Project HOPE

Homelessness in Osteopathic Pre-doctoral Education

NOVA SOUTHEASTERN UNIVERSITY
College of Osteopathic Medicine
osteopathic.nova.edu
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Project HOPE (Homelessness in Osteopathic Pre-doctoral Education) began as an innovative plan to close the health disparity gap by educating medical students about the need and importance of providing unbiased and compassionate medical care to underserved populations. In 2010, the Health Resources and Services Administration of the U.S. Department of Health and Human Services awarded Nova Southeastern University, College of Osteopathic Medicine, with a five-year Pre-Doctoral Primary Care Training grant to develop, implement and evaluate a didactic and practicum-based curriculum providing primary care to the homeless. The following publication is not only a template of the curriculum at Nova Southeastern University, but also a closer glimpse into the importance of educating medical students on health disparities, understanding cultural and social competency, and, most importantly, providing compassionate healthcare to underserved individuals.

**Acknowledgements**

This project would not have been possible without the generous funding received from the Health Services and Resources Administration (Federal Grant Identifying Number D56HP20778; Pre-Doctoral Training in Primary Care, Project Director, Dr. Leonard Levy, DPM), the input of countless homeless health consumers, our clinical partners, the National Health Care for the Homeless Council and the support of the faculty, staff and administration of Nova Southeastern University’s College of Osteopathic Medicine.

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Introduction

While many of us have an idea of what the term “homeless” means, it is much more prevalent and complicated than we might initially imagine. The concept of homelessness elicits very basic yet challenging questions.

“Who is homeless?”
“What is homelessness?”
“Why do we care?”

In 1987, the Steward B. McKinney Homeless Assistance Act described a homeless person as an individual who “lacks a fixed, regular and adequate nighttime residence” and lives in an area that is inappropriate for human living (1). The U.S. Department of Housing and Urban Development has described and divided the definition of homelessness into several categories: “1) a person without a stable, consistent nighttime residence; 2) a person residing in a shelter; 3) a person who is scheduled to leave a shelter or unstable habitat; or 4) a person about to lose their housing with no subsequent housing plans or support networks to rely on” (1).

In the United States, approximately 3 million individuals experience homelessness at some point or another within their lifetime (2). While the issue of homelessness has always been prevalent in the U.S., concerns surrounding individuals who are homeless has recently grown. Within the last thirty years, the “confluence of economic, political and social circumstances brought about major increases in the size and visibility of the U.S. homeless population” (3). The breadth of homelessness has grown considerably in a relatively short period of time.

Traditionally, the homeless population has included predominantly single middle-aged men. However, with the increase in unemployment and housing foreclosures from economic recession, the homeless population has seen an increase in women and children (3). This expansion has created an increased concern in the public health realm and continues to bring attention to the social and medical needs of individuals who are unstably housed.

Unbeknownst to many, homelessness is the result of an amalgamation of factors. Many of us can easily cope with the daily stresses of life. For many homeless individuals, these simple stressors make them vulnerable—often due to their cognitive inabilities to cope with the social norms (4).
To complicate matters, a history of physical and mental abuse, family history of substance use, and history of inadequate education all play a role in homelessness and the health of these individuals. Studies show that homelessness is the result of inadequate housing, inadequate welfare payments and loss of social supports (4). Statistics also continue to show that homeless individuals have a higher prevalence of disease and die faster than those who have a place to call home (5). The mortality rate for individuals experiencing homelessness has been reported to be 3.5 times greater than the general population (3). In homeless youth, it is even more alarming at an 11-fold increased rate of mortality (3).

Poverty continues to be a “consistent risk factor for multiple psychiatric disorders, including depression, anxiety disorders, antisocial personality and substance-use disorders” (6). Awareness has grown that health inequality results from various structural and social elements, and such social determinants are under scrutiny (7). This has been evidenced in recent years during the economic downturn in the United States, resulting in higher levels of unemployed and uninsured individuals, as well as an increase in the rate of homelessness. For these economically disadvantaged individuals, the social determinants of health are based on their extreme poverty, their lack of power, and their lack of social capital. According to the World Health Organization, social determinants of health are defined as “conditions in which people are born, grow, live, work and age. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels” (8). The combination of economic and social determinants is very powerful.

Why is all of this important? And why should we care?

Homelessness is a prime example of how social factors influence an individual's health. Homelessness exemplifies the results of deprived social determinants and lack of social capital. The results of this deadly combination are poor health and the inability for an individual to recover from the deleterious influence of social exclusion. Premature mortality and poor health in homeless individuals have roots in exposure to violence, insufficient hygiene and nutrition, exposure to contagious diseases, and the denial of sufficient shelter and safety (5). Honorary Professor of Epidemiology and Public Health at University College London, Dr. Richard G. Wilkinson states, “Poor social and economic circumstances affect health throughout life. The social gradient has shown that people further down the social ladder usually run at least twice the risk of serious illness and premature death as those near the top” (9). In homeless individuals, social determinants are found at the lowest section of the social ladder (9). This dilemma makes homeless individuals the most vulnerable population to health disparities. As public health advocates and health care providers, we must realize that the basic necessities of
life such as shelter, food, hygiene and support systems are often the most influential aspects of one’s health. Understanding a person’s history, social needs and daily challenges is the first step in providing compassionate medical care that sees no boundaries.

In homeless individuals, social exclusions resulting from “discrimination, stigmatization, hostility and unemployment” are factors that contribute to “less well-being, more depression, a greater risk of pregnancy complications and higher levels of disability from chronic diseases” (9). Wilkinson finds the highest rates of premature mortality among homeless individuals, and their health suffers intensely from social rejection, scarcity, and poverty (7). In the last thirty years, public health advocates and health care providers have seen firsthand the adverse health effects of homelessness. As the homeless population continues to grow, resources to aid these individuals become scarce and the supports available become almost non-existing. As authors Jenkins and Baggett state, “as the homeless population grew in size and outstripped the thin resources in place to assist it, hospitals and emergency departments became the de facto sub-group stopgap in managing the medical fallout of this social epidemic” (3). As a result of the undesirable health effects of homelessness, efforts to provide social support and quality medical care to homeless individuals have become an imperative not only for homeless individuals, but also to the community and policy makers. Making medical students aware of the health disparity, teaching medical students about cultural competency, and the need for compassionate medical care have become pillars of medical education. The next section provides a description of the health of homeless individuals and how educating medical students about homelessness benefits not only the public health goals, but also aids in closing health disparity gaps.

“Hospitals became the stopgap in managing the medical fallout of this social epidemic.”
Homeless Individuals: Their Health and Barriers to Care

According to the Institute of Medicine, “homelessness and poor health is bidirectional” (2). While mental health and substance use may perpetuate or place an individual at risk of homelessness, homelessness can also force individuals to continue to develop or worsen their medical conditions. Homeless individuals are vulnerable to violence, poor nutrition, meager living conditions, harsh natural elements and innumerable infectious and communicable diseases (4). For many individuals, their health becomes their last priority. As O’Connell et al. states, “For those who are homeless, the relentless struggle for safe shelter and warm meal overshadows health needs, leaving common illnesses to progress and injuries to fester” (5). These factors make providing health care to homeless individuals a challenge.

"The living standards of homelessness place homeless individuals at higher risk for mortality."

Homeless individuals are at risk for many health conditions. The homeless population suffers at greater rates of “chronic and infectious diseases, such as human immunodeficiency (HIV) infection, and acquired immune-deficiency syndrome (AIDS), hepatic diseases, cardiovascular disease and diabetes” (6). Homeless individuals also have a higher chance of having common medical illnesses. These illnesses include “epilepsy, chronic obstructive pulmonary disease, hypertension, diabetes and musculoskeletal disorders” (7). Additional common conditions that plague homeless individuals include tuberculosis and lung infections, viral hepatitis, sexually transmitted infections, skin and foot conditions, chronic pain, dental problems, cardiovascular disease, violence, and trauma (3). All of these conditions and their high prevalence in the homeless population have led to changes in health care and the methods in which health care can be provided.

The living standards of homelessness place homeless individuals at higher risk for mortality due to these conditions and often force health care providers to reconsider their delivery and access of care. Multi-disciplinary teams, consisting of medical providers, social workers, outreach workers, and case managers, are increasing in numbers across the country to bring medical care to wherever the individual may be (8). Moreover, the constant movement of homeless individuals makes caring for these individuals a challenge. As Rabiner and Weiner state, “migratory status lends itself to discontinuity of care, which is particularly critical...
because the homeless population suffers from disproportionately high rates of both chronic and acute disease” (4). Poor living standards and constant movement complicate the care of homeless individuals.

One of the most common barriers to care is food insecurity and lack of healthy foods. Poor nutrition due to unaffordable food choices leaves the homeless at greater risk of morbidity due to chronic diseases (4). Fragmented care between emergency rooms, inpatient stays and several outpatient clinics also make providing medical care to homeless individuals challenging (9). Crowded living conditions in shelters and harsh environments place homeless individuals at higher risks of infections and death.

Health Disparities

In the last 20 years, the homeless population has seen three major outbreaks of tuberculosis. In Boston, the outbreak of 1988 was 10-fold higher than in the general population (3). Other lung infections such as pneumonia and influenza are also higher among the homeless population than in the general population (3). During the late 1980s, HIV was the leading cause of death among homeless individuals from 25 to 44 years of age (10). Hepatitis C infections are prevalent at 22% to 42% in homeless individuals compared to 1.6% in the general population (3). Scabies and lice infestations are common skin conditions found in homeless individuals due to the substandard living conditions (3). The living conditions of homeless individuals also result in the acquisition of musculoskeletal conditions, which may contribute to why more than one third of homeless individuals experience chronic pain (3).

Challenges in medication adherence, viral resistance and noncompliance with medical treatment have led to reassessing the health care that was provided to homeless individuals and to the eventual improved care (4). Medication adherence is a great barrier to care. Medications have a street value and as a result the issues concerning the value of medications can also have an impact on a patient’s adherence to taking prescribed medications. For example, some homeless individuals become targets for robbery and physical abuse because of the medications they are prescribed (4). Lack of education and low literacy rates have also been noted as a barrier to medication adherence and poor health outcomes in homeless individuals (4). As Rabiner and Weiner state, “low literacy can prevent a person from reading treatment instructions and thus knowing how to take their medication appropriately” (4).

In addition, homeless individual’s substance use, mental illness and related comorbidities are extensive (7). Studies have varied in the mental illness prevalence among homeless individu-
als, but it registers as higher than in nonhomeless individuals. The published rates of mental health prevalence have ranged from 15% to 90% (3). Regardless of the prevalence, mental health conditions in homeless individuals exist and create barriers to care. Similarly, the same is true of substance use. Substance use is prevalent and the extent of its prevalence depends on the substance that is being measured (3). Another dynamic player in the health of homeless individuals is their history of victimization and trauma. Physical and sexual abuse is often a source of pain and cause of homelessness itself (3). In a 2003 Health Care for the Homeless User Survey, 59% reported having been robbed while homeless, 29% reported having been physically assaulted while homeless, and 11% reported having been sexually assaulted or raped while homeless (3).

The combination of substance use, mental health conditions, history of trauma and higher risks for diseases has proven to be an obstacle for health care providers. The lack of a home makes it difficult to manage illness and medication adherence (3). Interestingly, homeless individuals use emergency department services at an alarming rate and have in-hospital stays longer than any other group; yet, their mortality rate continues at a staggering pace. Mortality rates for homeless individuals are 3.5 times greater than the general population, and in homeless youth, the rate is an even more alarming 11 times greater (3).

“Homeless individuals use emergency department services at an alarming rate.”

Although many problems are preventable, they often result in an urgent response. The 36% longer admissions to hospitals were related to substance use or mental illness and preventable medical conditions (3). Even more alarming, 62% of homeless individuals have reported using an emergency room visit in a year’s time (3). Studies have found that homeless individuals also have “particularly high rate of hospitalization and emergency department use, often fueled by poor access to basic health care services and suboptimal rates of ambulatory office visits” (3). As public health advocates and healthcare providers, caring for a homeless individual will be inescapable.

**Surveys of Homelessness in Boston**

For individuals experiencing homelessness, the barriers to receiving health care are prominent. Both financial and nonfinancial barriers are factors that prevent homeless individuals from receiving the care they deserve. In 1985, the City of Boston began to delve into methods of closing health disparity gaps in homeless individuals. During this time, new city initiatives showed that a majority of homeless individuals were uninsured and that health care access was essentially non-existent (5). In 1996, a survey found that over 56% of homeless individuals were uninsured (7). This concern continues because homeless individuals cannot afford private health insurance and remain uninsured. In the 2003 Health Care for the Homeless User Survey, 60% of homeless individuals throughout the United States reported not being insured (3). As a result, health centers across the country have become prominent in delivering care to underserved individuals, including the homeless, low-income and minority individuals.
In a cross-sectional analyses conducted by Lebrun-Harris et al., published in 2013, 2,693 homeless patients were interviewed and their health status and health care experiences in health centers were compared to those of non-homeless individuals (11). The study results showed that while there is funding allocated to health centers, there continues to be a need to focus on the health issues present in homeless individuals that creates health disparities (11). Some key findings of the Lebrun-Harris study show that homeless individuals were more likely to be single rather than married (versus 70% married in non-homeless individuals), there was a higher burden of mental health illness, and substance use was also more prominent (11). According to Lebrun-Harris, the following were the percentages of substance use in comparison to non-homeless: “currently smoking (59% vs. 30%), binge drinking in the past year (40% vs. 20%), being at high risk of drug dependence (15% vs. 1.2%), ever injecting drugs (14% vs. 3%), and receiving treatment for alcohol or drug use in the past year (31% vs. 4%)” (11). The results of the study have been consistent with similar studies conducted in the past. The alarming lack of access to health care, high rates of mortality and morbidity, and disproportionate health problems of homeless individuals has led to the development of not only Health Care for the Homeless Programs, but also increased funding to innovative measures for improving the health care disparity and educative programs, such as Project HOPE.
What is Project HOPE?

HOPE stands for Homelessness in Osteopathic Pre-doctoral Education.

Providing pre-doctoral training in primary care, Project HOPE was developed to educate osteopathic medical students on the unique primary care needs related to those experiencing instability in housing. Project HOPE educates medical students throughout their four years of medical school by providing lecture hours on how to provide medical care to underserved populations, group setting didactics with homeless individuals, and community based learning with partner clinics that provide healthcare to the underserved.

The Project HOPE curriculum was started and piloted at Nova Southeastern University’s College of Osteopathic Medicine in an effort to educate osteopathic medical school students of the medical diseases that are often seen in homeless individuals and underserved populations, give medical students experience with working with underserved populations, and provide them with tools to educate others about health disparities. Throughout the course of the four years, changes in attitudes and knowledge are evaluated based upon didactic curricula and direct experience. Project HOPE seeks to disseminate curricula, research, and lessons learned on a national level.

The objectives of Project HOPE are:

- Improve student and professional perceptions and attitudes of individuals experiencing homelessness.
- Increase knowledge of medical, psychological, and social issues faced by the homeless individuals.
- Increase interprofessional collaboration among educators, students, and clinicians in the training of students in the care of the individuals experiencing homelessness.
- Increase interprofessional collaboration among students and clinicians in the care of the homeless.
- Collaborate with national, state, and local organizations representing and advocating for homeless individuals.
- Disseminate curriculum nationwide regarding individuals experiencing homelessness to other medical education institutions—both allopathic and osteopathic.
How does Project HOPE work?

Project HOPE’s curriculum is supported by the NSU College of Psychology by integrating behavioral health into a primary care training curriculum. The program includes a first-year, three-hour didactic course that is facilitated by faculty in family medicine and through our Psychological Services Center. The three-hour session is broken up to permit for 90 minutes of small group engagement with individuals who currently or recently have experienced homelessness. Additional curricular integration includes problem-based learning (PBL) with simulated standardized patients in the second year. This experience provides students with the basic concepts, knowledge, and interpersonal skills needed to provide health care in a manner that ensures patient safety, avoids medical error, and enhances the provision of compassionate care when working with those experiencing homelessness in clinical settings. The PBL experience culminates with the satisfactory completion of an interprofessional objective structured clinical examination (OSCE).

Students are required to engage in community service with the homeless, and the project has established a homeless outreach opportunity in concert with the Broward County’s Task Force for Ending Homelessness. Ultimately, through a 27-hour integrated curriculum across all years of medical school, students become equipped with the skills to identify instability in housing and subsequently track the housing status of patients with whom they interact across all third and fourth year rotations. Fourth year students complete a core two-month required, rural-urban underserved clinical clerkship; naturally, they will have a greater frequency of interactions with patients experiencing homelessness. In addition, students have the opportunity to select an additional one-month rotation specific to the homeless for additional exposure to this vulnerable population. All students obtain exposure to working with individuals experiencing homelessness and/or instability of housing; students in clinical years three and four track the self-reported housing status of all patients with whom they interact to better understand the connection between housing and health. Amount of exposure is examined as it pertains to change in attitude, desire to self-select a one-month practicum placement with the homeless, and long-term professional engagement specific to the homeless.

The project is implemented at local community health centers and national Health Care for the Homeless programs, which provide the delivery of coordinated, interprofessional health care services for acute and chronically homeless men, women, and children. Additional clinical sites throughout Florida in underserved rural and urban communities continue to be identified and utilized in this project.
A summary of the 27-hour Project HOPE curriculum is as follows:

**YEAR ONE**
- Medicine, Health and Society I: (3 hours)
  » Didactic seminar followed by interaction with homeless persons in small-group settings (comprised of medical students and a faculty facilitator)
- Foundations and Applications of Clinical Reasoning I: (2 hours)
  » Case presentation focused upon homelessness and health
- Community Service-Learning (4 hours total across year one and two)
  » 4 hours of direct/indirect community service that is specific to individuals experiencing homelessness

**YEAR TWO**
- Principles of Clinical Medicine II: (2 hours)
  » Homeless-specific specialized patient exam
- Community Service-Learning (4 hours total across year one and two)
  » 4 hours of direct/indirect community service that is specific to individuals experiencing homelessness (continued from year one)

**YEAR THREE**
- Internal Medicine I: (8 hours)
  » Web-based module, incorporated into 3-month Internal Medicine Rotation
- Family Medicine 2-month Core Placement:
  » Students will conduct intake in concert with preceptor/facility to include questions regarding housing status as defined by the federal definition of homelessness. Clinical rotation logs include data on number of homeless-specific encounters per month.

