

creating the opportunity for transdisciplinary team training embedded in population health practice. This virtual system in east LAC provides a second option for AIP, a virtual public-private system with a concentrated focus, versus a formal integrated system working almost exclusively in the public sector with diffuse purposes. Either or both may be the wave of the future, and each provides challenging practice opportunities for DrPH students. Regardless of the model, programs that integrate training that involves partnerships with practice partners require resources, particularly adequate staff and funding to support the logistics of planning and implementation. To the extent that entities providing leadership in public health can advocate for grants for academic institutions and fellowships for students to support training in public health practice, this too will help with the sustainability of such experiences. Many DrPH students undertake multiple-month practicum projects without the expectation for compensation because of the trade-off of the experience, learning, and professional development. Yet uncompensated multiple-month experiences are time-consuming and may not be realistic for all students, particularly those who work or cannot afford the financial trade-off. Consequently, these practicums may indirectly limit what types of students can participate in DrPH programs, potentially reducing diversity of participants. Program support staff at academic institutions such as our own already juggle multiple responsibilities. To have a dedicated position to coordinate a practicum like the one we designed would be ideal.

## Implications

Our AIP addressed several key considerations detailed in the ASPPH's report on the vision for DrPH education and training (ASPPH, 2014), and our experience is informative for other DrPH programs. Although not continued in its piloted form, our evaluation of the AIP led to the identification of three themes associated with best practices for the design and implementation of DrPH applied practice experiences. First, there is room for innovation in addressing applied practice experience requirements. While we were faced with challenges related to the implementation of a new approach to the AIP, students, faculty, and practice partners were open to trying new approaches. Second, both academic and practice partners must allocate staff resources for such collaborations. The implementation and maintenance of the piloted AIP were accompanied by a substantial administrative burden. Since the pilot, we have added a part-time graduate assistant who coordinates administrative components of community collaborations. Third, programs should consider providing multiple options for applied practice experiences. DrPH students often manage careers and personal obligations, and flexibility in scheduling is important. Additionally, multiple choices for the practicum empower students to select experiences that are meaningful to their professional goals.

After decades of public health–related entities working in separate silos, the landscape is evolving to take on a systems-wide approach that connects and coordinates public health–related services to care for and support entire populations (Bechelli et al., 2014; Public Health Foundation for the Performance Management National Excellence Collaborative, 2003). DrPH programs must adapt to this changing landscape and ensure that their graduates are prepared to serve as leaders in interdisciplinary settings (ASPPH, 2014). The AIP fulfilled these considerations by immersing students within a health system that coordinates national, state, and local services for the advancement of county-wide population health. Furthermore, because of the diversity of LAC and the IE, experiences in our AIP-A and AIP-B are applicable to a range of national and international settings. As recent data suggest that new public health graduates are not seeking employment at state and local health agencies, traditionally the "bedrock" of U.S. public health (Barna, 2019), exposing students to such systems may attract them anew to governmental positions. Our unique partnership with RUHS and other external public and private health entities demonstrates the feasibility of such an approach. Academic–public health partnerships are important to the objectives of both parties as well as to the health of the communities they serve (Gaughan et al., 2011; Isakov et al., 2014).

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