

## INSTRUCTIONAL DESIGN AND ASSESSMENT

### AdvoCaring: A Cocurricular Program to Provide Advocacy and Caring to Underserved Populations in Baltimore

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**Objective.** To incorporate direct patient care and service components throughout a 4-year pharmacy program to enable students to apply knowledge learned in the classroom and develop the human and caring dimensions of Fink's Taxonomy of Significant Learning.

**Design.** Groups of 10-12 students and a faculty advisor partnered with a local agency serving an underserved population of the greater Baltimore area to provide seven hours of service per student each semester. Activities were determined based on students' skills and agency needs.

**Assessment.** Over 10 000 hours of care were provided from fall 2009 through spring 2014 for clients at 12 partner agencies. Student feedback was favorable.

**Conclusion.** Cocurricular learning enables students to use their skills to benefit local communities. Through an ongoing partnership, students are able to build on experiences and sustain meaningful care initiatives.

**Keywords:** service learning, advocacy, student leadership, public health

#### INTRODUCTION

Notre Dame of Maryland University School of Pharmacy (NDMU SOP) was established in 2008, and the first class of student pharmacists was admitted in fall 2009. The school offers a 4-year professional curriculum. A key component of the curriculum at the school is the AdvoCaring Program for which there is an ongoing partnership with nonprofit agencies. This program supports the school's mission to educate student pharmacists to be compassionate, ethical professionals who improve medication use and provide quality care to a diverse population; develop leaders and advance public health.

Through participation in AdvoCaring, students ideally apply the skills and knowledge learned throughout their education to the communities they serve. Cocurricular hours provide students with opportunities to apply their skills and engage in experiences that cannot be readily provided in a formal classroom setting. Examples of student engagement in cocurricular activities include single exposures,<sup>1</sup> individual courses,<sup>2-4</sup> elective courses,<sup>5-7</sup> and specific events.<sup>8-10</sup> Each student at the school is required to complete 10 cocurricular hours each semester,

and the AdvoCaring program accounts for seven of the 10 required hours. Unlike the models noted above, the AdvoCaring program was developed as a 4-year longitudinal experience for students designed to achieve four goals: (1) provide an opportunity for students to apply the skills and knowledge taught in the classroom; (2) meet the health related needs of partner agencies on a longitudinal basis; (3) provide a longitudinal opportunity for students to work with a single partner agency so the impact of activities can be sustained; and (4) give students the opportunity to work with diverse populations.

To achieve the stated goals, AdvoCaring applies a unique longitudinal design approach to service learning in which each student is assigned to a partner agency for the duration of the 4-year program. Every two years, another group is assigned to the same agency. This approach assures agencies of the school's commitment to sustaining effective initiatives and follow up while giving students the opportunity to experience the impact of their initiatives over time. Using a layered-learning approach, third-year (P3) and fourth-year (P4) students work with first-year (P1) or second-year (P2) counterparts, respectively, to train and facilitate the sustainability of the partnership.

Additionally, all partner agencies provide services to underserved populations. With the release of the Accreditation Council for Pharmacy Education Standards 2016,

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elements of AdvoCaring were reviewed for alignment and were found to provide students with the opportunity to develop the affective domain as noted in Standards 3, 4, and 12, and to meet elements for public health (Appendix 1).<sup>11,12</sup> Additionally, since the program is connected to several courses and is included in all years of the curriculum, students are able to practice skills and concepts learned as they progress in their knowledge and skill development. Thus, AdvoCaring offers a comprehensive and integrated approach to student learning.

## DESIGN

During the initial planning phases of the curriculum for the school in 2008, steps were taken to incorporate early and ongoing practice of skills that would benefit students and meet the health care needs of Baltimore. The opportunity to create a curriculum that took a holistic approach to pharmacy education and could be of service to the diverse communities of Baltimore and surrounding areas allowed for conceptualization of this program, which was developed over 1.5 years of discussion, revision, partnership development, and partner input.

