

Appendix C: Exemplars of Population-Focused Experiences in Health Professions Education

The following case studies describe the development of successful prevention and population health programs in graduate health professions education schools. These are selected examples from a larger collection of Successful Practice Case Studies, a joint effort of the HPCTF and APTR that was funded by the HHS Office of Disease Prevention and Health Promotion. Abstracts, case studies, sample curricula and teaching tools are available at: <http://www.aptrweb.org/SuccessfulPractices>

Interprofessional Health Education

Duke University

www.aptrweb.org/resource/resmgr/sp_interprofessional/dukeu_kaprielian_cs3.pdf

Faculty from four Duke University health professions programs developed a vision for interprofessional education. The topic of health promotion and disease prevention is ideal for interprofessional collaboration, as it is core material for all of the participating programs (Doctor of Medicine, Physician Assistant, Doctor of Physical Therapy, and Accelerated Bachelor of Science in Nursing). The resulting one-credit course provides an introduction to fundamental concepts of prevention for entering students within the first month of their respective programs. By establishing early-on a culture of collaboration, in which population health and community context are essential aspects of the care of patients, this course attempts to assist in the culture shift from treating illness in one patient at a time to improving health on a community level.

The Interprofessional Introduction to Prevention course meets one afternoon per week (4 hours) for four consecutive weeks. Students are organized into interprofessional teams, in which they complete team-based learning exercises and a brief project. Before and after, students complete the Readiness for Interprofessional Learning Scale (RIPLS). Web-based modules in Community Health, Clinical Prevention, Health Promotion, and Health Literacy are also utilized.

This interprofessional course uses a team-based learning approach to develop student appreciation of the unique contributions of various health care providers in providing best practice prevention care to populations. Interprofessional student teams work in small groups for organized activities and a community-oriented final project. Web-based modules supplement in-class presentations, providing content necessary in preparation for team-based learning exercises.

The final team project is a 12-slide “electronic poster.” Each student team is assigned a specific member of a fictional family. The team analyzes a specific health issue for this family member (e.g., obesity, diabetes, risky behaviors, low self-esteem, delinquent immunizations), considering the local, regional, and national context. Teams develop prevention and health promotion plans on both the individual and population levels, with attention to the social determinants of health. A poster session on the final day enables students to learn from each other’s work.

University of Connecticut

www.aptrweb.org/resource/resmgr/sp_interprofessional/uconn_dang_cs.pdf

The Urban Service Track is a unique collaboration between the University of Connecticut (UConn) Schools of Medicine, Pharmacy, Nursing, and Dental Medicine and community practitioners. The main goal of the Urban Service Track is to develop a group of health care professionals dedicated to caring for Connecticut’s urban, underserved populations and who are knowledgeable about the value of interprofessional teamwork. Each year a group of students from the four professional schools are selected and admitted into the program via an admission process specific to each school. These Urban Health Scholars work as a team to learn to solve challenging issues of health care in urban areas, including providing direct patient care in free clinics, promoting health literacy and cultural competency, and participating in community education and other outreach initiatives. They also conduct quality improvement projects, community-based research, and participate in conferences and professional meetings focusing on health policy and advocacy activities affecting underserved populations.

The Urban Service Track curriculum focuses on the following competencies:

- Cultural and Linguistic Differences
- Professional and Ethical Conduct
- Multiple Constituencies
- Interprofessional Teamwork and Leadership
- Community Resources
- Resource Constraints

- Population Health and Public Health
- Health Policy
- Health Care Financing and Management
- Quality Improvement and Patient Safety
- Advocacy