**YEAR FOUR**
- Medical Informatics: (8 hours)
  » Online health information technology focused on homelessness.
- Rural/Underserved 2-month Core Placement and 1-month Selective Placement:
  » Students will conduct intake in concert with preceptor/facility to include questions regarding housing status as defined by the federal definition of homelessness. Clinical rotation logs include data on number of homeless-specific encounters per month.
An essential aspect of the success of project HOPE is the broad range of community collaborative efforts and the ability to work collectively to better understand and meet the needs of the homeless. The Project HOPE curriculum is the joint effort of both internal and external stakeholders and one that required reaching outside our ‘office walls’ in an effort to accurately represent the needs and concerns of the homeless. Communication with community service providers was initiated at the onset of the project and continued to expand as the project became established in the community. Essential collaborations included community shelters, federally qualified health centers (FQHC), homeless outreach providers, and law enforcement, all of which resulted in a better grasp of the needs specific to homeless individuals. Critical to the curriculum development was the engagement of the primary stakeholders (i.e. individuals who are homeless). The solicitation of input is not unlike the structure and governance of FQHCs, where under Public Health Statute 330, the Governing Boards must reflect a majority (over 50%) consumer representation so as to best reflect the input of the consumers they are serving. Project HOPE team members also routinely participated in monthly Consumer Advisory Board meetings within our local community to learn about and address challenges and solutions pertaining to homelessness and health care. In addition to training medical students, Project HOPE played a vital role with law enforcement in the training of officers enrolled in a 90-hour homeless outreach training curriculum.

Communicating with consumers receiving care in community shelters via structured focus groups was key in helping Project HOPE staff and health-profession students gain increased awareness and understanding, as well as to foster relationships. Each year, individuals experiencing homelessness are invited to our campus to interact directly with students enrolled in the Humanism and Medicine course. Following a didactic presentation by faculty from the College of Osteopathic Medicine and the College of Psychology, students and consumers participate in small, break-out discussion groups to allow for the exchange of life stories, challenges associated with being unstably housed, and personal experiences with health care providers. The collaboration with community-based homeless shelters is key to the successful recruiting and transportation of consumers who are comfortable speaking about their personal experiences in a university setting. Consumer-led discussions on campus with students have proven to be highly effective and impactful based on feedback from student participants.
Community-based partnerships were also instrumental in engaging students in fulfilling required community service hours and working directly with the homeless in some capacity. To minimize the struggles associated with identifying volunteer opportunities, Project HOPE developed a Volunteer Resource Guide to consolidate local organizations, contact persons, and specific volunteer activities. Student volunteers were also responsible for maintaining donation drives on campus, which included the delivery of donations to local partner shelters. The Point in Time Count, a nationwide count of the number of individuals experiencing homelessness throughout the country on one given day, has been one of the most impactful student volunteer opportunities. In this capacity, NSU, in cooperation with a community NGO, recruited and trained over 50 medical students; this represented an increase in the number of volunteers by 70%, ultimately increasing the capacity to count the number of individuals experiencing homelessness.
HPAETHI Student Survey

N Number: __________________________  Date: ____________________________

Health Professional Attitudes & Experience Towards the Homeless Inventory

Thank you for participating in this volunteer survey. By completing this questionnaire, you are consenting to participate in this study. No individual data will be reported and the information you provide will be fully confidential. Results will only be reported in aggregate format.
### Attitudes

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<th>Statement</th>
<th>Strongly Disagree</th>
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<th>Neither</th>
<th>Agree</th>
<th>Strongly Agree</th>
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<tr>
<td>1) Homeless people are victims of circumstance.</td>
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<td>2) Homeless people have the right to basic health care.</td>
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<td>3) Homelessness is a major problem in our society.</td>
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<td>4) Homeless people choose to be homeless.</td>
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<td>5) Homeless people are lazy.</td>
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<td>6) Healthcare dollars should be directed toward serving the poor and homeless.</td>
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<td>7) I am comfortable being a primary care provider for a homeless person with a major mental illness.</td>
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<td>8) I feel comfortable being part of a team when providing care to the homeless.</td>
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<td>9) I feel comfortable providing care to different minority and cultural groups.</td>
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<td>10) I feel overwhelmed by the complexity of the problems that homeless people have.</td>
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<td>11) I understand that my patients’ priorities may be more important than following my medical recommendations.</td>
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<td>12) Doctors should address the physical and social problems of the homeless.</td>
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<td>13) I entered medicine because I want to help those in need.</td>
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<td>14) I am interested in working with the underserved.</td>
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<td>15) I enjoy addressing psychosocial issues with patients.</td>
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<td>16) I resent the amount of time it takes to see homeless patients.</td>
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<td>17) I enjoy learning about the lives of my homeless patients.</td>
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<td>18) I believe social justice is an important part of health care.</td>
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<td>19) I believe caring for homeless is not financially viable for my career.</td>
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### Experience

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<tr>
<th>Experience</th>
<th>Never</th>
<th>Seldom</th>
<th>Occasionally</th>
<th>Often</th>
<th>Very Often</th>
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<tr>
<td>20) I have noticed homelessness in my community or other communities.</td>
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<td>21) Friends, family members, and/or I have experienced homelessness.</td>
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<td>22) Where a person lives (e.g. apartment, private home, homelessness) is an important factor for physicians when caring for their patients.</td>
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<td>23) When I am a physician, I am confident I will be able to provide sensitive and appropriate care to patients who are homeless.</td>
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<td>24) I have participated in community service events with those who experience homelessness (i.e. soup kitchens, shelter visits, Make a Difference Day, etc)</td>
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<td>25) I have provided direct care to those who experience homelessness (i.e. health fairs / health care, social services, law enforcement, etc)</td>
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The HPAETHI is a revision of the HPATHI developed by Dr. David Buck of the Baylor College of Medicine. This project is funded by the Department of Health and Human Services Health Resources and Services Administration (HRSA), Grant #D56HP2077.

I. **Course Title:** Medicine, Health and Society I (3 hours)

This course consists of lectures, small group assignments, patient panel discussions, journaling, and online learning modules that run throughout the first year of the medical curriculum. The course covers the broad, humanistic topics of physician/patient communication and cultural competency. The course is designed to be an innovative and forward-looking way of linking the humanities and social sciences to the practice of medicine.

Throughout the course, evaluations are used to measure the student's mastery of concepts through group assignments, participation in class discussion, journaling, simulated patient experiences, self-assessment tools, and online experiences.

**A. Course Description:** Didactic seminar followed by interaction with homeless persons in small-group settings.

**B. Components**

1. Project Hope Course Curriculum Goals and Objectives
2. Biopsychosocial Aspects of Homelessness: Pre-Doctoral Training in Primary Care (PowerPoint Presentation)

**C. Required Readings**

The reading materials will introduce students to the epidemic of homelessness we are dealing with at present times. Students will learn about factors leading to homelessness, risk factors associated with homelessness and co-morbid conditions that exist in the homeless population. These aspects will help provide a picture of the role of medical professionals in the lives of the homeless and emphasize the importance of working together in an interdisciplinary team to help them. The required reading explores various barriers that the physician may encounter while treating a homeless person and various solutions to deal with these barriers. The articles will help students understand how the homeless perceive their own health and elaborate on the importance of the responsibility the students hold in educating the homeless regarding their health and wellbeing. Students will comprehend the various barriers a homeless person experiences and the importance of providing patient-centered care, which will ensure minimal non-adherence. It is important that students learn to identify homeless individuals based on the criteria provided by the Federal Bureau of Primary Health Care so that they can provide appropriate medical care.

Online: Many readings and related materials are linked under the section “Additional Readings” at this web page: [http://nova.campusguides.com/projectHOPE](http://nova.campusguides.com/projectHOPE).
II. Course Title: Foundations and Applications of Clinical Reasoning I (2 hours)

This course will integrate basic and clinical sciences in a case-based approach. Faculty members from multiple disciplines will guide students in developing the skills necessary to effectively assimilate knowledge from the basic sciences into the disease processes and apply this knowledge to varied patient presentations.

A. Course Description: Case presentation focused upon homelessness and health.

B. Components

1. Foundations and Applications of Clinical Reasoning
2. Community Service-Learning (4 hours across Year One and Year Two): Syllabus

Direct/indirect community service that is specific to individuals experiencing homelessness (continued in Year Two).
I. Course Title: Principles of Clinical Medicine II (3 hours)

This course is a continuation of Principles of Clinical Medicine I, and it has several components. Using multiple learning modalities, the components of the course include: 1) Interactive Learning Group, a problem-based, small group using patient cases for discussion and analysis with a clinical facilitator; 2) Clinical Skills Exam, with cumulative examinations midway and at the end of the semester involving multiple clinical stations; 3) lectures on male and female exams; 4) guided practical sessions for male and female exams; and 5) KBIT, an advanced, online approach to differential diagnosis training and assessment.

A. Components

1. Homeless-specific specialized patient exam
2. Two-hour small group case, followed by a 24-minute clinical skills case with additional video for critique

B. Readings and Additional Exercises

These readings are case scenarios that will help integrate basic and clinical sciences in a case-based approach. Faculty members from multiple disciplines will guide students in developing the skills necessary to effectively assimilate knowledge from the basic sciences into the disease processes and apply this knowledge to varied patient presentations. Students will be able to integrate their theoretical knowledge and clinical knowledge into practical settings, thus achieving a stronger and clearer foundation on the healthcare aspects of homelessness. Issues like finances, sanitation, proper storage, transportation, and other issues are very prevalent in this population, and healthcare professionals need to understand the importance of addressing these issues while providing health care to this population. This setting will also give students practice in identifying the parameters of the problem, recognizing and articulating positions, evaluating different courses of action, and arguing different points of view.
The four sections of case scenarios include:

1. Biochemistry Case Presentation
2. Case Scenario: Rheumatoid Arthritis
3. Case Scenario: Ellen Cass Diabetes and Homeless
4. Case Scenario: CSE Van Grissom Weakness

C. Community Service-Learning (4 hours across Year One and Year Two): Syllabus

Direct/indirect community service that is specific to individuals experiencing homelessness (continued from year 1).
I. Course Title: Internal Medicine I (8 hours)

Internal Medicine is hospital-based, content-driven specialty training that places a premium on the cognitive work and interpersonal skills necessary for providing patient care and for managing medical problems seen on this clinical service. Emphasis is placed on differentiating normal from abnormal history and physical findings, interpreting diagnostic tests, establishing differential diagnoses, developing skills for accurate reporting and recording of data and problems, and developing management plans—including health education for patients and families and referrals.

A. Format: Web-based module, incorporated into three-month Internal Medicine Rotation.

B. Readings and Additional Exercises

In the required reading for year three, students will get a more in depth understanding of how homelessness affects the health of individuals. To safeguard the health of homeless individuals so as to prevent outbreaks, special care needs to be taken. Students will be introduced to these measures and will understand the importance of these measures, which will help mitigate the effects of the spread of infectious diseases. Not only are homeless individuals at a higher risk of acquiring these diseases, but they were also found to carry drug resistant strains at a higher rate than the normal population (see reading 1 below). This finding implies that these individuals need higher levels of care to combat the same disease as compared to the rest of the population.

These readings will emphasize to students the need for urgent measures required to treat homeless individuals. Thus students need to understand that traditional approaches of care must be modified to adapt to the unique needs of this population. Students will also learn the importance of interventions and how they can improve health, housing and access to healthcare of homeless individuals.

Online: Many readings and related materials are linked under the section “Additional Readings” at this web page: http://nova.campusguides.com/projectHOPE.
1. Homelessness as an Independent Risk Factor for M and Mortality: Results from a Retrospective Cohort Study
   DOI: 10.1093/ije/dyp160

2. Homelessness and the Response to Emerging Infectious Disease Outbreaks: Lessons from SARS
   DOI: 10.1007/s11524-008-9270-2

   DOI: 10.3201/eid1703.100833

4. Effectiveness of Interventions to Improve the Health and Housing Status of Homeless People: A Rapid Systematic Review
   DOI: 10.1186/1471-2458-11-638

5. Factors Associated with Utilization of HAART Amongst Hard-to-reach HIV-infected Individuals in Atlanta, Georgia
   PMID: PMC3159491

6. Mobilizing a Medical Home to Improve HIV Care for the Homeless in Washington, DC
   DOI: 10.2105/AJPH.2008.141275

7. The Homeless in America: Adapting Your Practice
   PMID: 17039749

8. Infections in the Homeless
   PMID: 17039749

9. Screening for Tuberculosis among Homeless Shelter Staff
   DOI: 10.1016/j.ajic.2011.07.002

10. Predictors of discordant tuberculin skin test and QuantiFERON-TB Gold In-Tube Results in Various High Risk Groups
    DOI: 10.5588/ijtld.10.0650

11. Case Scenario: NBome Question

   A 35-year-old male, resident of a homeless shelter, presents to the health department complaining of a productive cough for 5 days. He admits to an overall feeling of discomfort, high fevers and body aches. He states that several of his friends and staff at the shelter are experiencing similar symptoms.
1 - The most likely factor responsible for this outbreak is:

A- Inadequate ventilation  
B- Poor hygiene  
C- Contaminated water source  
D- Termite infestation  
E- Dirty eating utensils

II. Placement: Family Medicine 2-month Core Placement

Students will conduct intake in concert with preceptor / facility to determine housing status by federal definition of homelessness. Clinical rotation logs include data on number of homeless-specific encounters per month, and students will complete post-test to determine correlational data on experience, affect, and attitude.
II. Course Title: Medical Informatics (8 hours)

Medical Informatics is a course that provides expertise in online health information technology focused on homelessness. Medical or health informatics strives to improve health outcomes with higher quality and efficiency. Homeless health care has been enhanced through health information technology that is able to track electronically a patient who may be transient and seek care at multiple intake settings. The subject of homeless health care is woven into this course in Medical Informatics to demonstrate how improved health outcomes and reduced medical error are supported by integration of this technology with this population.

A. Readings and Additional Exercises

In the required reading for year four, students will learn how to overcome barriers faced by homeless individuals. Some of these barriers are money, transportation, insurance, time and even personal identification. It is important to understand that these barriers may take precedence over health care needs, and that is why healthcare is often neglected in this population. Considering these barriers, it is crucial to understand the importance of Electronic Information Systems in the homeless population. Students will learn about different electronic systems like EMR, HMIS EHR, and CPOE, and how these systems benefit healthcare provision to the homeless. It is important to understand how these systems work and how they can be implemented when providing healthcare to the homeless population so as to attain the best possible outcomes. These systems will help improve coordination, efficiency, safety and quality of care to the people who are homeless.

Online: Many readings and related materials are linked under the section “Additional Readings” at this web page: http://nova.campusguides.com/projectHOPE.

1. Module: Healing Hands: Electronic Information Systems in Homeless Health Care
2. Electronic Resources and Patient Safety (PowerPoint)
3. Electronic Medical/Health Record and Computerized Physician Order Entry (PowerPoint)
II. Placement: Rural / Underserved 2-month Core Placement, and 1-month Selective Placement

Students will conduct intake in concert with preceptor / facility to determine housing status by federal definition of homelessness. Clinical rotation logs include data on number of homeless-specific encounters per month and will complete post-test to determine correlational data on experience, affect, and attitude.

Placement Readings and Additional Exercises:

1. Hope Log Template

Community Service Course

Medical students are expected to provide 80 hours of community service over their first two years of medical school, of which at least 4 hours must be directly or indirectly (such as coordinating a food drive) benefitting those experiencing homelessness to ensure exposure to these individuals. The College of Medicine works with a diverse cadre of community partners, and has enhanced partnerships with agencies dedicated to the needs of the homeless through Project HOPE.

1. Community Service Course Syllabus
2. HPAETHI Student Survey
Goals:

- The ability to understand vulnerabilities that are specific and broadly based to individuals, communities and populations.
- A commitment to apply knowledge of the important economic, psychological, environmental, social, and cultural factors that contribute to health, illness and injury when treating patients.
- To recognize and collaborate with other healthcare disciplines and specialties that contribute to the health of individuals, communities and populations.
- The skill to identify factors that place individuals at risk for disease or injury, to select appropriate tests for detecting patients at risk for specific diseases or in the early stage of disease, and to determine strategies for responding appropriately.

Objectives:

- Define homelessness with specific consideration to biopsychosocial factors.
- Explain what factors have contributed to Florida’s large population of individuals experiencing homelessness and discuss subsets of this population (i.e. families versus individuals, specific ethnic or cultural populations, etc.).
- Demonstrate the ability to appraise critically risk factors toward experiencing homelessness, and risk factors as a result of experiencing homelessness.
- Distinguish attitudes and approaches that would be important to consider in providing care to those experiencing homelessness.
Biopsychosocial Aspects of Homelessness

Who are the Homeless?