The AdvoCaring program allowed students to progress from the application level to the creating level within the revised Bloom's Taxonomy.<sup>13</sup> Students applied what they learned in the first and second years, analyzed their impact in relation to agency needs, evaluated their work, and created and planned initiatives for a capstone project. AdvoCaring extends beyond the cognitive learning described by Bloom. By allowing students to apply foundational knowledge and skills through caring for an underserved population, while integrating their own learning interests with the interests of the population they are serving, this program addressed the application, integration, and human dimension and caring levels of Fink's Taxonomy of Significant Learning.<sup>14</sup>

Partner agencies were selected based on whether they could: manage 24 volunteers (students are assigned in alternating years so agencies have a team in the later part of the curriculum and a team in the earlier years of the curriculum), provide opportunities for student activities to change as students' skills develop, provide client access to students, provide feedback to program faculty members, and provide regular communication with students and faculty members. Agencies were selected so a diverse representation of Baltimore would be included. Duplication of agencies with similar functions was avoided if possible. As a Catholic institution, several of our partner agencies are within the Catholic Charities of Baltimore. Partnering agencies are: Our Daily Bread Employment Center, Esperanza Center, My Sister's Place Women's Center, Jenkins Senior Living Community The ARC of

Baltimore, Access Carroll, Basilica Place, St. Jerome's Head Start, Gilchrist Hospice, Helping Up Mission, Greenmount Senior Center, and HopeSprings. The first six agencies were assigned to classes starting in odd numbered years (2009, 2011, 2013, 2015). The next six agencies were assigned to classes in even numbered years.

To date, there were three changes in partner agencies. In the first instance, the agency was not able to provide client access to students. This change was made between the first and second years of the program. In the second instance, agency funding diminished so the agency could no longer use and support student needs. This agency was replaced with another serving the same population. In the third instance, the advent of the Affordable Care Act changed the focus of the agency. This was replaced with another agency serving a similar underserved population. With each change, faculty members worked with students to transfer programming designed for the first agency over to the second agency, as appropriate, so students could maintain momentum within the program.

On admission to the school, students are randomly divided into six base teams of approximately 10-12 students as a strategy to develop team skills. Each team is assigned to a local agency that provides services to the underserved. Each team has an AdvoCaring faculty advisor who works directly with the AdvoCaring student leader and the agency liaison. In the P1 fall semester, as part of the Foundations of Pharmacy Practice course, students begin working with the assigned agency by conducting a needs analysis of the agency to provide services according to the highest needs of the agency and skill level of the students. In the P1 spring semester, using the health screening and promotion skills learned within the curriculum, students conduct a health screening for the agency clients and where possible, participate in an advocacy day with their assigned agency in Annapolis, Maryland.

In addition to agency legislative days, students write advocacy letters to Maryland legislators and editorials on behalf of populations served by the agencies. In the P2 and P3 years of the program, when the students' clinical skills further develop, their role within the agency evolves to use their new skill sets. Each semester, students meet with agency personnel to update the needs analysis, discuss new skills gained, and formulate a plan that allows them to use learned skills to meet the needs of agency clients. The program culminates in the fourth year in the final advanced pharmacy practice experience (APPE) capstone project.

One component of the capstone requires each student team to conduct a 1-day event at their assigned agency to meet at least one identified need. Student teams are

encouraged to collaborate with outside partners, obtain external funding, educate clients about the role of the pharmacist, and use creative strategies. A sample syllabus from one of the sites is in Appendix 2.

Student leadership within AdvoCaring includes a student team AdvoCaring leader; a historian to keep track of service activities, hours, and numbers served; and a photographer for visual recording of events. A critical aspect to the success of the program is clear, continuous, 3-way communication between the student leader, the faculty liaison, and the agency liaison. Two-way communication can be the source of confusion and difficulty.

Table 1 provides example activities at each of the 12 partner agencies in each of the academic years. The diversity of the partner agencies demands diversity of student activities. Specific activities were based on the needs analysis, input from agency liaison, and approved by the faculty advisor. All faculty members in the Department of Clinical & Administrative Sciences serve as advisors for AdvoCaring. Whenever possible, the one faculty member advises the two teams of students at a given site. When this is not possible, two faculty members are assigned to advise the two teams of students. All first-year pharmacy students are assigned to an AdvoCaring agency within the first month of the fall semester.