The Urban Service Track (UST) is a two-year “add-on” program that runs concurrently with the main curriculum within the four schools and provides its Scholars with enhanced learning opportunities. Students admitted into the program are designated as Urban Health Scholars and complete the UST curriculum in addition to the main required curriculum for each respective school. Mastery of the 11 competencies described above is accomplished via community-based patient care, advocacy, and research activities as well as active participation at 8 quarterly learning retreats (4 per year). At each learning retreat, students are introduced to a different vulnerable patient population to enhance their knowledge and understanding of health care issues and barriers specific to that population. Populations covered include: children and youth, the elderly, the homeless, immigrants and refugees, HIV positive patients, those with substance abuse histories and the incarcerated and ex-offenders. Scholars are also required to participate in at least 8-10 field activities, depending on the specific curricular requirement of each school. All field activities are community-based. They are focused on clinical care (e.g., blood pressure and kidney disease screenings at health fairs or oral health screenings), education (e.g., nutrition education to seniors and children, oral health education, fall prevention awareness, community gardens, health careers awareness programs to K-16 students), or advocacy (e.g., participation at the National Association of Community Health Centers' Annual Policy and Issues Forum). Field activities are developed by the UST director and faculty in conjunction with community-based agencies. A unique component of UST is the strong connection with community partners such as community health centers, Hartford Department of Health, and primary care organizations.

Allied Health Education– Occupational Health

University of Oklahoma

www.aptrweb.org/resource/resmgr/sp_allied_health/uohsc_hamilton_cs.pdf

Occupational therapy emphasizes the influence of the environment on public health. The program’s goal is to produce occupational therapy graduates who are prepared to work with groups and organizations to address population and individual health needs through engagement in healthy occupations. Each semester, this sequence reinforces didactic learning while building proficiency and expanding community and population foci. The curricular emphasis on public health content culminates in the seventh semester with OETH 7192 Exploring Community Participation, the capstone course for service-learning and community-based practice. The purpose of this third-year course is to introduce and develop community-building skills. Students examine contemporary approaches to interventions in community settings, including needs assessment, community-building, program development, funding alternatives, identification and measurement of program outcomes, and program evaluation. Students assess needs of the participants, environmental contexts, and occupations to formulate hypotheses and work with participants, students, and facility staff to suggest training and environmental modifications to enhance occupational performance. For example, in several school settings, they recommended environmental modifications to support attention in classrooms, designed an anti-bullying pro-social curriculum, taught emotional regulation and coping skills activities, and promoted exercise and outdoor activity for children ages 2-11 years old. In the living area of a private school, students assessed hazards and implemented environmental modifications by modifying laundry baskets and placing safety equipment in bathrooms.

Allied Health Education– Nutrition and Exercise

Sacred Heart University

www.aptrweb.org/resource/resmgr/sp_allied_health/sacredheartu_bjerke.cs.pdf

Fit Kids is a nutrition education and physical activity program created collaboratively by the Norwalk Health Department, Sacred Heart University, and Norwalk Community College in Connecticut. Undergraduate exercise science students serve as interns and assist in leading/supervising nutrition education and physical activities for elementary school children. Childhood obesity prevalence in Norwalk, Connecticut reflects national trends. As a result, the objectives of Fit Kids include increasing physical activity and healthy eating habits among children

enrolled in after school programs. These objectives match nutrition and physical activity content and curriculum in undergraduate exercise science courses at Sacred Heart University and Norwalk Community College in addition to goals and objectives of Healthy People 2020.

The specific objectives of Fit Kids include a decrease in mean BMI and fat mass, an increase in lean body mass, and improved indicators of fitness including upper body strength and lower extremity power. Fit Kids also seeks to increase self-confidence, self-efficacy (via validated tests) and knowledge of nutrition content measured via a pre and post quiz.

The preparation and administration of Fit Kids nutrition and physical activities by the students requires integration of course content with transformative social engagement with the children and the professionals associated with the program. Service learning is the primary pedagogy used including supporting lecture content and orientations provided by the health department. The program has attracted corporate sponsors and local politicians to events including the mayor of Norwalk. The intervention duration is 12 weeks consisting of two one-hour sessions per week including 30 minutes of nutrition education and 30 minutes of physical activity.

The Fit Kids program assessed several variables among children in the intervention group and comparison group in 2011. Decreased BMI and percent fat was observed in the intervention group as well as increases in strength, power, and self-efficacy. The results from a standardized questionnaire that assesses undergraduate student service learning outcomes reveal that over 80% of student respondents found that activities were “relevant to the course” and “enhanced communication skills”.