- According to a 2009 point-in-time estimate, approximately 643,067 sheltered and unsheltered homeless persons reside in the United States.
- As many as 3.5 million Americans will experience homelessness in any given year.
- Florida has one of the largest homeless populations in the nation.
- 39% of the U.S. individuals who are homeless in the U.S. reside in Florida, California, and New York.
- Some 57,643 individuals experienced homelessness in the state, with nearly 8,000 of those persons residing in the South Florida counties of Broward and Miami-Dade.
- Of the 643,067 individuals who were contacted during a 2009 point-in-time estimate of sheltered and unsheltered homeless persons, 37% were “unsheltered on the street or in other places not meant for human habitation”.
- Sixty-three percent were individuals (including unaccompanied youth and household with multiple adults but no children), while the remaining portion (37%) was comprised of families.
- Compared to national estimates of family and individual homelessness, the composition of Florida’s homeless population is disproportionately represented by individuals (85.4%) relative to families.

A racial and gender divide

- Greater representation of male homeless individuals as well as those identified as African American.
- African American individuals are particularly overrepresented, comprising an overwhelming 38.7% of the sheltered homeless population, compared to 12.7 in...
Similarly, in Florida, 36.5% of the homeless population identifies as African American, compared to 16.1% of the total population in the state.

**Risk Factors for Homelessness**

- Violence
- Abuse
- Disturbed family dynamics beginning early in childhood
- Aging out of the foster care system
- Low educational attainment
- Minimal work experience
- History of mental illness/Substance abuse

**Psychiatric Factors**

Increased risk for homelessness with undiagnosed/diagnosed:

- Substance abuse
- Posttraumatic Stress Disorder (PTSD)
- Schizophrenia
- Mood Disorders/Anxiety Disorders

**Substance Dependence**

When an individual persists in use of alcohol or other drugs despite problems related to use of the substance:

- Substance dependence may be diagnosed.
- Compulsive and repetitive use may result in tolerance to the effect of the drug.
- Withdrawal Symptoms may be experienced when use is reduced or stopped.

**Substance Abuse**

- When repeated use of alcohol or other drugs leads to problems but does NOT include compulsive use or addiction.
- Stopping the drug does not lead to significant withdrawal symptoms.
• Results in a failure to fulfill major role obligations.
• Recurrent substance use in situations in which it is physically hazardous.
• Recurrent substance-related legal problems.
• Continued substance use despite having persistent or recurrent social or interpersonal problems.
• Upwards of 60% -80% of homeless individuals reported a history of problems with alcohol/drugs.
• One fourth, respectively, currently experience an alcohol- or drug-use problem.
• Three quarters of homeless individuals in their sample had a history of multiple substance abuse.
• People who are dually diagnosed with severe mental illness and substance use disorders constitute 10%-20% of homeless persons.

**Posttraumatic Stress Disorder (PTSD)**

When an individual who has been exposed to a traumatic event:

• Develops anxiety symptoms
• Re-experiences traumatic event
• Avoids stimuli related to the event
• And symptoms last more than four weeks
• They may be suffering from this Anxiety Disorder

**Trauma**

• Various forms of abuse
• History of or ongoing domestic violence
• Major violence or abuse during childhood
• Rape is more likely to result in the development of PTSD than other types of trauma
• Homeless women experience rape far more frequently than men
• Some investigations of PTSD among homeless samples have yielded rates of nearly 20% among homeless men and over 30% among homeless women

**Posttraumatic Stress Disorder**

• Risk of victimization or re-victimization, particularly in the domains of physical and sexual assault, are markedly elevated among homeless people.
• Instances of major violence were reported by over one-third of homeless women over the past year.
• Sixty-five percent of a large sample of homeless adults in California reported being robbed, mugged, assaulted, or raped within the past year.

**Biological Factors of the Homeless**

• Homeless people are more likely to have chronic medical conditions and to encounter barriers to health care than the general population.
• Among older homeless men, cardiovascular disease (CVD) is the leading cause of death.
• CVD is a major cause of morbidity and mortality among homeless adults. Homeless men 45 to 64 years of age are.
• 40% to 50% of homeless men more likely to die of heart disease than men in the general population.
• Homeless people's diets are often high in saturated fats and cholesterol and inadequate in essential nutrients, contributing to adverse lipid profiles.
• Traumatic brain injury, loss of consciousness, general cognitive dysfunction common, auditory gaiting as well as hypersensitivity to sound is common among homeless population.
• Higher incidence of Diabetes Type 2, Hypertension, HIV/AIDS,TB, lower resistance to infection among homeless population.

**Neuropsychological Factors**

Neuropsychological impairment may be present in as many as 80% of homeless persons.

• Reduced processing speed
• Reduced working memory
• Thought avoidance and intrusions secondary to a stress
• Verbal memory deficits
• Deficits on tasks that are likely mediated by anterior brain functions
References


Across America, Health Care for the Homeless providers acknowledge the myriad and complex barriers to care that confront homeless families, youth, and single adults. During 25 years of service, these clinicians have learned the importance of first-hand knowledge, innovation, and relationship building in their efforts to secure pathways to rehabilitation and recovery for their clients. These following articles touch on self-imposed obstacles homeless individuals may create with hope that such discussion will enlighten informed and sensitive outreach techniques. The main thrust of this issue, however, is to illuminate the systemic barriers erected through governmental regulation and inflexible health care models that prevent homeless people from accessing the care they need and, in the end, waste social capital by denigrating human worth, decreasing productivity, and eroding economic stability.

Barriers to health care for homeless people include a generalized list of roadblocks to access—money, insurance, transportation, time, and personal identification. Because such realities compete each day with the immediate needs for food and nightly shelter, a person who is homeless often puts off nagging and, hopefully, minor illnesses until it is no longer possible to ignore them. In addition, there are multifaceted issues related to specific homeless populations:

- **Families with children** often headed by single mothers become homeless for various reasons, but for those who are responding to domestic violence, safety dictates their need for protective shelter. Regardless of circumstances, insurance, birth certificates, proof of citizenship, credit cards, and cell phones may be inaccessible.
- **Young people** tend to leave home in a hurry, often with only a few dollars in their pocket, perhaps a driver’s license, and a cell phone. Others may be aging out of the foster care system with no place to go.
- **Chronically homeless people** may have cognitive impairments related to mental illness, alcohol or drug dependency, stress from previous traumatic encounters, or traumatic brain injury (TBI). They may not currently or ever have been employed, lacking ongoing work records or Social Security numbers. Others have lost their identification papers along the way or fail to seek treatment because of shame, stigma, and discrimination.

• **People transitioning from prison** and jail may face civil consequences from their criminal convictions that make it difficult for them to find employment or housing (see Quick Tips Box, numbers 9–12).

• **Native Americans** experience greater health disparities than any other group within the United States and are at extremely high risk of homelessness both in urban areas and on reservations where 40 percent of housing is considered inadequate.

• **Veterans** generally have higher median incomes, lower rates of unemployment, and better educations than their peers as well as access to a broad range of special benefits through the Department of Veterans Affairs. Research shows, however, that instead of military service being the risk factor, personal vulnerabilities related to isolation, addiction, mental and physical health, and lack of affordable housing are contributing factors exacerbated by a VA service delivery system often viewed as delaying access.

“We’re an established system that provides a variety of programs to a continuum of low-income people, but a new provider of homeless health care services. Since assuming homeless care from the Metro Public Health Department in November 2008, we’ve found caring for homeless individuals presents particular challenges. We need to be sensitive to our homeless clients’ unique needs associated with trauma, victimization, and a mobile lifestyle with unstable roots and social networks. Even newly homeless people have more pervasive diagnostic requirements with behavioral health needs almost equal to primary care. This necessitates staffing differences to insure program integrity. And then there’s transportation—folks aren’t all located in the center city and often don’t want to come to the Downtown Clinic for care. While our mobile unit helps, it can only go to one site at a time and folks don’t always get sick on schedule. Establishing the continuity of care we prefer will take time and innovative solutions.”

— Mary Bufwack, PhD, chief executive officer, United Neighborhood Health Services, Inc., Nashville, Tennessee

**Documenting Identity Is A Huge Problem**

Piecing the lives of homeless people back together takes time and since 9/11, requirements for obtaining necessary documentation to establish a person's identity have become increasingly onerous.

**Brian Colangelo, LCSW**, is a mental health and substance abuse counselor for Project HOPE (Homeless Outreach Program Enrichment)—a health care for the homeless grantee—in Camden, New Jersey:

“My colleagues in the primary care association and I find a chain of barriers that homeless people in New Jersey encounter. Lack of identification tops the list, and then there are visit copays, referrals to specialists, transportation challenges (all the specialists are located outside Camden), language barriers, scheduling problems, long wait times, insurance status, and immigration status. Even for clients who have insurance, the state of New Jersey requires them to show providers two forms of identification (one a photo
ID), along with health insurance information or Families First card plus their co-
payment. If they don't have insurance, they need two IDs, proof of income, proof of
residency, and documentation that they are ineligible for insurance.

Our clients are mostly single adults, many of whom are men. Every time they come
to the clinic, the waits are long because of paperwork,” Colangelo continues. “Those
who have been convicted must get a letter from the Camden County Board of Social
Services or welfare office to insure that Project HOPE gets reimbursed for their care.
Moreover, without a photo ID, there is no access to hospital care. “Outreach through
walking teams and mobile health vans is important for the care of homeless adults,”
Colangelo adds. “Many clients have limited mobility making even a half-mile trip to
a clinic too much for them. Others do not have identification or may fear registration
procedures, signing forms, or giving personal information. Indeed, those who suffer
from anxiety or paranoia find it difficult to build trusting relationships. Last year, Project
HOPE was able to purchase a van through a grant from Catholic Health East and we are
finding that some clients are much more comfortable there.

Using case management effectively allows us to sit down, assess problems, and determine
how to get from point A to point B,” Colangelo explains. “We consider the van a first step
in clients‘ medical care. Once they establish a relationship with a doctor, nurse, or outreach
worker, they eventually come to the health center for more intensive treatment.”

According to James Herbert, a Social Security Administration (SSA) representative in Camden,
New Jersey, “Since 9/11, photo IDs have become extremely important because government
agencies want to know who you are now. Even a birth certificate doesn’t explain a person’s
present identity. So without that photo ID, the amount of paperwork necessary is huge and
includes doctors’ records, work records, education records. It’s best to start at the SSA website—
www.SSA.gov—for accurate information.” When someone has never worked, they will need to
apply for an original identification card and must provide at least two documents to prove age,
identity, and U.S. citizenship or current lawful, work-authorized immigration status. Those who
are not U.S. citizens and do not have Department of Homeland Security work authorization
must prove a valid non-work reason for requesting a card. Those age 12 or older, who have never
received a Social Security number, must apply in person (see Quick Tips Box, number 1).

The next step for those without insurance may be application for Social Security benefits
through supplemental security income (SSI) for people with low incomes and few resources
who are age 65 and above, blind, or disabled. People who are disabled may apply to receive
Social Security Disability Insurance (SSDI) if they have worked in jobs covered by Social Security
and have a medical condition that meets Social Security’s definition of disability (see Quick Tips
Box, numbers 1, 4–7). Disability is strictly defined under Social Security based on an individual’s
inability to work:14

- Unable to do work that he or she did before and cannot adjust to other work because
  of his or her medical condition(s).
- Disability has lasted or is expected to last for at least one year or to result in death.
• Disabled adults who have never worked may be entitled to benefits, if one of their parents receives Social Security retirement or disability benefits, or if the parent has died and had worked long enough under Social Security.\textsuperscript{14,15}

**Overcoming Barriers To Benefits**

At HCH, Inc., in Baltimore, Public Benefits Manager Pete Iacovelli is the go-to person for insurance and public benefits. Iacovelli does not talk in terms of barriers—he talks about challenges to be overcome. “I start with a knowledge base,” he says, “and then apply personal, face-to-face interaction, helping our clients get the care they need by being straight with everyone. Folks are all overworked and so my job is to go the extra mile. “I go online to see how the legislation—Maryland’s actual code of law—is written because it’s first essential to understand how the benefits are supposed to work,” Iacovelli continues. “I’ve built strong relationships with the people in state offices who administer public benefits, and I meet with them for benefits clarification and to advocate for particular individuals. In addition, I educate our staff members and clients, all of whom have come to trust me. “In Maryland, the Primary Adult Care Program (PAC)—the state’s part of Medicaid—requires an official Maryland ID and client benefits can often be available within 45 days of application. PAC covers prescription drugs, primary care, limited dental and vision care with a pair of glasses annually, and outpatient addiction treatment. When public benefit processors reject applications, again it helps to have the regulations handy. We always remain positive, but if needed, we’re ready to call an administrator to help resolve a problem.”

**Outreach That Does What It Takes**

Part of an interdisciplinary outreach team, Kathleen Jackson, NP, provides transitional care management to vulnerable groups including people who are homeless, impoverished, and medically uninsured. Launched by the Camden Coalition of Healthcare Providers in 2007, Jackson and her colleagues, Jessica Cordero, a bilingual community health worker, and social worker candidate Nicole Speigel, hit the streets to closely follow the highest hospital and emergency department (ED) users—and their innovative outreach model is proving to be effective. Using a planning grant from the Robert Wood Johnson Foundation’s New Jersey Health Initiatives program, Jeffrey C. Brenner, MD, designed what he refers to as a health care home without walls. Aiming to tackle the ED “super users,” the team helps clients become insured, gets them on necessary medications and back into primary care, and, when needed, into nursing homes or day programs. Outcomes show that before the program, 34 of 92 clients visited local hospitals 62 times each month at a cost of $1.2 million. After enrollment, patient utilization of hospitals and EDs dropped 40 percent (see Quick Tips Box, number 14).

Jackson explains: “We go to our clients—many very fragile with comorbid physical and mental health as well as substance related care needs—and do whatever it takes in coalition with other Camden agencies to solve the problems that have created barriers to their health care. It may be identification, benefits, transportation, or medications. Our goal is to use an innovative approach to redirect ED seeking behaviors and the need for hospitalization while helping clients achieve improved health. Along the way, we’ve garnered the support of the Centene Foundation for...”
An Administrator’s Point Of View

In Atlanta, Tom Andrews, president of Saint Joseph’s Mercy Care Services, Inc., understands. “It’s always a matter of using Peter to pay Paul while constantly seeking ways to offer service to new groups in need. Our 11 clinics (four fixed-site and the others served one to two days a week from a mobile coach) provide health care where it’s needed most through primary medical and dental care; social services, case management, and mental health assessments; and outreach programs,” Andrews says. “Homeless individuals comprise the majority of our clientele and most others are at-risk for homelessness. Almost 90 percent of our clients are at or below 100 percent of the federal poverty level, which makes it a tremendous challenge for them to access medical services. Georgia’s Medicaid program only serves children, pregnant women, elderly, and the disabled. And with continuing state deficits, projections for 2011 and 2012 don’t look any better than the current fiscal picture.”

Andrews continues: “MARTA [Atlanta’s mass transportation system] is available in the central city but it has never expanded to the suburbs making transportation a real problem. We use vans and cars to help get clients where they need to go. Grants will pay for transportation as part of direct services, which also include primary care, dental care, social services, outreach, and even some addiction care, but don’t cover overhead—the money for salaries, upkeep, and new facilities. The unexpected keeps me awake at night—this year we lost a grant for TB screening, which is required before people can access housing, drug treatment, and mental health care. Now as folks try to get the test through public agencies, the resulting bottleneck has women and children sleeping on shelter floors for eight to ten days as they wait for testing.”

Accessing Psychiatric and Addiction Care

“In Atlanta, identification is a huge issue,” according to Amanda Wagner, LMSW, a mental health professional at Saint Joseph’s Mercy Care Services.

“In order to access psychiatric and specialty care at Grady Health System, people need to have a state of Georgia-issued photo ID, which requires a mailing address and proof of birth. While Crossroads Community Ministries and several local social service agencies will provide secure mailing addresses and the Georgia Law Center for the Homeless helps clients with pro bono affidavits for states that require identity verification, the process takes time and the ability to navigate such a complex system is difficult for most clients. For people who are consistently focused on basic needs of eating and sleeping, health care loses importance. In addition, homeless individuals must obtain a letter of verification on shelter letterhead attesting that they live in Fulton-DeKalb Counties and are homeless without income in order to obtain the zero-pay Grady card that allows outpatient treatment and pharmaceuticals.”
Wagner continues: “If someone is a danger to themselves or others, they can get care through emergency services, which will end a crisis team to assess them, but even with benefits it may take a month before the client sees a psychiatrist for a follow-up appointment. Grady’s intake clinic for mental health assessments is faster but still may take a week following contact.

Other barriers to access include lack of transportation and long wait times. Some clients are too sick to take public transportation on their own, let alone sit and wait for appointments, and need a case manager to accompany them, in which case we use company vehicles,” Wagner adds. “Accessing inpatient detoxification is even more difficult and requires an extremely tenacious client. The Georgia Crisis and Access Line is a mental health and substance abuse clearinghouse, which screens clients over the phone for residential detoxification program beds. In order to secure space in the program, case managers and clients begin calling the crisis line at 8:00 a.m., but often the limited detoxification beds are taken by 10:00 a.m. That means someone who is ready to enter substance abuse treatment will have to wait another day. Unfortunately, many clients leave feeling defeated and do not return the next day to try again.”

Across the board, clinicians find that barriers to care begin within a bureaucratic maze so difficult to untangle that many eligible people, particularly those who are homeless with mental health or co-occurring substance-related disorders never apply. Research has found that permanently housing chronically homeless people with access to SSA benefits can reduce the cost of care by as much as 30 percent. Indeed, income is essential to access housing and for those disabled by serious mental illness, disability income is the primary source of stable income.

Realizing these associations as a step toward eliminating homelessness, the SSA’s Homeless Outreach Projects and Evaluation (HOPE) initiative launched from 2003 to 2005 is structured to help providers and SSA representatives work in tandem to improve homeless individuals’ access to SSI and SSDI benefits.