In the first semester, the AdvoCaring program is a core component of the Foundations of Pharmacy Practice course. In this course, students learn which agency they will be partnered with, research the agency, make an orientation visit that includes conducting a needs analysis, provide two service visits, and write a guided reflection. Components and strategies for developing a needs analysis are discussed in class. Also during the first semester, between Foundations of Pharmacy Practice and Pharmacist Care Lab, communication skills, professionalism, and problem-solving skills are addressed. To further prepare students for AdvoCaring, students are taught cultural competence principles with the text "*The Spirit Catches You and You Fall Down*."<sup>15</sup> Incoming students are required to read the book over the summer. Students reflect via an online blog discussion and debriefing occurs through group discussions during their fall orientation.

Additional courses later in the curriculum such as Care of Diverse Populations and Public Health further build on cultural competence aspects (eg, communication, culture, perception, ethics, belief models, health literacy) while also complementing the "hands on" learning of the AdvoCaring program. These courses use methods such as didactic lectures, assignments, experiential activities, reflections, and in-class group activities to teach cultural competence. A P1 spring course, Developing the Leader Within, adds the advocacy and leadership

development components. In semesters 2 to 6, each student provides seven hours of service per semester. In the fourth professional year, students provide a day of service to meet an identified need of the agency. This takes place during the capstone APPE.

The requirement is for each P1, P2, and P3 student to dedicate at least seven hours per semester (ie, 14 hours per year) to their AdvoCaring agency clients. Fourth-year students are expected to contribute at least six hours to their AdvoCaring Capstone project. From fall 2009 to spring 2014, students reported a total of 10 554 hours of direct care. This research project was approved by the Notre Dame of Maryland University Institutional Review Board.

## EVALUATION AND ASSESSMENT

Of the 322 students (20 to 43 years old) who participated, 68% of them were between 23 and 28 years of age, 60% were students of color, and 67% were female. Annual surveys conducted each spring captured the service hours provided to the community (Table 2) as well as the student experiences (Table 3). Table 4 categorizes the services provided to each agency as documented by the student historian. The variation in categories among agencies is a result of the differing needs of each agency. Table 4 also delineates the percentage of activities conceptualized and designed by students and the percentage of activities that were provided at the request of agency leadership.

In the first professional year, average hours reported ranged from 12.1 to 17.0 hours per student across three visits (introductory meeting and two subsequent visits) in the first semester, and planned activities including a health fair in the second semester (Table 2). With the exception of 2013-2014, P1 students reported devoting more than the required time every year. In 2013-2014, course changes were made without matching changes in data collection, which likely led to missed data. In 2011-2012 and 2012-2013, time writing reflections and planning were also measured. The preparation time reported was 6-7 hours per student on average in the first professional year. In the second and third professional years, average hours provided ranged from 9.7 to 13.2 hours per year. The time dedicated to the delivery of the capstone project at the end the fourth year was estimated at six hours per student. This is likely a conservative estimate as some team members spent many more hours with the planning components.

Students are given the opportunity to provide feedback at the end of each academic year. The data helps faculty members improve the program each year. One question asks what advice students would give to incoming students about AdvoCaring. Student comments orient