Dental Education

University of California, Los Angeles

The overall goals of this course are to increase the predoctoral students’ awareness of oral health in the community and the role of clinical dentistry in maintaining oral health and making dental services available, as well as to increase the involvement of the dental profession in community events. Specifically, the course, titled “Community Oral Health Education, Screening and Service” offers students an opportunity to participate in a community event such as an educational health fair, workplace oral health education/screening, or community health screening. Each event is characterized by its target population and community. Students learn about the target population; select appropriate educational materials; plan for adequate staffing, supplies, equipment and transportation; prepare an attractive setting for their presentation at the event; use educational aids such as brochures, videos and an intraoral camera for individualized health education; and use effective communications for health education. Students are required to attend 5 one-hour didactic sessions and participate in two community oral health education events. The type of community events varies in duration from 3 to 7 hours. Credit is given for actual hours. Total= 12-18 hours. The didactic course covers the demographics of a community, facilities where fairs might be staged, and the actual operation and maintenance of the dental portable equipment.

Students participate in Community Health Fairs throughout the greater Los Angeles metropolitan area. The scope of services provided by dental students is oral health education, oral screening, topical fluoride application, and dental sealants. The majority of the fairs are held with the medical school, so dental students have an opportunity to interact with medical students. After attending two fairs, the students are required to attend a reflective session where they have an opportunity to discuss their experiences and discuss the characteristics of the different communities where they provided services.

Medical Education

Kansas University School of Medicine

www.aptrweb.org/resource/resmgr/sp_medicine/kansasu_ellerbeck.cs.pdf

To promote competencies in population health, the University of Kansas developed a required 4-week clerkship which provides students with practical experiences in practice-based learning and improvement (PBLI). In this clerkship, student teams are matched with a clinician with a relevant PBLI project and assigned to a ‘methods advisor’ from the Department of Preventive Medicine and Public Health. Students receive ‘just-in-time’ training in the classroom on issues related to project development and implementation.

- Week 1: Identify need/issue for a defined patient population; investigate current literature and project methods
- Week 2: Design project plan, develop data collection tools, and select statistical tests for evaluation

- Week 3: Collect and analyze data
- Week 4: Present findings

Student teams demonstrate progress on their PBLI project by meeting weekly with their methods advisor to review project benchmarks. Within the past decade student teams have engaged in over 500 projects. Categories include: 1) Community Aspects of Practice and Public Health (56%); 2) Outpatient Clinical Practice Improvement (20%); 3) Inpatient Clinical Practice Improvement (18%); 4) Medical Education (4%); and 5) Health Policy (2%). Students demonstrated competency by successfully applying quality improvement methods to these focused population health issues. The progress to-date demonstrates that a 4-week PBLI clerkship is feasible and can provide practical quality improvement experiences in which students can achieve population health competencies.

Health of the Public (HOP) is a required fourth-year medical school clerkship offered three times in the academic year: October, February and April. During this 4-week clerkship students participate in interactive team-based learning sessions, attend seminars, and work in teams on a population-based health care project called their “capstone project.” The framework for this required team-oriented clerkship grew out of the RMPHEC population health competencies and the ACGME practice-based learning and improvement (PBLI) competencies. The course links students with practicing clinicians or members of the community who are interested in studying or improving clinical practice or addressing a health concern.

Kirksville College of Osteopathic Medicine

http://www.atsu.edu/kcom/programs/osteopathic_medicine/index.htm

Prevention and holistic care for persons, families and populations are core aspects of osteopathic medicine. As such, the Kirksville College of Osteopathic Medicine, the founding school of osteopathic medicine, threads learning in evidence-based medicine, social determinants of health, healthcare systems and health policy and community focused health across a two year Complete Doctor course within the department of Family Medicine, Preventive Medicine and Community Health. Additionally, in the Osteopathic Theory and Methods course, students are taught how to help patients maintain homeostasis thus maintaining health. These courses are designed to inculcate values, skills and knowledge leading to a well-rounded student physician ready to address the complex needs of patients, families and populations in a comprehensive manner.