**Anticipating the Promise of Health Care Reform with Innovative Program Solutions**

When talking about the provisions in the 2010 Patient Protection and Affordable Care Act, NHCHC Policy Director Barbara DiPietro, PhD, points out opportunities that will benefit homeless people and their HCH providers. “While Medicaid expansion to everyone with incomes up to 133 percent of the federal poverty level (FPL) won’t be fully implemented until January 2014, some states have calculated that they will save money by expanding Medicaid coverage for low-income adults earlier. Both Connecticut and the District of Columbia have submitted state plan amendments to the Centers for Medicare and Medicaid Services; D.C. expects to save $56 million over four years (2010–2014).” The Kaiser Commission reports that “under the enhanced outreach scenario applied uniformly across states, Medicaid enrollment could increase by 22.8 million by 2019 resulting in a 70 percent reduction in uninsured adults under 133 percent of poverty.”
“The new law invests $11 billion over five years in HRSA-supported health centers,” DiPietro continues, “with most of the funding ($9.5 billion) dedicated to new access points and expanded services capacity to prepare for nearly 20 million new health center clients. The rest is directed to capital improvement of facilities and construction of new sites.” In addition, the law speaks to workforce development by (see Quick Tips Box, number 15):

- **Investing** $1.5 billion over five years in the National Health Service Corps to place an estimated 15,000 primary care providers in underserved communities (see Quick Tips Box, number 16).
- **Developing incentives** to address the shortage of nurses through loan repayment and retention grants, and increased capacity for education.
- **Creating scholarships** to increase the number of primary care providers, establishing a public health workforce loan repayment program, providing training for medical residents in preventive medicine and public health, and promoting training in cultural competence.
- **Supporting development** of primary care models such as medical homes, team management of chronic disease, and programs that integrate physical and mental health services.

DiPietro adds: “As HCH providers, we need to plan for increased capacity and new programming to meet the growing demand for services. We need to ensure that our clients are enrolled in Medicaid as soon as possible and are receiving comprehensive health care in order to live healthy, productive lives.” (See Quick Tips Box, numbers 4–8.)

**Hitting The Ground Running**

In Nashville, Tennessee, many neighbors do not have secure or regular housing. As many as 1,000 people may live in shelters, on streets, in cars, in motels, or in one of 85 encampments throughout Davidson County. Others move constantly between homes of families and friends. At United Neighborhood Health Services (UNHS), doctors, nurse practitioners, physician assistants, behavioral health specialists, and dentists provide comprehensive, quality, affordable care at both the Downtown Clinic (DTC) and through a mobile clinic, which provides comprehensive medical care to those unable to come to a regular clinic location. With two exam rooms, the mobile unit regularly visits lunch programs, local tent cities, and community fellowships. Retinal eye exams, drug and alcohol programs, teen programs, prenatal services, and diabetes programs are also available.

**Bill Friskics-Warren, M.Div.,** director of homeless services for UNHS, understands that meeting people where they are, whether that means going to a tent city or tailoring treatment to their readiness to accept it, is absolutely crucial to providing effective, culturally sensitive care.19–21

“That’s why we are setting up mini-clinics at Mercury Courts, a Single Room Occupancy development, and at Park Center East, a provider of wraparound services to people living with mental illness,” Friskics-Warren says. “In each case, we will have a provider and a medical assistant working a set number of hours, several days each week. Our partner agencies will do outreach among their clients or residents, as well as provide transportation to folks from near-
by sites, such as transitional housing or other associated apartment complexes. At Park Center East, we will be working from the psychiatric clinic that’s already there. Our clinician will be on-site on days when their psychiatric nurse practitioner is scheduled, thus maximizing our chances of providing integrated health care to patients. “If things go as seamlessly as we hope they will,” Friskics-Warren continues, “Park Center’s members [clients] will view the UNHS provider as Park Center’s physician—someone who is an integral part of an agency in which they’ve already laced their trust—rather than yet another professional who’s ‘all in their business.’ In addition to removing the transportation barrier, we will remove other barriers that Park Center’s clients might otherwise face, such as uncertainty or fear, if they had to seek care at another UNHS site.

“We’re also working with Operation Stand Down Nashville (OSDN) to send our mobile unit to their Edgehill office one day a week, where they typically have 70 to 80 veterans onsite who come for an array of services from help with job searches to checking their mail boxes—hundreds of veterans use OSDN as a mailing address. We hope to provide provisional assessment and treatment to those with chronic conditions that otherwise might not get treatment, for reasons ranging from lack of transportation to mistrust of larger institutions.” A major tent city in Nashville washed away in the May 2010 flood. Initially, a Red Cross emergency shelter at Lipscomb University housed the 170 residents. Some have moved to temporary housing and others have relocated to a temporary site in Antioch. While permanent housing is what is needed, many individuals who were living in the tent city are ineligible for housing that might be provided by the government or a private property owner due to things like felony convictions.

Pam S. Brillhart, MSW, is director of special projects for UNHS. “Part of my role is to work with our Consumer Advisory Board (CAB). Several of our members are especially articulate when expressing the group’s ideas for change and are not afraid to speak up. They realize many in our community are deeply concerned about homeless individuals but there are a lot of meetings with undirected results, which sometimes seems like a lack of coordination; the right hand not knowing what the left is doing. A new CAB member summarized the feeling: ‘People are happiest when they are actually doing something—I’m tired of being in groups where nothing changes.’”

Another CAB representative, Jason White, bluntly describes how he sees homelessness in his birth city. Determined, White uses his life-long knowledge of the city and is able to get what he needs. He sees many other homeless people as conflict adverse and lacking the strength to confront challenges in their life situation without ongoing support. “I truly feel that it’s a war out there much of the time,” White says. “Many folks want to help, but others in the community just want to throw the homeless people away.” I made some bad choices and ended up with an addiction problem. I lost my wife and home,” White continues. “Over the last several years, I’ve had to start from scratch and rebuild my life, get my IDs and paperwork back together, learn where I could sleep at night, where I could find food. Public transportation doesn’t go to construction or factory jobs. Sources for food are plentiful but not always consistent, so homeless folks get discouraged and feel they’re on a wild goose chase. “I ran a halfway house for folks in recovery for six months or so,” White adds, “and was responsible for a group of truly fragile people; I still go over every Saturday to check on them. I’ve been working as a professional marketer for ten months now, have some money saved and my own place to live, but I still don’t
feel entirely secure. I just keep working on it.”

Keith Junior, MD, is the chief medical officer for UNHS. He views barriers to care within a framework of education. He wants to deliver the best possible care internal medicine can provide and knows that a medical home style of practice, electronic medical records, bundled services, and patient-centered sensitivity are all important to his clients’ ongoing recovery and good health. He also wants patients to understand the premises of good medicine so that they will want to take better care of themselves. “You know, no person is less important than I am—we’re all in this together,” Junior says. “Sometimes people aren’t trained to do a specific job but they may know more about something else; it’s just like my mechanic and cars—he keeps me on the road and I want to keep him going, too! When patients come in with sore throats, I want them to leave knowing their throat will feel better soon, but the more important item was checking and catching their high blood pressure early and treating it before it causes complications that aren’t so easy to take care of such as heart or kidney disease. I want them in for those preventative checks in between major milestones. I want them to think like their pancreas so we can watch blood sugar and act before they have diabetes. I want them to know we will always look after the ABCs—airways open, breathing robust, and circulation top notch. I especially want them to know that we care about them as individual human beings.”
Sources and Resources


**HCH Clinicians’ Network Communications Committee**

Bob Donovan, MD (Chair); Jan Caughlan, LCSW-C (Co-Chair); Brian Colangelo, LSW; Katy Kelleghan; Rachel Rodriguez-Marzec, MS, FNP-C, PMHNP-C; Barbara Wismer, MD, MPH; Sue Bredensteiner (Writer); Brenda Proffitt, MHA (Editor and Director of Membership & Communications)

The HCH Clinicians’ Network develops and distributes *Healing Hands* with support from the Health Resources and Services Administration. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of HRSA/BPHC.
Case #1: Chief Complaint

- 9 month old presents for “shots” with her mother
- No specific concerns

History of Present Illness

- First visit to a physician due to insurance issues
- Sleeps well
- Breast feeds on demand and eats baby/ table food
- Active and plays well with others
- Voiding and stooling without difficulty
- No cold or cough

Birth History/ PMH/ PSH

- No prenatal care
- Full term per mother
- Thinks weight around 7 pounds at birth
- NSVD at French Lick General; moved shortly after birth to Florida
- Mother reports no problems or issues at time of birth
- Denies any medical problems or surgeries in past

Where is French Lick?

1. Antarctica
2. Indiana
3. Tortola B.V.I.
4. Andalucia
5. Greece

Allergies/ Medications

- Denies any known allergies
- No medications

Social History

- Homeless at first, currently living with relatives in Florida since a few days old
- Home is converted old barn
- No daycare
- 1 dog
- No tobacco exposure
- Father out of work for many months

Family History

- None known

Physical Examination

Vital signs: Pulse-120, resp-26, T-98.7F
General: WD, WN, NAD, interactive
HEENT-WNL
Heart/Lungs-WNL
Abdomen-WNL
Neuro/MSK-WNL
**What to do?**

- MUST GET RECORDS FROM French Lick
- Baby born at French Lick General
- Need any records as well as any newborn screening

**Any Labs?**

1. CBC
2. Lead
3. UA
4. Chemistries

**Lab results**

- CBC shows mild anemia, microcytic and hypochromic cells, increased number of normal RBC
- Lead level normal
What is the diagnosis?

- Iron studies are normal
- Newborn screening from Indiana revealed a small amount of Barts hemoglobin consistent with alpha thalassemia

Back to Basics

- Hemoglobin molecule is composed of 2 pairs of similar polypeptide chains
- There are different types of Hemoglobin depending on which chains the molecule is made of:
  » alpha, beta, gamma, delta
  » Hemoglobin F (fetal) = 2 alpha + 2 gamma
  » Hemoglobin A1 = 2 alpha + 2 beta
  » Hemoglobin A2 = 2 alpha + 2 delta
  » Hemoglobin S (sickle) = 2 alpha + 2 abnormal beta

- At birth: Hg FA (90% F and 10%A)
- At 1 year Fetal Hg drops to less than 10%
- Adults have >96% Hg A1
  1.5-3% Hg A2
  <2% Hg F
- This means that the amount of gamma chains decrease as the amount of beta chains increase

Alpha Thalassemia

- Normally, each person has 4 genes that code for the alpha chain of the hemoglobin molecule
- Depending on how many deleted determines the outcome
  » 1/4 gene deletion-alpha thal minima
  » 2/4 gene deletion-alpha thal minor
  » 3/4 gene deletion -Hemoglobin H disease
  » 4/4 gene deletion-Hydrops fetalis

Silent carrier

- One of 4 genes inactive
- No clinical phenotype
**Alpha thalassemia trait**

- Asymptomatic
- Most common in Asian African population
- Normal physical exam
- Anemia usually not present
- Microcytosis
- Hg A2 and F normal

**Hemoglobin H disease**

- Three defective genes
- Tetrad of beta chains
- Lack of alpha chains
- Almost exclusively in Asians
- Chronic hemolytic anemia
- Splenomegaly

**Bart’s hemoglobinopathy**

- Four defective genes
- Unable to assemble Hg A or F
- Tetrad of 4 gamma chains in newborn
- Catastrophic anemia
- Hydrops fetalis
- Death

**Diagnosis of alpha thalassemia**

- Family history
- IDA and Beta thalassemia ruled out
- Hg/Hct usually WNL
- Microcytosis
- No increase in Hg A2

**Treatment for alpha thalassemia**

- Alpha thalassemia trait requires no treatment
- Hg H disease may require folic acid, transfusions, and rarely splenectomy
- Bart’s hemoglobinopathy usually results in death
Case#2: Chief Complaint

- 9 month old presents with irritability and abdominal swelling that is worsening over the past week

HPI

- Baby seemed fine until 1 week ago when she became very fussy, started looking pale, abdomen started swelling
- Mother also reports that the baby did not seem to be gaining weight over the past month
- Usually has 8 ounces of formula 4x/day but now done to 3 ounces per feeding

Birth Hx/ PMH/ PSH

- Born FT via C-section due to travel plans, 8-2, Hep B vaccine refused as well as any blood work due to parents personal beliefs
- No complications at birth
- Has been well up to now
- Had 2,4,and 6 month well checks; no vaccines
- No surgeries

Allergies/ Medications

- Denies any known allergies
- No medications

Social History

- Live on Star Island, father is a movie producer and child is cared for by live in nanny
- Mother is a model and is rarely home due to travel in Europe
- Parents and nanny smoke outside
- 2 toy poodles

Family history

- Anemia runs on both sides of the family
- Both parents are from Northern Italy
• No other known medical problems

**Physical examination**

• VS-P-180, R-55, BP-40/20 T-99.1
• General: pale, irritable infant, not consolable
• Abdomen: distended, +HSM
• Skin: jaundice

**Labs**

• Profound hypochromic, microcytic anemia with bizarre RBC morphology
• Heinz bodies
• Iron level elevated
• Hemoglobin 4 g/dL
• Hemoglobin Electrophoresis Hg F and Hg A2; absence of Hemoglobin A

**What is the diagnosis?**

1. Alpha thal minima
2. Iron deficiency anemia
3. Beta thal major
4. Sickle cell trait
5. Physiologic anemia

**Beta Thalassemia**

**Beta thalassemia major**

• Little / no production of beta chain or Hg A because missing 2/2 genes that code for the beta chain
• Usually noted >6 months when gamma chain and Hg F production usually fall
• Progressive hypochromic, microcytic severe anemia
• Hg as low as 3g/dL
• Family history of anemia
• Mediterranean, Asian, or African heritage
• Requires transfusion
• Resultant hepatosplenomegaly due to extramedullary hematopoiesis
Beta thalassemia trait

- Results from defect in a single (1/2) beta-globin gene
- Results in diminished production of normal beta-globin chains
- Autosomal recessive
- Failure to respond to trial of iron therapy
- Hg 9.5-11 (mild anemia)
- MCV decreased (<80)
- Hypochromia (central pallor >1/3 the diameter of the RBC)
- Hemoglobin electrophoresis
  - Increased Hg A2 (alpha + delta chains)
  - Increased Hg F (alpha + gamma chains)
  - Decreased Hg A1 (alpha + beta chains)
COMMUNITY SERVICE-Learning
Course: Syllabus

NOVA SOUTHEASTERN UNIVERSITY
COLLEGE OF OSTEOPATHIC MEDICINE
COURSE SYLLABUS (August 2014)

NAME OF COURSE: COMMUNITY SERVICE
CLASS/SEMESTER/YEAR: M2 SUMMER 2015
COURSE DESIGNATIONS: COM 9990; CRN # TBA

* M2s who transferred this year as M2s, and DO/DMD students have a 40-hour instead of an 80-hour service requirement.

COURSE DIRECTOR: DEBRA COHN STEINKOHL, M.H.S.A.
Administrative Director, IGC and Community Service Programs
Course Director, Community Service
Course Director, IGC Preceptorship I, II & III
Assistant Professor, NSU-COM Department of Family Medicine and the Public Health Program

CONTACT INFO: ROOM 1441 or 1411B (4TH floor HPD Terry Admin. Bldg.)
OFFICE PHONE: (954) 262-1441 or 1411
FAX: (954) 262-4773
CELL PHONE: (954) 560-7782
E-MAIL: steinkol@nsu.nova.edu
Administrative Assistant: Rossalyn Santana;
(954) 262-1411; rsantana@nova.edu

OFFICE HOURS: 9:30 A.M. - 1:00 P.M. & 2:00 P.M. - 5:30 P.M.
Monday - Friday

CREDIT HOURS: 2.0 HOURS

2014/2015 NSU-COM Students Enrolled and Required Hours:

M2s who matriculated as M1s in August 2013 are enrolled for the Community Service Course during the Summer Semester of their M2 Year. Students complete 80 hours of pre-approved and documented community service by June 15th 2015. Community service hours accrued from August 1, 2013 – June 15, 2015 will be applied to the M2 course (there is a 40-hour
service requirement for M2s who transferred to NSU-COM after their M1 year, and for DO/DMD Students).

**COURSE DESCRIPTION/GOAL:**

M2 NSU-COM students are enrolled in the Community Service Course in order to provide direct community service to improve the world around them, in the best traditions of holistic and complimentary care.

The goal of the NSU-COM Community Service Program is to provide altruistic service to the community at large, treating all persons with dignity and respect, to foster among NSU-COM students a sense of and habit of stewardship for people and the environment.

**COURSE OBJECTIVES:**

Upon successful completion of the Community Service Course, the student will be able to:

1. Demonstrate an appropriate level of community awareness, and promote and advocate for the welfare of individuals and the community at large;
2. Describe how community service impacts access or quality of care and other services to diverse populations;
3. Describe factors such as ethics, socio-economics, ethnicity, culture, age, gender, behavior and lifestyle into the provision of service;
4. Describe how our population utilizes community resources (e.g., foundations, associations, community-based organizations, etc.) to improve the welfare of individuals and the community at large;
5. Demonstrate an increased awareness of organizations and community efforts that provide health care to medically underserved and at-risk patient populations, and provide other needed health, environmental, economic or educational services.

**GRADING POLICY:**

The Community Service Course is graded as follows:

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<tr>
<th>Grade</th>
<th>Description</th>
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<tbody>
<tr>
<td>P</td>
<td>Pass</td>
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<tr>
<td>F</td>
<td>Fail</td>
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The minimum requirement for achieving a grade of “Pass” include: (1) the timely and accurate completion of all forms and other paperwork, as requested, to document completion of a minimum of 80 hours of pre-approved community service by June 15th of a student’s M2 year; and (2) the timely and accurate completion of a comprehensive journal documenting and describing all Community Service activities reported.