Table 1. Example AdvoCaring Activities<sup>a</sup>

| Partnering Agencies               | P2 <sup>b</sup>                                                                                                          | P3 <sup>c</sup>                                                                                                                                            | P4 <sup>d</sup>                                                                                                                                                     |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Our Daily Bread Employment Center | BP, tobacco, and other health screenings at meal times; data collection during meal registration                         | Education and continuous monitoring of men in recovery program; flu clinic                                                                                 | Health fair with stations providing information, screenings, and interactive assessments                                                                            |
| My Sisters Place Women's Center   | BP, weight, smoking screening and education at meal times; clothing and other necessity drives                           | Classroom education on topics identified by clients and case workers; coordinated presentations by available service providers to inform transient clients | Health promotion blitz; esteem building workshops                                                                                                                   |
| Arc of Baltimore                  | Childcare for developmentally disabled children while caregivers receiving education                                     | Adult education on topics such as hygiene, nutrition, dental care, exercise, nutrition, and safe medication use education                                  | Health fair for developmentally disabled adults with health screening, education, skills sessions                                                                   |
| Jenkins Senior Living Community   | Day and residential patient education sessions                                                                           | Interprofessional assessment and education with medical and nursing students                                                                               | Hands on educational sessions on various disease states and med disposal; brown bag med review; helped qualifying members sign up for healthcare insurance benefits |
| Esperanza Center                  | Diabetes education; blood pressure monitoring; medical chart organization                                                | Educational sessions on topics such as allergies and diabetes; work with ESL clients                                                                       | Hands on health education and screening; collaboration with other health providers at the center                                                                    |
| Access Carroll                    | Health education presentations in lobby; fundraiser and event support; office support and childcare for P4 events        | Patient intake including medication reconciliation and vital signs; office support                                                                         | Grant-funded health education events promoting making the building a smoke-free facility                                                                            |
| Basilica Place                    | Wheelchair/ambulation device cleaning; health education games                                                            | Health screening events; game-based education; yoga                                                                                                        | Health screening and education fair including diabetes, nutrition, prostate cancer, summer health, and massage                                                      |
| Greenmont                         | Education through games and screenings                                                                                   | Korean-English guides for medical communication and commonly used complementary and alternative medicine                                                   | Brown bag medication counseling and reconciliation; presentation on vitamin supplements and food sources of vitamins                                                |
| Helping Up Mission                | Fall health fair; topic discussions; healthcare Jeopardy (see sample syllabus, Appendix 1)                               | Drug education series; health fair; substance abuse education                                                                                              | Health fair with interactive education stations based on primary needs identified in prior years                                                                    |
| Gilchrist                         | Identification of 24 hour pharmacies and other pharmacy resources in the geographic areas served                         | Staff education on commonly used medications                                                                                                               | Lobbying on Capitol Hill for legislative issues pertaining to hospice care                                                                                          |
| HopeSprings                       | Public education on HIV; health fairs for public; assistance at various organizations that serve the HIV/AIDS population | HIV testing events; HIV/AIDS education for the community                                                                                                   | Health fair specifically for the HIV/AIDS community including BP, brown bag med reviews, cancer screenings, diabetes/nutrition, self-care                           |
| St. Jerome's                      | Poison/safe medication use education games with children                                                                 | Food access arrangements for parents (in food desert)                                                                                                      | Health fair with interactive stations for nutrition, inhaler technique, dental health for children and parents                                                      |

<sup>a</sup>AdvoCaring activities for the first academic year is similar across sites and includes researching the assigned site and clients served, an orientation visit, a needs analysis, service visit(s), prerequisite requirements of site, and a health fair utilizing initial clinical skills; <sup>b</sup>Second professional year; <sup>c</sup>Third professional year; <sup>d</sup>Fourth professional year

Table 2. Pharmacy Student Direct Service Hours<sup>a</sup>

|                                     | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 |
|-------------------------------------|-----------|-----------|-----------|-----------|-----------|
| <b>P1</b>                           |           |           |           |           |           |
| No. of students                     | 66        | 66        | 69        | 61        | 57        |
| Hours intro visit                   | 109       | 119       | 164       | 132       | 109       |
| 1 <sup>st</sup> service visit hours | 182       | 139       | 216       | 142       | 139       |
| 2 <sup>nd</sup> service visit hours | 151       | 137       | 203       | 142       | 145       |
| TOTAL direct hours                  | 1123      | 992       | 1172      | 923       | 687       |
| Average per student                 | 17.0      | 15.0      | 17.0      | 15.1      | 12.1      |
| <b>P2</b>                           |           |           |           |           |           |
| No. of students                     |           | 64        | 69        | 73        | 64        |
| Physical visits                     | na        | 244       | 337       | 352       | 267       |
| Hours                               | na        | 649       | 773       | 847       | 688       |
| Average per student                 |           | 10.1      | 11.2      | 11.6      | 10.8      |
| <b>P3</b>                           |           |           |           |           |           |
| No. of students                     |           |           | 53        | 61        | 62        |
| Physical visits                     | na        | na        | 278       | 265       | 243       |
| Hours                               | na        | na        | 698       | 591       | 715       |
| Average per student                 |           |           | 13.2      | 9.7       | 11.5      |
| <b>P4</b>                           |           |           |           |           |           |
| Hours estimated per student/total   |           |           |           | 6/318     | 6/378     |