Early in a foundations section of material, the Healthy People Framework is introduced to students as benchmarks for population health goals with a focus on preventive medicine. Additionally, four hours of principles of Evidence-Based Medicine (EBM) learning takes place within this section of the curriculum. Within patient-oriented systems sections (the remainder of years one and two), students are introduced to evidence-based medicine didactics appropriate for the system they are studying. The culmination of the evidence-based medicine aspect of the curriculum is juried poster presentations of students’ own topical EBM research.

To help to address physician workforce distribution and, again, to stay true to their osteopathic heritage, the school emphasizes primary care. Social determinants of health, vulnerable populations, health literacy and cultural awareness are all didactic components early in the curriculum. These frame the learner’s approach to clinical didactics across all courses. Healthcare systems and health policy are examined in the fourth semester prior to moving into clinical training sites. A day each spring is set aside to visit the state capitol to raise awareness of vulnerable patient needs and the philosophy of osteopathic physicians. While not required, approximately 70% of students make the two-hour trip to talk to legislators.

Learners have opportunity to explore some of these topics more deeply through elective coursework in Vulnerable Populations, Cultural Awareness in Medicine, Introduction to Public Health, and Health Partners. The latter teams osteopathic medical students with nursing, speech and language disorders, dental and health science students to make interprofessional house-calls on elder patients, performing health screenings and surveying issues such as fall safety and healthcare utilization and needs.

University of Massachusetts Worcester Family Medicine Residency Program

http://www.aptrweb.org/resource/resmgr/sp_medicine/umass_deligiannidis.cs.pdf

The University of Massachusetts Worcester Family Medicine Residency is a GME grantee through the Regional Medicine-Public Health Education Center (RMPHEC) initiative, sponsored by the Association of American Medical Colleges and the Centers for Disease Control and Prevention. RMPHEC grantees were required to integrate public/population health and prevention content into their curricula through collaborations with their local/state health agencies and other community partners. The goal of the revised curriculum is to foster a culture of incorporating fundamental public health principles into everyday clinical practice. This integrated curriculum was designed to enrich existing elements of the current residency structure through longitudinal as well as

concentrated experiences, interspersed throughout the three years of residency training. This strategy of integration has resulted in significant improvements in public health and prevention education, without stressing an already strained residency curriculum. This case study describes how one primary care residency integrated public health and prevention education into family medicine training to help residents acquire skills to improve a population's health.

The enriched curriculum has 5 elements: 1) chart rounds; 2) home visits; 3) resident workshops; 4) Family Medicine and Community Health (FMCH) rotation; and 5) senior projects. These elements are longitudinal: chart rounds are required daily, case-based teaching conferences that occur at each of the residency's outpatient training sites; home visits and resident workshops occur throughout the 3 years of residency; and although the FMCH rotation (a one-month intern rotation) and senior projects occur at the beginning and end of residency, they are longitudinal as they set up the framework for resident senior projects. Because these elements already exist as part of the longitudinal curriculum, and are not additional discrete activities, they are sustainable.

The prior structure of Chart Rounds was: residents finished their afternoon clinic session and attended Chart Rounds for 1 to 1.5 hours, where they presented problem-focused, challenging patient cases to fellow residents, the preceptor, and other attendings. This discussion was to elicit additional opinions and advice to help in managing the case. Curriculum enrichment resulted in developing a mnemonic, COMPLETE, that expanded these discussions by reminding participants to consider: Context, Outside visitors, Mental health, Population perspective, Learning from others, Expectations, Time, and Ending with a culture of continuity. In this new "COMPLETE" Chart Rounds, the preceptor leads the discussion and incorporates visiting experts - e.g. pharmacists, behavioral therapists, librarians, and/or public health department partners - into the discussion, using information from the Massachusetts Community Health Information Project (MassCHIP), an online public health database, to provide a public/population health context for the topic being discussed. Chart Rounds discussions have been enriched and employ a population health/public health perspective.