Forms include: the Post Community Service Form (to report service hours for each activity); Student Group Post Community Service Form (to report service hours for each group activity)
coordinated by a student organization); Supplemental Activity Log (if applicable) to report service hours accrued by multiple visits to the same site or activity; Approval Form for Proposed Community Service Activities (if not on the pre-approved list of services); If applicable, participant rosters from student or community organizations and other validation sources as requested (e.g., letters from organizations, pictures of student as a participant, etc.).

Required documents must be submitted in a timely and acceptable manner, and all course requirements must be met by June 15, 2015 of the M2 academic year. Failure to complete all course requirements by the due date will result in a grade of “F”. Students with a grade of “F” will not be eligible to take Board exams and will not be authorized to begin their M3 July clinical rotation. No exceptions to this policy will be made.

Criteria for remediating an “F” is established by the Course Director, and is in accordance with the specific deficiency(ies) attributing to the failed grade. The Course Director may request a course of action from the Student Progress Committee in areas relating to student deficiencies.

**CRITERIA TO QUALIFY FOR AND PARTICIPATE IN COMMUNITY SERVICE:**

Community Service directly and tangibly benefits the local, national or global community at the time when service is rendered. This is work that directly results in increasing access and/or improving care and other services in the community. The Community Service should meet a community need that requires volunteer participation, a need that would go un-served in the absence of volunteer support. Community Service is distinguished from service learning or other activities, which aim toward future benefits (e.g., most IGC Physician Mentor and COM2Serve sessions do not qualify as Community Service). Community Service does not include the hours spent in required training programs and program/service orientations that will make a student eligible for participation in a particular community service program (e.g., Red Cross Volunteer training, Reproductive Medicine, Medical Reserve Corps, etc.) However, M2 students may opt to substitute up to 4 hours of volunteer training per semester towards one IGC Physician Mentor or COM2Serve session (if applicable in that semester). The function of community service is neither political nor religious proselytizing, though students may perform community service under the aegis of organizations that are faith-based. Community Service is not necessarily directly related to a student’s field of study, and does not have to be medical or public health-oriented.

Students may participate in one or multiple activities, and service commencing in the M1 year can be spread out over two years or consolidated during a two-week break as long as a student completes 80 hours by June 15th of their M2 year. A minimum of 4 service hours must be completed with, or for, a homeless population. Students can perform community service at any time within the above time frame, and in any increments as long as the service is listed as an approved experience, or approval has been requested and granted by the NSU-COM Community Service Program. Students may participate in approved experiences as long as they have been selected or were given permission to participate (if participant selection is limited),
and as long as the hours served are not during student class or lab time. There is a maximum of 12 hours (out of 80 hours) that a student can report for approved fundraising or service hours approved for clothing, food or other charitable collections conducted in collaboration with an approved service event (e.g., most charitable 5K races with a registration fee count for 2 fundraising hours). All events and activities must receive prior approval, and most fundraising/collections also involve participation in an event or demonstration of efforts to advocate or educate (e.g., credit for growing a mustache and “Movember” donations requires active participation in a Prostate & Testicular Cancer Awareness activity such as community health promotion, posting community education links through social media, or other health promotion activity). There is a maximum of 16 service hours that a student can earn by volunteering to tutor, teach, or coach health professions students, but there is no limit of hours for tutoring or coaching in not-for-profit organizations for grades K – 12. There is a maximum of 25 service hours considered for all approved/verified peer mentor service.

**Approval for Community Service and Documentation:** Student cooperation is necessary in order to operate a smooth system for approving and verifying that the community service requirements are met by all students. The burden of responsibility to document community service in accordance with the policies described herein lies with each student. It is important for students to:

- Keep accurate records.
- Secure approval before serving at a particular site by ensuring that the service has been recorded and approved on an NSU-COM Community Service Approval Form.
- Secure verification of service on an NSU-COM Post Community Service Form and other validation sources as deemed necessary.
- Use consistent names for the service in all journal entries, Approval and Post Community Service Forms; and list the same points of contact/source of validation of service on all forms.

There are several ways in which community service is approved, accounted for, and verified.

1. Students must ensure that their projects already exist on the list of pre-approved services or have been documented and approval granted through the Pre-Approval Form. The submission date must be a minimum of 2 weeks prior to the proposed activity date(s).
2. Students (or student organization executive or activity leaders for group service activities) must document service on the Post Community Service Form, and this reporting form is to be clearly linked to the pre-approved service by listing the same project name and source of validation on both forms.
3. Students should ensure that the intended community service site/program is recognized and acceptable to the Community Service Program Office prior to serving at a given site. Retroactive approval and credit is rare and will only be assigned in cases that already have pre-approval from Debbi Steinkohl in the office of NSU-COM Community Service.
**Journal Requirement:** Students are required to document their experiences by keeping a reflective journal, which is a personal reflection of the community service. A paper original of the journal is due by June 15, 2015 and can be hand-delivered or mailed to Debra Steinkohl in the Terry Administration Building Room 1411B. The journal may be hand or type written, or a combination of both, and should be at a minimum equivalent to 8 double spaced 8.5” x 11” pages, in 12 point standard font covering all volunteer work for the 80 hours of total service. A journal entry of at least 3 sentences must be recorded for each community service activity so that all activities are reflected in the final journal. It is recommended to make journal entries over the 2 years of service so the finished product is not a structured paper but a compilation of thoughts over time. Different types of paper and various formats may be utilized. Inclusion of pictures can be beneficial in expressing personal thoughts of volunteer experiences, and credit for 1 of 8 pages will be granted for including a minimum of 3 quality pictures taken at the service event/activity. Students can address the larger issue of community service as it relates to the chosen service (a macro-level narrative) or discuss a specific experience(s) and significance of that experience (a micro-level narrative). Each community service(s) recorded in the journal must include a header to reference the community service activity and organization as it appears on the Approval Form (if applicable) and the Post Community Service form. Proper labels and documentation are important in order to link the journal to the service, and to confirm service approval and validate service hours so that proper credit is granted for having completed the assignment.
NSU-COM Post Community Service Form

Fall 2014/Winter 2015/Summer 2015

Student Last Name:__________________________________________

First Name:__________________________________________________

M1 / M2 (circle)

Student Signature:__________________________________________

Name of Community Service Activity:__________________________

Community-Based Service Organization:________________________

Address of Sponsoring/Collaborating Institution:_________________

Name/Location of Activity (if different from above):_______________

Is this an NSU-COM pre-approved community service organization/activity?
Yes_____ No_____

Were you given permission to attend/participate in this activity?
Yes_____ No_____ Not Applicable____

Total Hours Served:_______ Start Time: _______ End Time: _______

Date(s) Worked: __________________

Note: If you served on multiple dates, please ALSO complete the Supplemental Activity Log to report all service dates/times.

☐ Indicate if this service was directed towards individuals experiencing homelessness or instability of housing (Fulfilling the 4-hour minimum homeless service requirement)

Mission/Purpose of Organization or Event:

________________________________________________________________________
________________________________________________________________________

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Project HOPE

NSU NOVA SOUTHEASTERN UNIVERSITY
College of Osteopathic Medicine
Description/Purpose of Service Provided/Tasks Accomplished:
__________________________________________________________________________
__________________________________________________________________________

Quantify Service (e.g., # clients served, activities delivered): __________________________
__________________________________________________________________________

Community Service Sponsor or Supervisor Contact Information (for validation):

Signature _______________________________________
Print Name____________________________________
Title____________________________________________
Telephone: ________________________  Email:_________________________

This form is to be submitted no later than two weeks after the service end date. Attach validation source if applicable (e.g. roster from student organization signed by organization officer, certificate from community organization, etc.).
**Supplemental Activity Log**

If applicable, use this form to document multiple visits to the same Community Service Site/Activity

**Fall 2014/Winter 2015/Summer 2015**

Student Last Name: ________________________________

First Name: ________________________________

M1 / M2 (circle)

Student Signature: ________________________________

Name of Community Service Activity: ________________________________

Community Service Sponsoring Organization: ________________________________

Address of Sponsoring Institution: ________________________________

Name/Address of Activity (if different from above): ________________________________

Was a homeless population served during this activity or event?  _______ Yes  _______ No

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<th>Date</th>
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Total Hours Served:________________

Community Service Sponsor or Supervisor Contact Information (for validation):

Signature _________________________ Print Name________________________

Title____________________  Telephone: ______________ Email:___________________

This form is to be submitted no later than two weeks after the final service end date. Attach validation source if applicable (e.g. roster from student organization signed by organization officer, certificate from community organization, etc.).
NSU-COM Approval Form for Proposed Community Service

Fall 2014/Winter 2015/Summer 2015

Date of Submission of Pre-Approval Form: ___________________

(Submission date must be a minimum of 2 weeks prior to proposed activity date. Submit form to Debbi Steinkohl, Room 1441 or 1411B)

Date(s) and Time(s) that service can/will be performed:________________________

Approximate Total Hours ______

Student Last Name___________________ First Name______________________

M1 or M2

Name of Community Service Activity:____________________________________________

☐ Indicate if this service is directed towards individuals experiencing homelessness or instability of housing

(Fulfilling the 4-hour minimum homeless service requirement)

Community Service Sponsoring/Collaborating Organization:_________________________

Address of Organization:  _____________________________________________________

Name/location of community site where service will be rendered (if different than above):
__________________________________________________________________________
__________________________________________________________________________

Proposed Community Service Organization/Event Contact:

Name____________________________  Position/Title  _____________________________

Telephone: ________________ Email:_____________________ Fax: __________________

Description of Service and Need Served: Describe the goal of service, the population(s) or vulnerable population if any benefited, and how they will benefit. Four hours of direct (e.g., having personal contact with individuals at a resident/shelter facility) or indirect (e.g., pro-
Providing/coordinating aid for individuals with food or clothing donations) service is required to individuals experiencing homelessness or instability of housing. List the activities or scope of activities volunteers expect to perform, the number of people expected/required to volunteer at any given time, special skills or requirements and any restrictions or licensures needed to volunteer at this site. Are volunteer activities supervised (if so, by whom) or self directed?

Expected Source(s) and Type of Validation e.g. contact validation source or supervisor (listed above); letter sent by organization; volunteers are given documentation or certificate of service performed after participation; organization activity leader will send attendance roster after program/event; supervisor/sponsor will sign Post Community Service form, etc.

Office Use Only

NSU-COM Community Service Office Approval Signature _________________________

Approval Date:_____________

Comments/Instruction for follow-up:___________________________________________
NSU Group Post Community Service Form

NSU-COM M1/M2 Fall 2014/Winter 2015/Summer 2015

Name of Pre-Approved Community Service Activity: ________________________________

Community Service Collaborative Organization (in community): ______________________

Contact Person's Name from Community Organization: ____________________________

Address of Collaborative/Sponsoring Institution: _________________________________

Email of Community Institution: ________________ Phone: _________________________

Name/Location of Activity (if different from above): ________________________________

Total Hours Served: _____ Date(s): ____________________________________________

☐ Indicate if this service was directed towards individuals experiencing homelessness or
instability of housing (Fulfilling the 4-hour minimum homeless service requirement)

Mission/Purpose of Organization or Event: ______________________________________
__________________________________________________________________________
__________________________________________________________________________

Description/Purpose of Service Provided/Tasks Accomplished: _____________________
__________________________________________________________________________
__________________________________________________________________________

Quantify Service (e.g., # Clients Served, activities delivered): ______________________
__________________________________________________________________________

NSU Community Service Club Officer, Sponsor or Supervisor Contact Information
(for validation):

Signature ____________________________ Print Name ________________________________

Title & Student Organization _____________________________________________________
Telephone: ________________________________

Email: ________________________________

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<th>Student Names (list in alphabetical order by M1/M2 Class)</th>
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<th>Hours (round to 15 minutes)</th>
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Page 2 (of 2) of 2014/2015 Post Community Service Form for Student Organization-Coordinated Group Activities

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<th>Student Names (list in alphabetical order by M1/M2 Class)</th>
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<th>Hours (round to 15 minutes)</th>
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**Case Scenario: Rheumatoid Arthritis**

**SCENARIO:** Evelyn Williams/Rheumatoid Arthritis

**Case Description**

Ms. Williams is an 85-year-old Caucasian female living in a homeless shelter in Broward County. She finished schooling through the eleventh grade. Afterwards she married her husband and they remained married for 60 years until his death 7 years ago. She never worked outside of the home and her family is very important to her. She was a homemaker and reared four children, three girls and one boy. They have given her twelve grandchildren and four great-grandchildren. She had lived in a small home with her daughter and son-in-law, but they moved out of state and she refused to go with them. Ms. Williams tried to rent a home, but was evicted when the landlord was foreclosed on and she was forced to move out. She was evicted from the home and is now residing in the homeless shelter.

Other than the daughter who cared for her she did not see her other children often. It bothers Evelyn that her children haven’t offered to help her out of this situation, but she will tell you they are busy with families of their own. She had regular interactions with the home health aides before her daughter moved away.

She has her own living space within the shelter, including a bedroom and bathroom. All other living spaces are shared by other homeless individuals. Her daughter took care that the home was clean and didn’t have any kind of odor. Evelyn hates the “nursing home” smell that sometimes goes along with in-home care. It can even be worse in the homeless shelter that she lives in now.

Evelyn does not use alcohol or smoke. She is intelligent and has a high level of cognition. Her short and long-term memory are intact. She is emotionally well, seems happy, is bright and alert, but her lack of mobility/independence seems to dampen her spirits. Evelyn loves to read and keeps her mind active that way. She loved to help her children and grandchildren with their schoolwork, but since her eyesight is getting bad she is unable to maintain this hobby. Her daughter bought her a bird several months ago. “Franklin”, named after her husband, sits on the back of her chair keeping her company. She had to give up Franklin when she moved into the homeless shelter. She used to feed him nuts and fruit by hand and was teaching Franklin to give her “kisses” by placing pieces of fruit in her mouth. Losing Franklin hurts more than being isolated from her family.

Evelyn tries to exercise the upper part of her upper body. She has a good appetite, eats three meals a day and likes fruits and vegetables. Evelyn does wish she were more independent. She was always the caregiver for her family and ran errands, met with her friends for garden club. Now she doesn’t get out at all without the help of someone in the shelter. She says she couldn’t
do anything for herself anymore.

Supplemental care was also provided through home health and government agencies. She has Medicare of Florida as her payer source, but is applying for Medicaid. She is currently applying for government assistance. Supplemental care is also provided through home health and government agencies, with some private pay care included.

Mrs. Williams has been suffering from a variety of chronic diseases including asthmatic bronchitis, restless leg syndrome, and numerous forms of arthritis and chronic pain. Her health began to decline approximately five years ago following a total knee replacement. She is very aware of current illness and care needed to treat illness. She is an active member of the health care team. Evelyn is morbidly obese due to lack of mobility.

Mrs. Williams has a long history of medical problems. She was diagnosed with asthma when she was in her early 20’s. Five years ago, the physician diagnosed her with asthmatic bronchitis. She had shingles in her right eye 5 years ago. Currently, Evelyn has had a weight gain of 50 lbs. in the past 3-4 years, and needs a hip replacement. She has chronic dry mouth; deafness in right ear; congestive heart failure causing 3+ pitting edema in lower extremities; restless leg syndrome causing sleeplessness; urinary incontinence for several years; chronic iron deficiency anemia for several years; and possible hypertension.

She had a knee replacement in her right knee 5 years ago; 2 cataract surgeries, (the most recent in January on right eye); a hysterectomy – s/p uterine ca; and an appendectomy.

Her mother and sister both had diabetes. Her father had heart problems, a pacemaker, and Tuberculosis. Two of her brothers also had TB. Three of her four children have restless leg syndrome. Her daughter, the caregiver, also has back pain.

The last doctor’s visit for Evelyn resulted in the following review of systems:

**Review of systems (ROS):**

Although a thorough ROS is not present in her chart, it is noted:

Vitals: HR 84, BP 120/80. Resp 16, temp 97.2 oral

Weight: 213 lbs

Height: 60 cm

Allergies: Sulfa, ASA

General appearance: Obese, well groomed and neat in appearance, no odor noted, skin color is pink and normal.
HEENT: Eyesight corrected with glasses, nasal congestion, dry mouth, no c/o difficulty swallowing.

Lungs: Pt does not appear to have difficulty breathing, no SOB noted, no coughing noted. Pt states she uses nebulizer 2-3 times a day.

Cardiovascular: Pt skin tone is pink. Pt has normal EKG excluding some mild tachycardia.

Review of systems (ROS): (continued)

Echocardiogram from 4/17/02 showed mild left atrial enlargement, the others chambers were normal in size, overall function appeared good; unable to obtain EF due to patient inability to get on table, test performed with patient in recliner. Pt has notable edema in lower extremities.

GI: obese, bowel sounds present, no tenderness to palpation; bowel movement are regular, 3-4 times a day; pt c/o nausea and vomiting on a regular basis (green), no frank blood or coffee ground color noted per pt or family.

GU: c/o urinary incontinence

Skin: no rashes present; scar on right knee due to total knee replacement; daughter and pt expressed no signs of skin breakdown. Pt has also c/o itchy feet.

Neuro: Pt is alert and oriented to person, place, time, and situation. She is able to move upper extremities equal and strong. She has decreased movement of lower extremities due to arthritis and hip pain. C/o restless leg syndrome which disrupts her sleep.