<sup>a</sup>Does not include preparation and research time

around keeping an open-mind, timely communication, appropriate time-management, good organization, and going outside of one’s comfort zone. There are also agency-specific recommendations such as attire and approach. In some settings professional attire was most appropriate; in others conservative casual attire was preferred by the agency. One quote that reflects many statements of second-year students is, “Get to know the population first before doing health and medication related activities. It is important to be able to relate and interact with this population in such a way that they can understand. Also, it is important to plan events well in advance so that all group members are able to get their hours each semester.” Three statements from third year students further expanded on these themes: “Communication will be the key to success, and make

sure you are helping out because you want to, not because you have to;” “Don’t give up easily and keep trying to use different teaching techniques. And, don’t be afraid of the barriers you might have when trying to help others;” and “Approach it with an open mind and don’t let prejudices or self-importance get in the way of potential lessons.”

**DISCUSSION**

AdvoCaring provided students with an opportunity to develop their clinical skills, attitudes, compassion, and gain experience in working with diverse, underserved populations. The services provided matched students’ skills and agency needs, thus optimizing the positive impact of this service learning program.

Table 3. Student Perceptions of AdvoCaring Experiences (% of Students Who Strongly Agree or Agree)

|               |    | <b>I have learned important lessons from my AdvoCaring experiences.</b> | <b>AdvoCaring experiences have or will positively impact how I care for patients.</b> | <b>AdvoCaring has been a valuable addition to my learning.</b> |
|---------------|----|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Class of 2016 | P1 | 79                                                                      | 84                                                                                    | 77                                                             |
|               | P2 | 50                                                                      | 52                                                                                    | 39                                                             |
| Class of 2015 | P1 | 78                                                                      | 80                                                                                    | 75                                                             |
|               | P2 | 82                                                                      | 80                                                                                    | 77                                                             |
|               | P3 | 84                                                                      | 90                                                                                    | 79                                                             |
| Class of 2014 | P1 | 47                                                                      | 60                                                                                    | 47                                                             |
|               | P2 | 57                                                                      | 70                                                                                    | 54                                                             |
|               | P3 | 70                                                                      | 69                                                                                    | 64                                                             |

Table 4. Student-reported Categories of AdvoCaring Site Activities (%)

|                                      | Service | Clinical | Administrative | Meetings | Public Relations | Income-generating | Agency-generated | Student-generated |
|--------------------------------------|---------|----------|----------------|----------|------------------|-------------------|------------------|-------------------|
| Access Carroll                       | 9.3     | 23.5     | 46.9           | 0        | 7.5              | 12.8              | 71.2             | 28.8              |
| Arc of Baltimore                     | 40      | 26.1     | 7.9            | 12.7     | 13.3             | 0                 | 33.9             | 66.1              |
| Esperanza Center                     | 7.9     | 69.3     | 5.9            | 16.8     | 0                | 0                 | 54.5             | 45.5              |
| Jenkins Senior Living                | 50      | 18.8     | 15.8           | 15.3     | 0                | 0                 | 37.1             | 62.9              |
| My Sisters Place                     | 22.3    | 54.2     | 1.7            | 1.7      | 19.6             | 0.6               | 7.8              | 92.2              |
| Our Daily Bread<br>Employment Center | 20      | 66.7     | 6.7            | 6.7      | 0                | 0                 | 40.7             | 59.3              |
| Basilica Place                       | 32.3    | 65.2     | 2.6            | 0        | 0                | 0                 | 3.2              | 96.8              |
| Gilchrist                            | 28.6    | 16.2     | 31.9           | 16.8     | 1.1              | 5.4               | 75.7             | 24.3              |
| Greenmount                           | 19.6    | 67.1     | 10.1           | 1.9      | 1.3              | 0                 | 25.3             | 74.7              |
| HopeSprings                          | 51.2    | 16.7     | 10.5           | 19.1     | 2.5              | 0                 | 86.4             | 13.6              |
| Helping Up Mission                   | 0       | 54.8     | 4.1            | 41.1     | 0                | 0                 | 54.8             | 45.2              |
| St. Jerome's                         | 72.1    | 17.8     | 1.6            | 8.5      | 0                | 0                 | 33.9             | 66.1              |
| Averages                             | 29.4    | 41.4     | 12.1           | 11.7     | 3.8              | 1.6               | 43.7             | 56.3              |

AdvoCaring can be mapped to several Center for the Advancement of Pharmacy Education outcomes (Appendix 1) and each outcome is also mapped to the curriculum.<sup>16</sup> AdvoCaring provides an opportunity for students to achieve these outcomes through real world experiences. It is a key component of the curriculum for pharmacy students at the school and can be replicated at other schools. Skill and compassion development while directly enhancing the care of underserved populations is mutually beneficial for the school and the agencies.