Prior to these curricular changes, home visits occurred in the second and third residency year, focused on patients' medical issues, and the second year curriculum included two afternoon workshops on home visit care. This provided an opportunity to integrate population health into the home visit assessment. This comprehensive review of the home environment and how it affects patients' health, make the social and behavioral determinants of health more vivid for our residents.

Resident workshops were broadened to introduce public health principles. Prior to the curricular change, first year residents had an introductory exposure to their health center's community during their first year FMCH rotation. As a result of curricular improvements, the following additional changes occurred: 1) Residents participate in a Foundations rotation during their first residency month. This provides an introductory exposure to their outpatient health center site as well as to their inpatient settings. At the end of this rotation, combining their interests with community need, residents create a draft framework of a project that they will carry out during their residency. 2) Midway through the first year of residency, interns return to focus on their outpatient health center community for the FMCH rotation that includes training in community assessment. As a group, the residents revisit their chosen focused area of interest to develop a mini-project. This work becomes the basis of an early spring workshop where residents present their assessment and project work to their colleagues and their health center's community medicine faculty champions. 3) Senior projects are the final aspect of the enriched curriculum. Residents work with faculty advisors who guide them in the research, implementation, and evaluation of their project, with a goal of including a public health perspective.

Enriching elements have been incorporated into the curriculum with the goal that, on graduation, residents will be able to: a) apply population health principles within the context of individual patient care and b) consider a population-wide approach to particular health problems as a means of promoting the health of specific groups within the community.

Rutgers New Jersey Medical School

www.aptrweb.org/resource/resmgr/sp_medicine/umdnj_bronson.cs.pdf

In 2006 New Jersey Medical School (NJMS) reassessed its preventive medicine and public health curriculum, using the mandates outlined in the APTR Clinical Prevention and Population Health Curriculum Framework as a guide. As a result, NJMS created a mandatory 4th year clerkship to extend the preventive medicine and public health training of medical students specifically into the clinical years, in the context of multiple specialties. At the time of the assessment, NJ MS already had a comprehensive preclinical public health curriculum. That curriculum focuses on clinical nutrition, clinical prevention (i.e., recommended screening and lifestyle modifications), and biostatistics

and epidemiology (directed at understanding the medical literature). The new Preventive Medicine/Public Health Clerkship, as offered by the Department of Preventive Medicine and Community Health, consists of two-week clinical rotations created in collaboration with preceptors from a variety of clinical departments. The core curriculum includes seminars on paradigms in preventive medicine and public health, sentinel health events and surveillance, healthcare law and clinical practice, healthcare systems, and medical errors. Preceptors develop specialized curricula that focus on the clinical application of public health and preventive medicine concepts within their respective specialties, while incorporating and responding to the core concepts and topics discussed within the clerkship seminars.

This clerkship demonstrates that clinically-focused public health education is effective in increasing medical students' awareness of the clinical relevance of public health. This clerkship provides a necessary perspective for future doctors, and is an effective step towards improved training for medical students in population-based medicine. The course employs interactive case studies, lectures, clinical interactions, independent study, reading assignments, and student presentations. Evaluation and grading are based on direct observation and faculty evaluation of student presentations. Two-week Preventive Medicine/Public Health (PM/PH) clinical rotations across specialties were created, with goals and objectives specified by the Department (DPMCH), but designed in collaboration with clinical preceptors. A concentrated effort was made to identify preceptors from a wide variety of specialties, in order to provide students with opportunities to engage public health concepts in their areas of clinical interest. In accordance with LCME requirements for mandatory clerkships, a core curriculum for all clerkship sites was also developed:

- 1) An introductory lecture on important paradigms of preventive medicine and public health, as applicable to clinical medicine.
- 2) Four interactive seminars, as proposed by DPMCH faculty and correlating with the CPPH Framework: Sentinel health events and surveillance; Healthcare law and clinical practice; Comparative healthcare systems— models for healthcare delivery and their impact on outcomes and disparities; and Preventing medical errors – a systems approach. The interactive seminars allow students to learn through group discussion and feedback from peers and faculty.