**Medication:**

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<tr>
<th>Medication</th>
<th>Dose</th>
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<tr>
<td>Xanax</td>
<td>0.5 mg tab</td>
<td>1 tab PO TID</td>
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<td>Cod Liver oil</td>
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<td>QD</td>
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<tr>
<td>Vitamin C</td>
<td>500 mg tab</td>
<td>1 tab QD</td>
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<td>K-dur</td>
<td>20 meq tab CR</td>
<td>1 tab BID</td>
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<tr>
<td>Percocet</td>
<td>5-325mg tab</td>
<td>1 tab q6h breakthrough pain.</td>
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<tr>
<td>Lotensin</td>
<td>10 mg tab</td>
<td>1 tab q AM</td>
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<tr>
<td>Vitamin E</td>
<td>1</td>
<td>QD</td>
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<tr>
<td>Sinemet</td>
<td>25-250 mg tab</td>
<td>1 tab QID</td>
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<tr>
<td>Zaroxolyn</td>
<td>2.5 mg tab</td>
<td>1 tab QD</td>
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<tr>
<td>Aciphex</td>
<td>20 mg EC tab</td>
<td>1 tab QD</td>
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<tr>
<td>Uricept</td>
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Rheumatoid arthritis is a relatively common disease of the joints. In rheumatoid arthritis, the membranes or tissues (synovial membranes) lining the joints become inflamed (synovitis). Over time, the inflammation may destroy the joint tissues, leading to disability.

Restless Leg Syndrome:

Restless legs syndrome (RLS) is a sleep disorder in which a person experiences unpleasant sensations in the legs described as creeping, crawling, tingling, pulling, or painful. These sensations usually occur in the calf area but may be felt anywhere from the thigh to the ankle.
**Fibrositis:**

Inflammatory hyperplasia of the white fibrous tissue, especially of the muscle sheaths and fascial layers of the locomotor system, causing pain and stiffness; called also muscular rheumatism.

**Osteoarthritis:**

Osteoarthritis, also called degenerative joint disease, is the most common type of arthritis. It is associated with a breakdown of cartilage in joints and commonly occurs in the hips, knees and spine.

**Anxiety:**

People with anxiety disorders experience both the subjective emotion and various physical manifestations resulting from muscular tension and autonomic nervous system activity.

**Fibromyalgia:**

Fibromyalgia is a chronic disorder characterized by widespread musculoskeletal pain, fatigue, and multiple tender points. “Tender points” refers to tenderness that occurs in precise, localized areas, particularly in the neck, spine, shoulders, and hips.

**GERD:**

“GERD” stands for gastroesophageal reflux disease, a digestive disorder. “Gastroesophageal” refers to the stomach and the esophagus -- the tube that food travels through from your mouth to your stomach.

**Chronic Iron Deficiency Anemia:**

Iron-deficiency anemia is caused by low iron levels in the body. The body needs iron to make hemoglobin, a substance in red blood cells that carries oxygen from the lungs to body tissues.

**Congestive Heart Failure:**

When the left side of the heart is affected, it may not be able to pump enough blood to all of the organs in the body, including the heart itself. Blood may also back up in the right ventricle as well and eventually cause blood to back up in the bloodstream and fluid buildup in the body (right-sided heart failure). Right- and left-sided heart failure is often present at the same time.

**Asthma bronchitis:**

This condition is characterized by increased secretion from the bronchial mucosa and obstruction of the respiratory passages. It interferes with the flow of air to and from the lungs and causes shortness of breath, persistent coughing with expectoration, and recurrent infection.
Recommendations from Case Conference

Pre Case Conference

Health Education:

I feel like the patient’s general health is satisfactory. My primary concern is her intellectual health. I feel that she would benefit from some audio stimulation, i.e. books and stories on tape. It would be beneficial if her home health aide could read her the daily paper to keep her abreast on the world around her. Another recommendation for intellectual stimulation is large print work search/word finds. Encourage her home health aides to engage her in conversation beyond her health and medications. It is very important for the primary caregiver to have time for them. For the Pts. daughter to have some personal time there is a hospital affiliated fitness center staffed with nurses and physical therapists. They can oversee and teach patients proper exercise and eating habits. There are scholarships available in the community to help with fees for the program.

Social Work:

We got the impression from the patient that she is saddened by her lack of independence and recommend that she seek out small ways to become more independent. She may be able to perform light chores or prepare small meals for herself. She is also unable to attend church due to her bladder incontinence and it may be beneficial to have a minister or preacher come talk to her at home occasionally. She appeared to be generally frustrated with her lack of control of her own life. Any methods that she or her caregivers could devise to increase her level of control and independence may improve the quality of her life. We also suggest that occupational health become involved to create ways for her to function more independently.

Nursing:

I am concerned about her medications. There is incongruence between her physician’s records, home health provider records, and patient reported meds. If she is not taking an iron supplement, I would suggest one to help boost her Hct. Another possible treatment is Epogen for her Hematocrit. I am also concerned about the swelling in her legs. I suggest she keep her legs elevated while sitting. The doctors may also need to look at adjusting her diuretics. I am also concerned about her diet, eating habits, and dentition due to her complaints of dry mouth. I suggest her trying a saliva substitute instead of candies and gum. We are also concerned about her pain management. She states she has the most pain in the morning. We suggest that she either take her pain meds 1 hr prior to getting up to ease the pain. Another suggestion is for a pain patch. We are unsure if she has this or not due to the inconsistencies between the charts.

Patient may benefit from a dietary consult due to her dental health and need for weight reduction.
HE Perspective:

Agree with HE perspective presented in the case. Additional recommendations:

1. Gastroenterologist consult due to the patient continues to complain of Nausea and vomiting a green substance.
2. Educate patient on importance of weight reduction due to family history of Diabetes and less wear placed upon her knee replacements.
3. Good home situation for patient and daughter, but daughter may need more respite care for herself as patient condition changes.

Post-Case

Patient may benefit from the use of adhesive undergarments (pads, not diapers) for her incontinence.

Patient needs a total drug reevaluation, concentrating on the discontinuation of Xanax and Sinemet.

Patient may benefit from an increase in the dosage of diuretics for lower extremity edema.

Patient may benefit from an upper endoscopy due to complaints of nausea, vomiting, abdominal pain and low hematocrit.

Patient may benefit from a PT/OT consult for increased independence.

Patient and primary caregiver may benefit from the use of the local hospital fitness center per doctors orders.

Patient needs a pain evaluation (review of all meds).

Patient may benefit from initiation of an antidepressant (Zoloft or Paxil).

Patient may benefit from the use of artificial saliva (OTC med must ask pharmacist for). This could help with weight control by reducing the level of candy/gum.

Patient should ask physician for general panel of labs including liver panel, renal panel, albumin level. Also continue monitoring chemistries and hematology.

Patient's intellectual health may benefit from books on tape, word puzzles, card games and having the newspaper read to her.

Patient may benefit from a minister or preacher coming to the home to talk and visit with her as she feels inhibited from going to church due to her incontinence.

Patient may develop a stronger sense of independence by performing light chores in the home.
and possibly preparing small meals for herself.

Prescription financial assistance would alleviate the total cost of prescription drugs on a monthly basis (possibly receiving samples from the doctor’s office).

Patient may benefit from a dietary consult due to her dental health.

**Interdisciplinary Leaders Feedback:**

What are the benefits and challenges in involving community members in health care initiatives?

A holistic view of patient’s needs and health concerns.

Communication and dialogue between the disciplines to make suggestions to improve the patient’s quality of life.

A challenge is the logistics of planning a meeting when all members can attend due to scheduling conflicts.

Another challenge is the amount of time required to review, discuss and coordinate all resources.

Varying opinions could possibly interfere with the implementation of recommendations.

What are the benefits and challenges of shared learning with community members and members of the student interdisciplinary team?

Exposure and insight to other medical disciplines base of knowledge.

It can be challenging to comprehend and understand the other discipline’s educational perspective.
Case Scenario: Ellen Cass: Diabetes and Homeless

Scenario

Case: Ellen Cass

You have come to the doctor because for the past several weeks you have had burning upon urination and vaginal itching. You started peeing more frequently about three months ago and have had burning with urination for the past three weeks. Burning occurs during and immediately after urinating. Your urine is clear. You have vaginal itching and discharge. The vaginal discharge looks like cottage cheese. You tried using over the counter medication (Monistat 7 - Miconazole) suggested by the pharmacist. The vaginal cream provided relief for about a week before symptoms returned. You have been drinking lots of juice to try to flush the infection out of your system.

Opening Line: I have a yeast infection, and it burns when I pee.
Training Materials

Completion of sections I through VII will provide specific information used in training SP’s

I. Patient Profile (A,B,C, and K are recruitment requirements)

A. Age: 53

B. Gender: Female

C. Race: Any

D. Affect (Mannerisms, Behavior): You are anxious, but friendly and willing to answer questions. You are anxious because you are afraid how much the office visit is going to cost.

E. Social History/Lifestyle: You are staying at a friend’s house and sleeping on the couch. You do not qualify for public assistance because your income is 1 dollar more than maximum income level. You are afraid your friend may kick you out soon and you have nowhere to go. You do not talk with your ex husband, and your children live in Oregon. Since you are embarrassed and they have their own problems, your two adult children do not know you are homeless.

F. Occupation: Homemaker; before the children were born you worked at a daycare as a preschool aid. After you divorced three years ago, you started working at the local Biggy Mark. You were doing fine until last year when they cut your hours. Because of your reduced pay, you can no longer afford your own apartment and for past six months have been living with different friends.

G. Sexual History: Ex-husband only. Tubal ligation after last child was born. Last menstrual cycle 2 months ago. Your cycles have been irregular for the past year.

H. Marital Status: Divorced. You were married for 30 years. Divorced three years ago. Divorced occur after you lost everything in home foreclosure and your husband’s drinking became a major problem.

I. Habits: Started smoking again after divorced, but can’t afford more than 1 pack/day. May have 1 to 6 alcoholic drinks/day depending on what you can afford. If asked directly, you think you are drinking too much.

J. General Appearance: Appear mildly uncomfortable.

K. Diet: breakfast = bread and cereal; lunch = sandwich sometimes; dinner = pasta with butter. You admit your diet is terrible, but it is too expensive to eat healthy.
I. Incompatible Characteristics: None

II. History of Present Illness

Location: Urinary and vaginal

Quality: Burning upon urination. Itching and redness external vaginal area.

Quantity/Severity: Cannot stand the burning any more.

Onset: 3 weeks ago, didn't think much about it, it wasn't that bad.

Duration: Gradually gotten worse over the past 3 weeks - past week it's been continuous.

Frequency: Constant

Setting:

Aggravating/Alleviating Factors: Nothing seems to make better or worse.

Associated Symptoms: Started loosing weight, numbness hands and feet, vision is getting worse.

Time line: You do not see the connection between all your symptoms.

III. Past Medical History

A. General State of Health: Last time had regular medical care was three years ago. At that time, the doctor told you that you needed to lose weight and your blood sugar was getting too high. He gave you a strict diet to follow and told you that he was going to start you on medications for sugars and cholesterol if you did not improve in three months. You never went back.

B. Prior Illnesses or Injury: Pneumonia four years ago.

C. Past Hospitalizations: Birth of 2 children.

D. Allergies and Immunizations: No Food or Environmental allergies.

E. Current Medications: Ibuprofen every now and then.

F. Other drugs:
G. HEENT/Neurologic:

H. Breasts: Never had a mammogram.

I. Respiratory and Cardiovascular:

J. Gastrointestinal:

K. Genitourinary: Burning upon urination.

L. Gyn: Last period months ago. Redness, discharge, and itching vaginal.

M. Musculoskeletal:

N. Psychiatric:

O. Hematologic:

IV. Physical Exam Results (see Guidelines to Physical Examination)

General Appearance:

Vital Signs > T: 98.4 BP: 158/96 P: 88 R: 20 Wt: 295 lbs

General: AA, Anxious

Gastrointestinal: Obese, BS+, soft, ND

Skin: Erythema labia majora, labia minora, and urethral meatus.

Genitourinary: See Gyn

HEENT: Poor dental

Gyn: Cottage cheese like vaginal discharge, external genital area erythema.

Breasts: NA

Musculoskeletal: Crepitus knees

Respiratory: CTA-B

Peripheral Vascular: Mild lower extremity edema.
Cardiovascular: RRR, no murmur

Neurologic: Decreased sensation feet

Mental Status Exam: Ox3

V. Family History   Age   Health   Cause of Death

Father died at 62 from MI and diabetes.

Mother died at 70 from diabetes and CVA.

Siblings: One brother have not talked to since your mother died.

Other: Children

(Peter)  33 alive and well

(Susan)  30 alive and well

VI. Scenario Development

A. Describe why the patient is seeing the physician, including the specific opening statement (In addition to the chief complaint, describe how the patient responds to the physician’s initial inquiry).

Opening statement – “I have a yeast infection and it burns when I pee.”

You have come to the doctor because for the past several weeks you have had burning upon urination and vaginal itching. You started peeing more frequently about three months ago and have had burning with urination for the past three weeks. Burning occurs during and immediately after urinating. Your urine is clear. You have vaginal itching and discharge. The vaginal discharge looks like cottage cheese. You tried using over the counter medication (Monistat 7 - Miconazole) suggested by the pharmacist. The vaginal cream provided relief for about a week before symptoms returned. You have been drinking lots of juice to try to flush the infection out of your system.

B. Describe the patient’s demeanor at the beginning and throughout the encounter (affect, non-verbal behavior).

Anxious. Becomes more uneasy as the encounter continues.
C. Describe the patient's concerns regarding his/her understanding of the presenting problem.

Patient is very anxious – Suspects she has (diabetes – do not say diabetes to student) – Seen what happened to her parents.

D. Describe how the patient will respond to different interviewing styles (e.g., a physician who does not seem interested in the patient's problem).

If the physician does not seem to care about patient's problems, patient should become upset. State – “You are like everyone else. You don't give a damn about me. I just want to go. I can not afford this.”

If the physician seems emphatic, patient should become more relaxed. State – “Doctor, I don't have any money is there any way you can help me.”

VII. Supplemental Materials (Anything not provided in the standard room set-up):
Initial Information Page

Patient Name: Ellen Cass

Setting: Doctor’s office/exam room

Patient Information: A 53 year old female presents burning upon urination and vaginal discharge.

Blood Pressure: 158/96 mmHg

Pulse: 88 bpm

Temperature: 98.4°F

Respiration: 20 rpm

Physician’s Tasks:

In the 20 minutes with the patient:

Take appropriate focused history and do an appropriate focused physical.

Take any notes you deem necessary.

You may take this file in the room with you, but please leave it at the door when you leave.
Timeline

41 years ago – 1st menstrual period
33 years ago – Pregnant had to get married
33 years ago – Son born
30 years ago – Daughter and tubal ligation
5 years ago – Husband forced into “early retirement”
4 years ago – Husband drinking became major problem
3 years ago – Foreclosure on home
3 years ago – Divorced husband
2 ½ years ago – Started working at Biggy Mart
1 year ago – Biggy Mart cut employee hours
6 months ago – Could no longer afford apartment on own started living at friends’ places
3 months ago – Increased urine frequency
3 weeks ago – Vaginal discharge and burning upon urination
3 weeks ago – Tried Monistat 7 mild improvement
1 week ago – Symptoms increased again

Facilitators

Welcome to a new semester. Thank you for returning to teach our students. On January 10, you will be acting as the patient. You are an overweight diabetic female that has not yet been diagnosed with diabetes. The students will be presented with a new challenge. They will be given a chart that will contain urine dipstick results showing very high levels of sugar in the urine. We want the students to make the connection from obesity, family history, increased urine frequency, reoccurring yeast infections to diabetes mellitus.

The patient has multiple problems and social issues, but the focus of the case is diabetes mellitus (DM). Homelessness, no medical insurance, and access to medical care are secondary problems. While the yeast infection should be treated, the underlying case is DM. The yeast
infection is causing skin irritation that burns when the urine contacts the skin. Until the diabetes is controlled, the yeast infections will keep reoccurring.

Elevated blood sugar -> Increased yeast growth -> Yeast infection (vaginal candidiasis) -> Skin irritation -> Burning upon urination
Case Scenario: CSE Van Grissom

Weakness

Case: M2 Van Grissom: Weakness

Case Description

Your opening line is “I am here because I had some weakness.” You started to go to the emergency room two days ago because you had some weakness and numbness on the right side of your body. Your right leg and arm felt sort of “heavy”, and it was difficult to move. You also noticed some slurred speech.

You are 72 years old. You have a history of high blood pressure for the past 15 years. Two days ago, after eating dinner at home, you had a sudden onset of weakness and numbness on the right side of your body. You also noticed difficulty with speech. You knew what you wanted to say, but just couldn’t say the words. Your speech seemed slurred, and you were very concerned. While you were on your way to the ER, your symptoms resolved. Your wife was driving. When you got back to your home, you called your doctor’s office and got an appointment for two days later (which is today).

You have felt fine during the ensuing two days and have had no symptoms like you had two days ago. You have had high blood pressure for the past 15 years, but you are not taking any medications for it. You were prescribed blood pressure medicine for 14 years, but stopped taking it about 1 year ago when you lost your job. You have not seen a doctor for the past year. You do not know the name of the medication you were previously on, and your former physician has retired. You haven’t been buying your medication, because it was so expensive and you are having financial difficulty. You have tried to find work, but there isn’t anything available.

Your home foreclosed 6 months. You had to move in with your mother-in-law. That caused you too much stress. She was constantly asking you about your job interviews. Now for the past 2 months you and your wife are sleeping on a futon in the living room of your brother’s house.

You think all this stress has caused you to have several (8 or 10) headaches over the past month. You don’t take anything for them. You just tough them out. They usually last around 30 minutes (4/10 pain). You do not have a history of headaches. You had a headache (similar to other headaches) when you had the weakness. Headache was also gone when you got to the ER.

You used to smoke a pack of cigarettes a day for 40 years. You quit one year ago after you had an attack of bronchitis and your doctor told you to quit smoking. You drink some alcohol (about 2 drinks a month) on special occasions.

You have been happily married for the past 30 years and live at home with your wife. She has not worked ever since the kids were born. You have two grown children who live in Chicago.
You were employed as a security guard at a local industrial plant and retired 4 years ago when it went out of business. Generally, you do not have stress in your life. However, you are under a great deal of stress recently caused by the cost of living increasing and losing your home. It is very hard to live off the money we get from my social security. Wife is 60yo.