Over its first six years, AdvoCaring was an effective venue for students to hone skills learned in the curriculum that also benefited Baltimore area residents. Once AdvoCaring established itself both in the pharmacy program and the Baltimore community, it was essential to further build the program by increasing stakeholder engagement, further integrating AdvoCaring into the pharmacy curriculum and promoting sound data collection, research, and scholarship. These future initiatives will address previous deficiencies and emphasize that optimization of critical aspects of the program is essential for building future success and impact.

Optimizing stakeholder experiences is rooted in increasing engagement. Students were committed to the agencies they serve, often spending more time with site activities than what was required of them. However, service hours did vary across years. During the 2012-2013 year, P3 students provided less than 10 hours per year because one of the partner agencies closed. The transition to a new agency took a few months, which resulted in fewer opportunities for those students to serve that year. A decrease in average service hours and average visits from academic year 2011-2012 to academic year 2013-2014 occurred. However, this trend had little meaning

when stratified by professional class (P1, P2, P3). For example, students averaged more hours in 2011-2012 than in 2012-2013 despite P2 students averaging more hours in 2012-2013. Similar instances were likely a result of agency turnover, logistic barriers, and adjustments in pharmacy curriculum (ie, changes in responsibilities and degree of difficulty).

To maintain this high level of commitment and nurture a service-oriented mindset, students must feel like their efforts are meaningful to themselves and those they serve. Accordingly, students were annually asked about their perceived value of the AdvoCaring program (Table 3). As students progressed in the curriculum, an increasing percentage “agreed” or “strongly agreed” that the program was beneficial in the following ways: : (1) learned important lessons, (2) impacted how students care for future patients, and (3) provided a valuable addition to learning. Furthermore, students’ experiences and perceived benefits of the AdvoCaring program improved over time. Although a majority of students perceived AdvoCaring to be beneficial, some students did not. Continuing to gather student feedback via focus groups, reflections, town hall meetings, and student surveys will give insight to the needs and wants of students as well as the potential barriers to engagement. Similar methods will be employed to gather information of other key stakeholders including faculty members, agencies, and clients. In particular, more emphasis will be placed on assessing the needs of the agencies and developing action plans to address these needs.

For example, enhancing comprehensive annual needs assessment meetings among faculty advisors, students, and agency representatives will allow them to better understand how to utilize each other more effectively while

also establishing clearer expectations and needs. In this way, we aim to continually strengthen relationships with current agencies, prevent agency changes, and reduce communication and logistic obstacles in light of agency staff turnover. The goal of regular needs assessments is to reduce frustration and promote collaboration between stakeholders, thereby fostering dynamic, impactful programs. A successful partnership may require that students collaborate with other health disciplines (eg, nursing, medicine, social work, occupational therapy, public health). Accordingly, another objective aimed to enhance students' AdvoCaring experience is to increase the amount of and quality of interprofessional collaborations (with both practicing professionals and students) regarding service, patient care, and research. The health care professions involved and the degree of their involvement will vary by site.

To increase student engagement, an ongoing effort is to further integrate AdvoCaring into the pharmacy curriculum. Examples include courses such as Clinical Research Design, where data collected in AdvoCaring activities can become the data analyzed in the course, and Pharmacy Practice Management, where business plans can build around the initiatives at the AdvoCaring agencies. In Care of Diverse Populations, students will be asked to present and discuss health care disparities associated with their respective AdvoCaring populations. Students in Public Health will be required to design a public health campaign aimed towards addressing health disparities in the population served by their respective agencies. In the Women's Health course, when clinical controversy projects are assigned, even more topics can be directly related to concerns within the AdvoCaring populations.