Matching students to sites relevant to their clinical interests required the recruitment of public health practitioners from a wide variety of departments throughout the medical school, as well as at affiliated institutions. Preceptors developed curricula focused on the clinical application of public health and preventive medicine concepts within their specialties, while incorporating and responding to the core concepts and topics discussed within the clerkship seminars. In addition, preceptors guided their students in identifying sentinel health events and preparing presentations about them specific to their area of clinical practice.

Nursing Education

San Diego State University School of Nursing

http://www.aptrweb.org/resource/resmgr/sp_nursing/sdsu_fitzsimmmons_cs.pdf

The College of Health and Human Services at San Diego State University (SDSU) established a partnership with Senior Community Centers in San Diego to support an interprofessional clinical site, the SDSU Clinic, based in a senior wellness center to train students to deliver health and wellness services. The College of Health and Human Services is composed of the Schools of Nursing; Social Work; Nutrition and Exercise Science; Speech, Language and Hearing Sciences; and the Graduate School of Public Health. The SDSU Adult-Gerontology nurse practitioner (NP) faculty envisioned opportunities for students to work with culturally diverse, low-income seniors with chronic health problems without the time constraints of the traditional primary care setting. The faculty spearheaded the plan for the delivery of healthcare services and contributed to the architectural design of the SDSU Clinic, taking into consideration the space needed for student learning.

In fall semester 2010, students from each School in the College began engaging in clinical or non-clinical activities at the SDSU Clinic. Services provided by students from the various disciplines in the College were components of courses and internships in their disciplines. The NP students and faculty provided health services weekly at the SDSU clinic and initiated referrals to other disciplines. Interdisciplinary conferences were held to discuss cases, share information, and to plan services.

The clinical services provided by NP faculty and students at the SDSU Clinic were part of the clinical coursework in the Adult-Gerontology NP curriculum and were partially supported by the instructional budget of the School of Nursing. The SDSU Clinic provided the environment for students to meet select competencies delineated in the Adult-Gerontology Primary Care Nurse Practitioner Competencies. For example, a Health Assessment Clinic

offered beginning NP students the opportunity to develop and refine their history and physical exam skills with seniors. In addition, faculty designed specialty clinics to offer NP students a chance to address high volume chronic health problems of seniors. Over the first year, approximately 350 NP student/senior health and wellness service encounters had occurred and clinical data entered into the wellness center's electronic database.

The SDSU NP faculty and students have embraced a model that fosters interprofessional collaboration and offers a clinical practice site that combines learning activities that meet student-learning needs with providing quality health and wellness services for seniors. The NP faculty has planned additional interprofessional learning activities with other disciplines and recognizes the value of the clinic for developing rich clinical practice and research opportunities to support doctoral education. The mutual benefits of the academic partnership with the community senior center make this a successful model for replication by other NP programs.

Southern Illinois University Edwardsville School of Nursing

www.aptrweb.org/resource/resmgr/sp_nursing/southernillinoisedwardsville.pdf

Students from SIUE Nursing School are required to produce a project in the community during their public health nursing clinical experiences. After performing the community assessment as a group assignment, the students create a collaborative plan with the community residents and local stakeholders that includes a mutually agreed upon timeline for implementation. This nursing student activity has resulted in a formalized resident and academic partnership named the Green Partnership.

Nursing students initially performed a Community Health Living Index (CHLI) assessment in order to implement a healthy lifestyle and activity program in a zip code. After meeting in the homes of residents, cleaning up trash and discarded tires which litter the city became a mutually agreed upon outcome. Working with other universities, nursing students participated in multi-disciplinary, community-based approaches to renovate an existing Jones Park greenhouse and to build raised growing beds. Eight months after the community garden opened, the vegetables, herbs and flowers were thriving and providing food sources and plants for residents to start their own gardens. Jones Park gardens provide resources to the residents for seeds, seedlings, plants, trees and garden coaching.