**Training Materials**

Completion of sections I through VII will provide specific information used in training SP’s.

**I. Patient Profile** (A, B, C, and K are recruitment requirements)

A. Age: 72

B. Gender: male

C. Race: any

D. Affect (Mannerisms, Behavior): Polite, somewhat worried about the weakness. You are willing to be more compliant with blood pressure medications and suggestions that the physician may have with reference to your diet or other life-style changes.

E. Social History/Lifestyle: Married for 30 years, not physically active since retirement. Have gained 20 pounds in the past 4 years. Financially having difficulty making ends meet.

F. Occupation: Retired when industrial plant closed 4 years ago. Cannot find other employment.

G. Sexual History: Faithful to spouse of 30 years. You have not been sexually active for about 5 years; it doesn't bother you that you are not sexually active any longer as you have had decreased interest over time. You figure that's natural with age.

H. Marital Status: Married with 2 children. Children are grown and live in Chicago.

I. Habits: Tobacco 1ppd for 40 years, quit 1 years ago; No Drugs; Alcohol: 2 alcoholic beverages per month.

J. Diet: Not great; a lot of fast food ($1 menu burgers, fries, soda) because we don't want to bother the people we are living with.

K. General Appearance: you are sitting on the exam table, underwear and a gown.

L. Incompatible Characteristics (i.e., no abdominal scar for an appendicitis diagnosis): prefer no scars on neck from carotid surgery; cannot be very thin (gained 20 pounds in past 4 years).
II. History of Present Illness

Location: Currently no symptoms, was on right side of the body.

Quality: Numbness; weakness; and heaviness.

Quantity/Severity: N/A

Onset: Two days ago.

Duration: 20 minutes; resolved on your way to ER.

Frequency: Only episode was two days ago.

Setting: At home.

Aggravating/Alleviating Factors: Nothing makes it better, it just went away; Nothing makes it worse.

Associated Symptoms: Had slurred speech and a slight headache “It was like I knew what I wanted to say but could not get the words out right.”

ROS (general note): Patient states “ no xxx” to any Review of System items that are not listed as positive in the body of the case. Such as no fainting, no loss of consciousness, no chest pain, etc.

III. Past Medical History

A. General State of Health: Recently 8-10 headaches in the past month.

B. Prior Illnesses or Injury: none

C. Past Hospitalizations: none

D. Allergies and Immunizations: haven’t seen a doctor in a year; “I took whatever he told me to before that”

E. Current Medications: none

F. Other drugs: none

G. HEENT/Neurologic: vision has not changed

H. Breasts:

I. Respiratory:
J. Cardiovascular (including peripheral): High blood pressure for past 15 years

K. Gastrointestinal:

L. Genitourinary:

M. Gyn:

N. Musculoskeletal:

O. Psychiatric: anxious

P. Hematologic:

IV. Physical Exam Results (see Guidelines to Physical Examination)

General Appearance:

Vital Signs> BP: 150/95 P: 72 OT: 98.6 R: 16

General:

Gastrointestinal:

Skin:

Genitourinary:

HEENT:

Gyn:

Breasts:

Musculoskeletal:

Respiratory:

Peripheral Vascular:

Cardiovascular:

Neurologic:

Mental Status Exam:
Hematologic:

<table>
<thead>
<tr>
<th>V. Family History</th>
<th>Age</th>
<th>Health</th>
<th>Cause of Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father</td>
<td></td>
<td></td>
<td>Deceased at 64</td>
</tr>
<tr>
<td>Mother</td>
<td>88</td>
<td>Nursing home, high BP &amp; diabetes</td>
<td>Died of a stroke</td>
</tr>
<tr>
<td>Siblings:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sisters</td>
<td>(2)</td>
<td>Both with high blood pressure</td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spouse</td>
<td>60</td>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td>34&amp;36</td>
<td>healthy</td>
<td></td>
</tr>
</tbody>
</table>

VI. Scenario Development

A. Describe why the patient is seeing the physician, including the specific opening statement (In addition to the chief complaint, describe how the patient responds to the physician's initial inquiry).
   “I am here because I had some weakness”

B. Describe the patient’s demeanor at the beginning and throughout the encounter (affect, non-verbal behavior).
   Polite, anxious

C. Describe the patient’s concerns regarding his/her understanding of the presenting problem.
   You are concerned about the weakness

D. Describe how the patient will respond to different interviewing styles (e.g., a physician who does not seem interested in the patient’s problem).
   None

E. Triggers - what questions will the patient consistently ask during the encounter? (describe what cues the patient to ask these questions).

F. Describe the challenges the patient will present to the physician (e.g., as the physician shows interest in the patient, the initially hostile patient will decrease his/her hostility).
   None

G. List any questions that might distract from the intended challenge of the case (e.g., using natural causes for grandparents death).
   None
VII. Supplemental Materials (Anything not provided in the standard room set-up):
## Standardized Patient Checklist

**Van Grissom**

<table>
<thead>
<tr>
<th>History Items – The Student Physician Determined That:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Onset: My problem started two days ago</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Temporal Course: It was about twenty minutes until I felt normal and I don't have any symptoms now. (Give credit for either)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Location: The right side of my body</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Past Occurrence: I have never had anything like this before</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Associated Symptom: I had trouble with my speech</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Associated Symptom: I had some numbness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Pertinent Negative: I do not have any other symptoms (if asked about any specific symptoms, answer no and give credit for this item)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Past Medical History (PMH) The student physician determined</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. I have had high blood pressure for the past 15 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Social history: I drink 2 alcoholic drinks a month</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Social history: I do not use illegal drugs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Medications: I took medicine up until 1 year ago</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Allergies: I do not have any allergies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Family Hx: Both of my parents had a stroke</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Diet or Exercise: (Credit given for asking either)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Stress: I have a lot of stress in my life</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical Examination: The student physician</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. Auscultated my carotid arteries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Eye Exam: Examined my eyes with the ophthalmoscope</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Auscultated heart in 4 listening posts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Auscultated lungs in 6 places on back with mouth open</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Reflexes: Performed on biceps OR triceps OR brachioradialis (Credit given if student performs either reflex); must check do bilaterally</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Motor: Evaluated strength of upper extremities (Credit given if tests strength of biceps, triceps, shoulder, fingers, hand OR grip); Only have to test one muscle group, but must do bilateral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Motor: Evaluated strength of lower extremities (Credit given if tests strength of thigh, hips, lower leg, ankle or foot); Only have to test one muscle group, but must do bilateral</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em><strong>Walking on toes and heels would count</strong></em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History Items – The Student Physician Determined That:</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>----</td>
</tr>
<tr>
<td>25. Motor: Evaluate at least one cranial nerve (Only needs to do one of these actions: wrinkle forehead; smile; puff cheeks, stick out tongue; say aahh; close eyes and don’t let me open them; follow my finger with your eyes; shrug your shoulders; bite down; raise your brows; gag reflex; turn your head against resistance; frown)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Cerebellar function: Perform Romberg’s test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. Sensation/Pain: Evaluate CN V (sharp OR dull on face with eyes closed); Give credit for either or done at least once bilaterally</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. Sensation/Light Touch: Evaluate CN V with cotton wisp on face; give credit for either or done at least once bilaterally</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. Sensation/Pain: Evaluate lower extremity (sharp OR dull on foot or lower leg); Give credit for either or done at least once bilaterally</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. Sensation/Light Touch: Evaluate upper extremity (sharp OR dull on hand or lower arm ); give credit for either or done at least once bilaterally</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. Wash Hands</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Initial Information Page

Patient Name: Van Grissom

Setting: Office Visit/Exam Room

Patient Information: Patient is here today because he had some weakness.

Blood Pressure: 150/95

Pulse: 72

Temperature: 98.6°

Respiration: 16

Age: 72

Student Instructions:

You have 14 minutes to take a focused history (HPI, ROS, FH, PMH & Social) and perform an appropriate focused physical.

You have 9 minutes to complete the Post Encounter Activity.

You can take any notes you deem necessary.

DO NOT TAKE THIS INTO THE ROOM
The Electronic Resources module was developed by Patricia L. Hale PhD, MD, a practicing Internist with an extensive background in Medical Informatics. She lectures regularly on this topic and is a member of the Medical Informatics Subcommittee at ACP-ASIM. She is also a member of the Annual Session faculty and a co-author of Electronic Medical Records, a textbook published by ACP-ASIM and edited by Jerome Carter, MD.

Public Concerns About Experiencing an Error

Public concern about patient safety has increased and now outpaces concerns for air flight or food quality.


Note ambulatory care related areas of concern to the public:

- Receiving healthcare in general.
- Going to a doctors office for care.
- Filling a prescription.

Challenges in Patient Safety are based on System Problems

- The health care industry is made up of a series of complex systems or interactions of people and technology which allow us to achieve a desired outcome for a patient. What sets healthcare apart from other industries however is the complexity of those systems.
- The decentralized and fragmented nature of healthcare contributes to the problem of errors and patient safety. Research has suggested that it is important to focus on the systems of health care delivery in an effort to reduce medical errors.
- Prescribing and administering medications requires the successful completion of several steps: ordering, transcribing, dispensing, delivering and administering. Inattention to
system design leads to numerous opportunities for errors.

- *To Err Is Human,* a report by the Institute of Medicine, notes that the majority of medical errors today are not produced by negligence, lack of education or lack of training. Rather, errors occur in our health care systems due to poor systems design and organizational factors.

- Poor Communication amongst providers results in patient care decisions being made based on partial or incorrect information.

- Many medical errors can be attributed to the fact that the knowledge base needed to effectively and safely deliver health care exceeds the storage capacity of the human brain.

- Adverse events have existed for years but were not recognized at the time of their occurrence due to patient variations in response to care.

- There is natural overlap between the seven modules presented by this program as all of the challenges in patient safety are based on system problems.

**Role of Electronic Resources**

- These system problems have become more and more of a challenge as the amount of medical knowledge has dramatically increased.

- Physicians often are making decisions and implementing plans without having the ability to tap into the vast amount of medical information they need due to the logarithmic increase in the amount of published reports every year.
  - Expanding complexity of knowledge base
    - In the 1960s, about 100 RCTs were published each year
    - In the 1990s, over 10,000 RCTs were published each year

- Electronic resources have the advantage of allowing controlled access to this increasing information flow.

- The systems that provide physicians with the information they need to make the best decisions for patient care are more reliable through the use of both supportive products and processes.

**Information Technology to Improve Patient Safety**

- Supportive electronic products and processes that increase system reliability and improve health care delivery outcomes will be described in this module.

- This is a list of the specific topics that will be covered.

**What is an Electronic Medical Record (EMR)?**

- EMR systems provide many features that can improve patient safety.
• **What is an EMR?**
  » An EMR is an electronic version of the traditional patient chart that contains specific patient information.
  » The EMR can also be linked with other resources to provide access to test results and knowledge resources.
  » EMR systems vary from simply containing patient demographics, medication and allergy lists to complex systems integrated to multiple information resources, i.e. decision support tools.

**How EMRs Improve Patient Safety**

• Several features of EMRs can significantly improve patient safety.

  • **Universal chart access**
    » Alleviates problem of unavailable paper records.
    » Allows more than 1 person to work on the record at a time.
    » Allows access to health information off-site.
    » EMR allows access to records away from the limitations of a single site or paper record.
    » This can allow several users to access the record at the same time such as nurses adding vital signs and other information, scheduling tests, etc.
    » Records can also be accessed at other sites if necessary which can include alternate office sites or access at home while on call.

  • **Electronic interfaces with lab, X-ray, etc.**
    » When information is directly imported into the record electronically it is less likely to contain errors or missing information.
    » Documentation can be more complete as less time is needed to input information. This can also allow more time for decision making.

**Data Availability**

• Paper records are often fragmented and are missing important information.
• They are also easily misplaced and are often stored in multiple locations as they are used for various tasks.
• Lab and other test results as well as information from referral physicians are often missing.
• Often paper charts are also poorly organized with information misfiled and hard to find.
• Missing charts or poorly organized information significantly affects patient safety when clinicians lack the information they need to make decisions.
• Date more accessible and can be utilized:
  » For quality assurance purposes (i.e. volume and practice indicators formerly obtained by non-clinical billing systems or by hand).
For outcomes data, customized to the needs of the individual practice setting.

**Quality assurance**

- Can be more easily accomplished as large numbers of records can be accessed quickly and accurately.
- Indicators that are not usually available in paper records (or require significant effort) can be more easily measured.
- These include specific practice patterns such as mammography, HgbA1C and other compliance rates.
- More frequent feedback to clinicians can allow the development of system changes that can improve compliance when needed.
- Clinicians can choose specific areas of evaluation they may feel would be most useful to them rather than only what is required.
- True outcome measures that detect the effect that diagnosis and treatment has had on long term patient function, are also becoming possible when customized tracking is included using an EMR. An example would be looking at the HgbA1c levels in patients with a particular treatment (medication) or therapeutic approach (dietary counseling or exercise).

**Integration With:**

- Knowledge resources for answering clinical questions at the time of patient care such as PIER, Up to Date or electronic textbooks such as scientific American or Harrison's allow clinicians to ask questions at the time of patient the patient visit, adding safety features. Other possible diagnoses or treatment options that might not have been thought of may then be included. This is particularly helpful for rare diseases.
- Wireless, handheld devices (ie, personal digital assistants) can bring knowledge resources, drug databases and patient data to the clinician in these settings.
- Software that supports hospital encounters, billing using Medicare's evaluation and management documentation standards for reimbursement, and other services. Appropriate diagnostic coding is easier with the use of electronic resources that can quickly check for errors.

**EMR Access and Patient Safety**

- Access to medical records while on call can help with many patient medication questions.
- It is especially useful for cross-covering other physicians' patients. In this scenario the patient is unable to get through to the office because of busy phone lines (a not uncommon problem!) and needs to know what adjustments are needed for his or her warfarin dose.
• The cross-covering physician is able not only to access the pertinent lab, but also to advise the patient not to take any further warfarin that day and to repeat the lab test the next day.

• Accessing the EMR from home, the covering physician is able to find out that:
  » The protime INR was 3.8 and
  » The patient is on warfarin for recurrent pulmonary emboli
  » The present dose is 5mg per day

• He/she alerts the patient to not take warfain tonight and to repeat the lab tests the next day.

• He/she then also leaves an electronic notation or e-mail for the patient’s physician’s office notifying them about what has taken place, updating the patient’s electronic record.

**What is Computerized Physician Order Entry (CPOE)?**

• CPOE is the ordering of tests and medications as well as other treatments for patient care using computers.

• It often involves electronic communication of the orders as well as the use of rules-based methods for checking against drug references and other electronic information resources.
  » CPOE have automated rules engines or “if-then” logic statements that can lend physicians a powerful support element.
  » Based on data entered by the physician and pre-determined “if-then” logic statements, embedded decision support tools can remind doctors of certain risks or recommendations as the doctor’s orders interact with known patient information stored within the database.

• More sophisticated systems may also include integration of lab results and the use of decision support.

**Electronic Prescribing: Improving the Medication Prescribing Process**

• The healthcare industry has been slow to adopt new technologies, although these tools promise to enhance healthcare delivery.

• Writing a prescription is one of the most important paper transactions remaining in our increasingly digital society.

• Electronic prescribing tools can minimize medication errors because of illegible handwriting.

• Even though such devices are available for use in hospitals, the Institute for Safe Medication Practices estimates that less than 5% of U.S. physicians currently “write” prescriptions electronically.

• All medications should be prescribed on a computer with 3 interacting databases:
  » (1) the patient’s drug history
  » (2) a drug information/guideline database
  » (3) patient-specific information (i.e., age, weight, allergies, diagnoses, and laboratory data)
• Computers ensure the use of proper terminology.
• Ambiguous orders and incomplete information could be avoided.
• Additionally, computers can maintain accurate, unbiased, and up-to-date drug databases, which constitute essential tools as the number of approved medications continues to increase.
• Prescribers can receive on-screen prompts for drug-specific dosage information, with reminders to ensure that look-alikes and sound-alikes are not confused.
• Vital patient-specific information, such as overdose warnings, drug interactions, and allergy alerts, can be presented in the course of prescribing, so that potential adverse drug events that would otherwise go unrecognized can easily be avoided.
• Computers can reduce, even eliminate, the margin for error by flagging pre-existing medical conditions or concurrent medications that would preclude use of certain drugs in individual patients.
• Electronic prescribing can expedite refill requests, once patients are entered into the system.
• Computers can facilitate data exchange to enhance teamwork between clinicians and professionals who represent other parts of the medication management system, such as pharmacists in retail, hospital, and online environments; pharmacy benefit managers (PBMs); and health plans.
• Computers can enable practitioners to stay abreast of changes in formularies and insurance coverage.
• The use of computers can reduce healthcare costs through time and efficiency savings and by encouraging prescribers to consider lower-cost drug options.

Evidence that CPOE Systems increase safety

• There are a number of studies that have shown increased safety through the use of computerized physician orders.
• Reduction in medication errors:
  » Bates et al. (1998) found in a controlled trial that computerized physician order entry systems resulted in a 55 percent reduction in serious medication errors such as handwriting errors as well as medication dosing errors.
  SOURCE: Bates, David W., MD, MSc, Michael Cohen, MS, RPh, Lucian L. Leape, MD, J. Marc Overhage, MD, PhD, M. Michael Shabot, MD and Thomas Sheridan, ScD. JAMIA White Paper: Reducing the Frequency of Errors in Medicine Using Information Technology
  » In another time series study this group found an 83 percent reduction in the overall medication error rate, and a 64 percent reduction even with a simple system.
• Improvements in care:
  » Evans et al. demonstrated that clinical decision support can result in major improvements in rates of antibiotic-associated adverse drug events and can decrease costs.