In the Pharmacotherapeutics course, consideration may be given to incorporating the relative specialization of each advising group and the needs of the clients of their AdvoCaring agency. For example, while discussing hypertension, the needs and therapeutic approaches for patient populations from obese preschool children to immigrant populations to former addicts can be included. Additionally, simulation exercises in the Pharmacist Care Lab sequence can represent patients common to the various agencies, thereby tangibly connecting clinical concepts with patients served through AdvoCaring. Increasing AdvoCaring's presence throughout the curriculum will further enhance the applicability of AdvoCaring's layered learning concepts for students while reinforcing key elements of excellent pharmacy practice (clinical application, communication, and cultural competence) taught in the curriculum. This will allow for the AdvoCaring program to be centered around a service learning pedagogy that focuses student effort on tangible

benefits for community organizations while meeting course and curricular outcomes. Moreover, course assignments can be directly developed into feasible initiatives to be realized in the AdvoCaring agencies, thus further uniting the curriculum and AdvoCaring.

Future plans with the AdvoCaring program also include promoting student and faculty scholarship. These scholarly activities will benefit faculty members (eg, research skills, and publications) and further justify the time commitment of AdvoCaring in faculty schedules. Several services are currently offered at each site; thus, future research will aim to document these services and investigate their impact within each agency to benefit the students and the agency. Information derived from these efforts will be used to continuously improve AdvoCaring initiatives and thereby improve clients' health. Development of a centralized research program with standardized data collection procedures will aid students, faculty members, and agencies in assessing and developing AdvoCaring services and better document hours and services provided. In addition to assessing services rendered, part of the future research agenda is to evaluate the impact of the AdvoCaring program on student learning and the student experience.

Qualitative data will continue to be gathered from focus groups, surveys, and reflections and will help explain the overall student experience. Additional tools aimed to quantitatively assess the value of AdvoCaring, especially as the student progresses in the curriculum, will be implemented as well. For example, surveys and assessments that evaluate application of various knowledge areas (eg, patient assessment, cultural competence, clinical skills, communication) will be implemented. Simultaneous evaluation of students by faculty advisors and agencies may enhance data quality and objectivity. As more components of AdvoCaring are integrated into the curriculum, this initiative will become more comprehensive. The impact of AdvoCaring on students' patient-centered clinical skills and cultural competence will be areas of particular interest. Furthermore, measures of student learning can be stratified according to the year in the curriculum, AdvoCaring site, particular site activities employed, and other potentially pertinent variables.

## **SUMMARY**

AdvoCaring enabled students at NDMU SOP to engage in the health needs of the underserved of Baltimore and learn about an underserved population in which they were previously unfamiliar. Students met or exceeded the expectations of seven hours of service per semester through measure of direct time at the agency plus preparation time. In the future, more careful capture of planning

and development time is anticipated to document that most students give much more than is required. Through lessons learned and continuous curricular review, efforts to further enhance student skills and client health will guide the future of AdvoCaring.

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Appendix 1. Mapping of AdvoCaring to Center for the Advancement of Pharmaceutical Education (CAPE) Outcomes 2013<sup>15</sup>

| <b>CAPE Outcome</b>                                                                                                                                                                                     | <b>AdvoCaring Activity</b> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| 2.3. Health and wellness (Promoter): Design prevention, intervention, and educational strategies for individuals and communities to manage chronic disease and improve health and wellness.             | 1, 3, 4, 7                 |
| 2.4. Population-based care (Provider): Describe how population-based care influences patient centered care and influences the development of practice guidelines and evidence-based best practices.     | 1, 2, 3, 4, 5, 6, 7        |
| 3.1. Problem Solving (Problem Solver): Identify problems; explore and prioritize potential strategies; and design, implement, and evaluate a viable solution.                                           | 2, 3                       |
| 3.2. Educator (Educator): Educate all audiences by determining the most effective and enduring ways to impart information and assess understanding.                                                     | 4                          |
| 3.3. Patient Advocacy (Advocate): Assure that patients' best interests are represented.                                                                                                                 | 8                          |
| 3.4. Interprofessional collaboration (Collaborator): Actively participate and engage as a healthcare team member by demonstrating mutual respect, understanding, and values to meet patient care needs. | 1                          |
| 3.5. Cultural sensitivity (Includer): Recognize social determinants of health to diminish disparities and inequities in access to quality care.                                                         | 1-7                        |
| 3.6. Communication (Communicator): Effectively communicate verbally and nonverbally when interacting with an individual, group, or organization.                                                        | 1-8                        |
| 4.1. Self-awareness (Self-aware): Examine and reflect on personal knowledge, skills, abilities, beliefs, biases, motivation, and emotions that could enhance or limit personal and professional growth. | 6                          |
| 4.2. Leadership (Leader): Demonstrate responsibility for creating and achieving shared goals, regardless of position.                                                                                   | 8                          |
| 4.3. Professionalism (Professional): Exhibit behaviors and values that are consistent with the trust given to the profession by patients, other healthcare providers, and society.                      | 1-8                        |