The Green Partnership grew from this activity and is engaged in health fairs, planting demonstrations, mentoring new gardeners, produce give-a-ways, and gardening education to children as well as providing produce to homeless shelters. The Green Partnership works with the East Side Health District, which serves as the public health department for East St. Louis. There, the Green Partnership sponsors the teaching garden and orchard located at the health department offices. Future plans include a teaching kitchen that will offer demonstrations on cooking, canning, freezing and drying produce. The Green Partnership engages the school systems by supporting gardens that serve as teaching environments for science, math, and biology classes in two schools. The schools use the produce for school lunches and snacks. Finally, the Green Partnership is involved with the public housing population through the development of five new gardens using "lasagna" gardening, in which layers of organic materials can be placed on top of any subsurface, including paving and contaminated soils. Additional gardens using discarded tires as planters provide beds for potatoes and carrots.

The Green Partnership has developed a five-year plan with annual goal achievement benchmarks. Classes now perform annual evaluations of these achievements, reassess the goals, and set benchmarks for the coming year. Quarterly strategic priorities are assigned to the students in nursing as well as to the community and collaborating universities that include the Urban Research Institute of Southern Illinois University Edwardsville, the University of Illinois Schools of Informatics and Urban Research, and social work students from Washington University. Key success factors are the students working in diverse populations while learning first-hand the barriers and obstacles impacting the population's health; creating trust and relationships in the community between residents and with academia that are "living partnerships"; resident involvement and awareness of the assessment; implementation of a viable program being done cooperatively with residents and not to them; advancing the concept of health literacy with social marketing that has created a sense of pride, ownership, and empowerment among the city's residents.

The public health nursing curriculum's clinical rotation was previously limited to visiting a Public Health department and rotating through the department's service offerings. Typically, a community assessment was completed during the course. Since implementation of this program, didactic curricula on Public Health core functions, population issues, and management have remained as before. Using the healthy communities approach has created a "living the theory" model and afforded deeper understanding and appreciation of the Healthy People 2020 objectives.

This program has expanded into the pediatric nursing curriculum. Within the SIUE academic community, it has increased collaboration with engineering, urban studies, student organizations and general university support. The program has expanded to include other universities in the St. Louis metro area. Students of social work, engineering, political science, business, architecture, horticulture, education, economic development and marketing are involved in the numerous components and work groups of the Green Partnership. The core community agencies involved include to date: the county and local health departments, school districts, city and park administration, school districts, universities, county water department, police departments, housing developments, faith-based organizations and local media outlets (newspapers, cable and network news outlets).

University of North Florida School of Nursing

www.unf.edu/brooks/nursing/undergraduate_programs.aspx

The undergraduate nursing program at the University of North Florida has a community-based, population-focused curriculum that integrates the principles of population health and community engagement throughout the undergraduate nursing program. The program has been in-place for ten years and is based on a community ecology model that encourages holistic thinking about the relationship of health to community development. Students enter the professional nursing component of the undergraduate program in the third year of their university career with prerequisite courses in basic statistics, psychology, sociology and the liberal arts. At the start of their five semester sequence of nursing courses they are introduced to their community home-base, the service-learning site for the duration of their undergraduate nursing program. Students are mentored throughout the five semester experience by two faculty members who remain with them for the duration of their service learning experience. The faculty members do not always have a public health nursing background, but do have strong interests in the community or may have an association with a community agency.

At the start of the experience students learn basic public health concepts in an introductory class and begin a community assessment in their community home-base. They are briefly introduced to public health nursing roles, family and community assessment, descriptive epidemiology, environmental health and transcultural nursing. Throughout the first four semesters, students plan, implement, and evaluate various community projects for at risk populations in cooperation with community stakeholders and faculty mentors. Their relationship with the community moves from development of familiarity with the people and place to a deepening level of engagement and commitment. Their projects focus on health promotion and illness prevention by providing screening, health education, resource development, referrals, and many more. Through these activities, population health concepts are threaded across the curriculum.