<sup>1</sup>Health fair, <sup>2</sup>Site orientation, <sup>3</sup>Needs analysis, <sup>4</sup>Patron education, <sup>5</sup>Service, <sup>6</sup>Guided reflection, <sup>7</sup>Capstone, <sup>8</sup>Lobbying

## Appendix 2. Helping Up Mission Syllabus

### **Course Description**

AdvoCaring is an ongoing partnership between student groups at Notre Dame of Maryland School of Pharmacy and local organizations serving the underserved. This program is a service-learning course designed to enhance the education of students by extending opportunities for them to serve their local community.

### **Course Objectives**

At the completion of this course, the student will be able to:

1. Discuss the effects of drug addiction and homelessness on access to quality health care
2. Develop patient-centered education materials about medications, devices, and other health care information for an underserved population
3. Discuss the relevant factors that affect patient health at Helping Up mission through service to the organization
4. Discuss self-identified assumptions about population served at Helping Up mission and how those impact abilities to provide patient care
5. Effectively communicate with patrons and administration at Helping Up mission
6. Display professional behavior when interacting with patients, caregivers, other health care professionals and the public

### **Learning Strategies/Methodologies**

Service-learning events at Helping Up mission; group discussions; drug education projects; health fairs; group presentations

### **Assignments**

**Health Fair:** Students will organize a health fair for Helping Up mission in conjunction with Towson School of Nursing. This interprofessional collaboration takes place in both fall and spring each year. Students will be responsible for providing blood pressure screening and any other mutually agreed upon stations. This project usually takes place during classroom hours and requires excused absences request through the office of the dean.

**Group Discussions:** Over the course of each semester of the program, students will be required to meet with professor of the course to debrief from the semester. At a minimum, the group will meet at least once per semester with the instructor. However, additional meetings may be called by any member of the group including the instructor to discuss pertinent events or discussions about interactions with the mission.

**Other Site Visits:** Other site visits include serving dinner, health care jeopardy. The purpose of these events is to provide service as well as communicate and interact with the patrons of Helping Up mission. This experience will be participation based and is a required component of the service-learning experience.

**Group Presentation:** During the third didactic year participant will be responsible for providing a drug education series to patrons of helping up mission. Students will be broken into groups and assigned a topic at the beginning of the semester. These topics are usually delivered in November. All members of the group will be present at their respected presentation as well as the instructor.

### **P1 Fall Topics and Exercises**

Site Visit: needs analysis; Site Visit: serving dinner; Group Discussion: assumptions; Site Visit: fall health fair

### **P1 Spring Topics and Exercises**

Site Visit: serving dinner; Site Visit: spring health fair; Group Discussion: impressions and future goals

### **P2 Fall Topics and Exercises**

Site Visit: Alcoholics Anonymous or Narcotics Anonymous meeting; Site Visit: getting to know the residents interview session; Site Visit: fall health fair; Group Discussion: addiction; Reflection: addiction and effects on health care

### **P2 Spring Topics and Exercises**

Site Visit: Health care Jeopardy; Site Visit: spring health fair; Onsite Group Discussion with Residents; Reflection: impacting the community

### **P3 Fall Topics and Exercises**

Site Visit 1/2/3: drug education series; Group Presentation Grade; Site Visit: health fair; Group Discussion: educating substance abusers; Reflection: two years, how has it changed me

### **P3 Spring Topics and Exercises**

Site Visit: interview follow ups; Site Visit: health fair; Group Discussion: loose ends and impact

### **P4 Fall Topics and Exercises**

None