During the senior year of the baccalaureate program there is a 5 credit course that provides 2 credits of didactic content and 90 hours of public health nursing content. This course provides didactic content in epidemiology, policy and advocacy, health system organization and financing, and change theory. Students also complete community projects as part of this course sequence.

Pharmacy Education

Albany College of Pharmacy

www.aptrweb.org/resource/resmgr/sp_pharmacy/albanyu_scarpace_cs.pdf

The Joint Commission of Pharmacy Practitioners Future Vision of Pharmacy Practice 2015 suggests that pharmacists will provide both "patient-centered and population-based care...and...promote health improvement, wellness, and disease prevention." Furthermore, the Accreditation Council for Pharmacy Education (ACPE) Standards and Guidelines 2007 include various aspects of public/population health competencies throughout their guidelines. Albany College of Pharmacy and Health Sciences (ACPHS) places an emphasis on real-time interaction with local public health organizations to provide students with real field experience in public health. In addition, our core group of community pharmacy-based faculty offers a "Well-Tip" program which includes various health screenings and promotion activities for the public at local pharmacies. Additional didactic coursework in wellness/preventive medicine includes elective courses in tobacco cessation; cancer screening, prevention, and early detection; and a required course in immunizations.

A 40-hour Introductory Pharmacy Practice Experience (IPPE) in Public Health is a required component of our professional curriculum and must be completed the summer following the students first professional year (P1). Students are required to take a 6-week Advanced Pharmacy Practice Experience (APPE) in Community Pharmacy that provides them the opportunity to participate in various "Well-Tips" initiatives. These initiatives include blood pressure screenings, education about cancer screenings, and other disease prevention services. Didactic

coursework in tobacco cessation, cancer screening, prevention and early detection and immunizations complement this community pharmacy experiential offering.

Physician Assistant Education

Touro University, CA

www.aptrweb.org/resource/resmgr/sp_pa/tourou_ghebrekidan_cs.pdf

In September 2002 the Touro University, California – College of Education and Health Sciences (TU-C COHS) established a Joint MSPAS/MPH Program which sought to develop an integrated Medical and Public Health (PH) curriculum. Since its inception, the Joint Program has graduated seven cohorts of MSPAS/MPH graduates and is one of the first to have a mandated and integrated clinical and public health curriculum. The success of the program can be measured by the increasing number of applicants it attracts and survey data from applicants which indicate that an overwhelming percentage apply because of the joint degree program.

The uniqueness of the Joint Program is that it makes clear that together both disciplines yield better overall health outcomes for prevention and population health, as one discipline does not exist without the other. The philosophical approach of the Joint MSPAS/MPH Program is to train health professionals to understand that medicine and public health are complementary professions. More specifically, the MSPAS/MPH curriculum stresses that treating individuals and diseases is not sufficient. Clinicians must also address the root causes of disease as it relates to socio-economic factors, environmental conditions as well as other factors which directly affect the health of communities. The Joint Program is a collaboration of two programs, the Master of Science in Physician Assistant Studies and the Master of Public Health, which is based on firm interdisciplinary collaboration, and the integration of public health and clinical courses into one curriculum.

Instruction within the Public Health courses ensures that relevant clinical examples and case studies are included for Joint Program students. Likewise, the Physician Assistant curriculum promotes the public health framework throughout a number of clinical courses to reinforce the need to integrate public health and medicine.

Furthermore, faculty from the Public Health Program regularly lecture in certain PA courses, and four Physician Assistant faculty hold public health degrees and five Public Health faculties hold clinical degrees, all which helps to further highlight the relevancy of the integration within both disciplines.

Structurally, Phase 1 is delivered as a 32 month program (8 academic semesters). The first four semesters are didactic (pre-clinical) and clinical and public health coursework are completed concurrently. The clinical year includes 8 clinical rotations; students then return to campus for a final semester, which includes 1 public health field study, the physician assistant summative course and the culminating public health capstone course.