**Medication Orders Automation**

- Computerized orders can prevent serious medical errors, as this case shows.
- Integration of lab results can be particularly useful; it can send an alert to the physician when increased risk may be present.
  » In this case, ordering Metformin for a patient with renal insufficiency could increase the risk of lactic acidosis.
  » With the warning, the physician can decide if another medication with less risk may be a better choice.

**Computerized Physician Order Entry (CPOE)**

- A drug information database screens all prescriptions for drug-drug, drug-allergy and drug-food interaction.
- The system advises the physician to counsel the patient about vitamin K rich foods likely to interfere with the efficacy of the drug.
- The system prints out a patient information sheet that the clinician can review with the patient at the visit.
- Computerized order entry can also provide patient education materials at the time of the visit tailored to the specific need.
  » In this case, patient information on diet and warfarin use is available to be reviewed with the patient during the visit.
- In addition, the drug information database enters smart defaults into the appropriate data fields of the prescription, saving time and ensuring accuracy.

**CPOE Advantages**

- Computerized physician order entry has multiple advantages.
- Orders can be more complete and error free by the use of defined order choices automatically checked against drug resources and formularies.
- Programs available often give drop-down choices controlling the clinician’s orders to recognized and standardized formats, adding another level of safety.
- In addition, these systems can track orders and be queried to give clinicians data regarding their own practice compared to clinical standards and peers.
- These types of tracking systems can help clinicians evaluate their behavior compared to their peers as well as compared to treatment recommendations found in guidelines and other standards.
• When a variance is found, they can evaluate the cause and develop a plan of action without the anxiety caused by monitoring agencies, etc.
• Most importantly, these systems allow error checking that can prevent problems from occurring before the order is completed.

**CPOE Disadvantages**

**Disadvantages to CPOE Include:**

**Errors** - No matter how carefully designed, errors can still occur in any system. Direct order entry eliminates some error checking that may occur when several individuals are involved in the process. Studies have shown that there is a tendency naturally to assume that anything on a computer is correct.

**Alerts** – Although potentially helpful, alerts can become annoying if they are set at a too-sensitive level. Many times the alerts system is then suppressed or ignored, which can result in an increase in errors. Drug warnings and interactions are the most typical cases where this can occur.

**Multiple steps** – Often software design results in multiple screens and clicks in order to complete and sign an order. This can be time consuming, especially in systems that are slowed by multiple users during peak usage times, etc.

**Access** – Computer access is required and may not be easily available when the physician is off site or when there are too few computer stations available during peak usage times.

**Decision Support Systems Impact on Patient Safety**

• Explicit computerized decision support tools standardize clinical decision making and lead different clinicians to the same set of diagnostic or therapeutic instructions.
• Simple computerized algorithms that generate reminders, alerts, or other information, and protocols that incorporate more complex rules reduce the clinical decision error rate.
• When explicit computerized protocols are driven by patient data, the protocol output (instructions) is patient-specific, thus preserving individualized treatment while standardizing clinical decisions.
• The expected decrease in variation and increase in compliance with evidence-based recommendations should decrease the error rate and enhance patient safety.


**Electronic Decision Support Systems**

• The addition of decision support tools adds another layer of improvement in patient safety.
These systems can vary from simple alerts to sophisticated systems including guidelines and medical knowledge resources.

Decision support provides the most current and relevant evidence based medical information at the time of clinical decisions.

Systems vary in their complexity.

The most simple example of decision support is the use of a drug reference while prescribing medication.

A number of free resources are now available including the electronic version of the PDR which is available for Internet access via a desktop computer as well as a downloadable handheld version.

The most common electronic drug reference presently used is Epocrates, available for use on handheld computer.

Other important resources have also now become available in electronic form.

The Sanford Guide to Antibiotic Use has always been a popular reference for antibiotic decisions and is also now available in electronic form.

More sophisticated systems are able to include reminders and alerts.

EMR systems may include multiple types of alerts.

Systems integrated with lab results can include rules for ordering medications when laboratory test results are abnormal.

Systems can alert clinicians on drug resistance risk when certain antibiotics are ordered or recommend testing and monitoring.

Drug-drug interaction checking is an important part of medication order safety.

Electronic medical records systems that include physician ordering usually also include cross checks to patient’s current medication lists and provide alerts when increased risk is determined.

Best practices such as ordering lab, etc. are also now included in some systems.

These systems can include reminders when tests such as HgbA1c or lipid and liver function tests should be ordered in diabetic patients on lipid-lowering medication.

Most recently, some systems are also integrating medical knowledge resources to allow access to the most relevant, current, evidence based medical knowledge at the time of the physician-patient interaction.

These systems are also starting to integrate CME credit for the time used to access information.

In the future they may also be able to tie educational credits to outcomes and changes in medical practice.

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These systems are also starting to integrate CME credit for the time used to access information.
In the future they may also be able to tie educational credits to outcomes and changes in medical practice.

Examples:

- Accessing the electronic version of the PDR on a desktop computer or handheld or Epocrates loaded on a Palm Pilot that allow very rapid access to pharmaceutical information.
- Drug-drug interaction programs that can further increase safety.
- The electronic version of *The Sanford Guide on Antimicrobial Therapy* provides guidance on antibiotic choices.
- Reminder and alert systems that can improve the consistent application of best practices.
- Knowledge resources such as PIER, etc. that may also include CME credit for time spent using them during patient care.

**PIER (Physicians' Information and Education Resource)**

- PIER (Physicians’ Information and Education Resource), developed by the American College of Physicians–American Society of Internal Medicine, is a Web-based decision-support tool designed for rapid point-of-care delivery of up-to-date, evidence-based guidance for clinicians.
- Information in PIER is presented in a “drill down” format, in which the user clicks from an opening guidance statement through to more specific information.

- PIER is a collection of modules divided into five topic areas:
  - Diseases
  - Screening and Prevention
  - Complementary and Alternative Medicine
  - Ethical and Legal Issues
  - Procedures

- PIER is an example of a clinical knowledge support tool that can be used during patient care.
- This is a screenshot of the first page in PIER on the topic of acute sinusitis.
- Options include diagnosis and both drug and non-drug therapy as well as patient education and recommendations for follow-up and consultation management.
- If new information is available on the topic, it is included in the “What’s New” box, keeping the resource as current as possible.
- Accessing the drug therapy table gives a detailed list of specific recommendations on
medications for the treatment of acute sinusitis.

- Resources that allow access to specific information with a few clicks are designed for use at the time of patient care and can improve patient safety by giving the clinician the most current treatment recommendations right when it is most useful.

**Computerized Alert Systems can increase patient safety**

- Another class of clinical decision support is computerized alerting systems.
- Computer-generated terminal messages, e-mail, and even flashing lights on hospital wards have been tried.
- A new system, which transmits real-time alert messages to clinicians carrying alphanumeric pagers or cell phones, promises to eliminate the delivery lag-time problem.
- It is now possible to integrate laboratory, medication, and physiologic data alerts into a comprehensive real-time wireless alerting system.
- Alert systems can be used to enhance patient safety by alerting physicians to:
  - abnormal lab results
  - changes in patient condition (such as fever, tachycardia, etc.)
  - Alert about medications including possible drug reactions etc.

**Evidence that Computerized Alerts Improve Patient Safety**

- There is evidence-based support that alert systems can improve patient safety.
- Rind et al. alerted physicians via e-mail to increases in serum creatinine in patients receiving nephrotoxic medications or renally excreted drugs.
  - Reported that when e-mail alerts were delivered, medications were adjusted or discontinued an average of 21.6 hours earlier than when no e-mail alerts were delivered.

- In another study, Kuperman et al. found that when clinicians were paged about “panic” laboratory values:
  - Time to therapy decreased 38 percent.
Electronic Decision Support Systems

- More sophisticated systems can include complex decision support including:
  - Algorithms guiding clinical decisions based on evidence based medicine. These can include recommendations on tests as well as treatment.
  - Guidelines of best practices bringing this information to the physician at the time of patient care.
  - Predefined order sets or standing orders to help prevent omissions of important monitoring tests, etc.
  - Trend monitors showing changes in lab, or other test results or vital signs.
  - Rules requiring co-signatures for nursing or other support personnel actions to prevent inappropriate action without physician knowledge.
- Many systems will include a combination of these features which can be useful in various stages of care but only if used correctly.
- If not, they can become an obstacle rather than a solution.

Potential Problems with Electronic Decision Support Systems

- Decision support systems can result in potential errors when implemented incorrectly.
- Intelligent design of these systems is critical in preventing such problems.
- If two medications that are spelled similarly are displayed next to each other in a drop-down list in an electronic order system, substitution errors can occur.
- When charts are left open on electronic systems it is easy for clinicians to accidentally write an order in the wrong patient's record.
- Use of electronic systems requires careful diligence to prevent these problems.
- Many computerized physician order entry systems are separate from the pharmacy system.
- This may require double entry of all orders.
- Each time a process is duplicated it increases the possibility for error.
- Many computerized physician order entry systems still lack even basic screening capabilities to alert practitioners to unsafe orders.
- Decision support is an important component of electronic medical records systems that include CPOE to help decrease the risk of this problem.

Barriers to the Use of Electronic Decision Support Systems

- Despite these proven benefits, there remain substantial barriers to Electronic Decision Support System implementation.
- There are several key reasons:
  - There has always been a tendency of health care organizations to invest in administrative rather than clinical systems.
» Many organizations are struggling to update old systems.
» The current financial crisis in health care has decreased funds available for decision support systems.
» Worries about the costs of HIPAA (Health Insurance Portability and Accountability Act) and other mandates only add to these concerns.
» In order to fully benefit from decision support systems an extensive electronic medical record system infrastructure is required that is not always available.
» Required data often is either not accessible or cannot be brought together to be used because of format and interface issues.
» In addition, there can be problems in choosing which rules or guidelines to implement as there are multiple guidelines available.
» Developing consensus among physician groups can also be a barrier in larger groups where there may be multiple opinions on any single issue.
» Finally, there remains both regulatory and legal issues preventing many vendors from providing decision support content.
» Vendors are often worried that they may be held responsible for the outcomes from the tools they provide.
» Finding effective methods of updating decision support tools to keep them current remains a significant challenge.

**Decision Support**

- This case example shows the advantages of integrated information systems in improving patient care.
- Often times physicians do not know what medications specialists may have prescribed for their patients until the paper medical record is received weeks later.
- Integrated information systems can help overcome these problems.
- The system detects that the physician is prescribing a drug for gastrointestinal symptoms in a patient on prolonged antibiotics.
- A notification suggests testing for Clostridium Difficile titer.
- With a single click, the physician can accept advice and complete the order.

**Handheld devices/Personal Digital Assistants (PDAs): what they can do for the physician**

- One of the greatest growth areas in the use of electronic systems in medicine is in the use of handheld computers, also known as PDAs or Personal Digital Assistants.
- The main advantage of handheld computers is the ability to carry information in a small and compact format.
- Recent improvements in memory and battery life have increased PDAs’ role in medical care.
• Handheld computers can improve access to information at the point of care, including access to:
  » Medication databases (PDR, etc) to look up medication options and dosing.
  » Drug interaction checking for patients on multiple medications.
  » Calculators and other tools that can help determine dose adjustments for patient size, renal disease, etc.
  » Knowledge resources, which bring information resources such as resources on antibiotic recommendations, etc. to the point of care.
  » Patient specific information including “mini” EMRs that have patient problem lists, medications, allergies, etc.
• Although not yet widely used, handheld computers offer the ability to expand use into other areas of patient care including:
  » Electronic prescriptions that can be sent wirelessly to printers or fax machines and eventually directly to pharmacies.
  » Orders for labs and other tests.
  » Wireless communications with staff to provide alerts.
  » Information to the physician, decreasing interruptions while with patients.

• This is an example of a handheld computer unit using the Allscripts “Touchworks” prescription order entry product.
• Formulary integration allows the various available treatments for new onset of essential hypertension, for example, to be marked according to formulary preference with green being preferred and red not.
• In addition, integration with the PIER knowledge resource allows easy access of more detailed recommendations by via use of the the pocket library.
• PIER provides evidence-based recommendations for essential hypertension treatment available with only one or two taps.
Advantages and Disadvantages of an Electronic Office

- Although all of these systems seem inviting, there are both pros and cons to implementing them in any specific clinical situation.
- The clear advantages of the electronic office are its ability to provide:
  » Improved patient safety through better availability of medical knowledge at the time of care.
  » Increased efficiency in preventing duplicate and unnecessary tasks.
  » Better communication between clinicians themselves as well as staff members, pharmacy and patients.
  » Improved accuracy of information as well as improved access to the most current information.
- But there are also serious limitations:
  » For many physicians, these systems may not be easily implemented due to the high initial cost in both time and money required.
  » In addition, many physicians will have integration issues with labs, testing facilities, pharmacies and other physicians that severely limit the use of many of the most helpful features of CPOE, decision support and alerts.

Choosing information technology for your office setting

- So what is the most reasonable place to start?
- This will depend mostly on your practice situation in terms of the size of the practice and how integrated it can be with other electronic systems carrying key pieces of patient information.
- First, a breakdown of the steps in the physician-patient interaction allows us to see which types of electronic resources are most useful at which step.

Decision Algorithm

- Choosing the right electronic resource depends on how you wish to impact the physician-patient interaction.
- The EMR or electronic medical record allows for ease of access to patient history and treatment history and allows other providers to access your plan of care.
- Decision Support tools allow easy access to evidence-based information, clinical guidelines.
- Computerized physician order entry systems would allow you to order treatment options and enter care directly into patient record.
- Desktop interfaces will always allow more depth in information than can be accessed on a handheld unit. In addition, timely updates of handheld computers are limited by synchronization or the use of wireless networks which may add security issues.
Test and medication ordering and results as well as clinical alerts and reminders are particularly well suited to handheld computers when wireless network synchronization is available.

Detailed information input or access is more suitable for desktop computers. Examples include complex medical histories or in depth research into knowledge resources including accessing medical references, etc.

Limited access of knowledge resources such as accessing drug databases and guidelines work well on handheld computers. Some knowledge resources, such as PIER, may also be accessed in both formats with basic information available on the handheld computer that references to further information that may be accessed through a desktop computer when more time is available.

### Decision Algorithm

This chart shows the electronic resources that are most likely to show a benefit in each type of practice setting.

Size of the practice is important as this often determines the funds available.

The amount of possible integration with other patient information resources such as lab, etc. will strongly influence the most appropriate choice.

Desktop and/or handheld computers may be appropriate for any of these settings when there is successful integration of patient information resources. If desktop computers can be available in every exam room, handheld computers may not be needed. A wireless network with handheld computers may, however, offer a significant cost savings when compared to placing a desktop computer in each room. Recent advances have made these networks both more secure and affordable. Construction of a wireless network can allow use of handheld computers for basic tasks such as test orders and results, medication orders, alerts and reminders and access to some decision support and knowledge resources. Clinicians will still have the need to use desktop computers, however, to access more detailed information although not necessarily in the exam room.
Summary

- Medical errors are due to SYSTEM problems.
- Electronic Resources can be useful in decreasing medical errors… but only if they are implemented and used correctly.
- There are great advantages to electronic systems.
- Careful attention must be given to the individual practice setting to maximize the return on investment and positive influence on patient safety.
Further References


- Bates, David W., MD, MSc, Michael Cohen, MS, RPh, Lucian L. Leape, MD, J. Marc Overhage, MD, PhD, M. Michael Shabot, MD and Thomas Sheridan, ScD JAMIA White Paper: Reducing the Frequency of Errors in Medicine Using Information Technology


Electronic Medical/Health Record, Computerized Physician Order Entry, and Medical Education

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**Department of Biomedical Informatics**

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*Nova Southeastern University*

for her efforts in making this presentation.
**Definition of EMR**

Electronic Medical Record (EMR) is referred to as a way of maintaining patient’s data in a paperless, digital and computerized manner so as to reduce medical documentation errors and increase efficiency.

**Definition of CPOE**

Computerized Physician Order Entry (CPOE) is an electronic method of entering medication order, laboratory order and any other instructions from physician during an encounter with the patient.

**Definition of EHR**

Electronic Health Record (EHR) is regarded as the electronic form of patient’s medical history that the provider would eventually maintain and could include every major administrative clinical data that are relevant to the patient’s care under a specific provider. This basically consists of EMR and CPOE for that patient.

**Clinical Benefits EMR/EHR**

- Improve patient care and safety
- Prevent medication errors
- Reduce insurance premiums
- Improved reimbursement rates
- Increase patient satisfaction

**Benefits of CPOE**

- CPOE reduces length of stay
- Reduces repeat tests
- Reduces turnaround times for laboratory, pharmacy and radiology requests
- Saves cost on delivery

**Why learn EMR/EHR and CPOE?**

- The Federal Government Mandate
- Eligibility
- Incentives
- Meaningful Use
- Certification
The Federal Government Mandate

- The initiation of American Recovery and Reinvestment Act of 2009 has called for earnest implementation of Electronic Medical/Health Records (EMR/EHR) by majority of healthcare facilities by the year 2014 as President Obama signed the Health Information Technology for Economic and Clinical Health (HITECH) Act into law.
  - The HITECH stood for the $23 billion that would be used directly to incentivize physicians to use an EMR/EHR by participating in one of the two incentive programs as listed:
    - Medicare EHR Incentive

Eligibility

Eligible Providers/Professionals:

- Doctor of Medicine (MD)
- Doctor of Osteopathy (DO)
- Doctor of Dental Surgery (DDS)
- Doctor of Dental Medicine (DMD)
- Doctor of Podiatric Medicine (DPM)
- Doctor of Optometry (OD)
- Doctor of Chiropractic (DC)

Eligible Hospital:

- “Subsection (d) hospitals” in the 50 states or DC that are paid under the Inpatient Prospective Payment System (IPPS)
- Critical Access Hospitals (CAHs)
- Medicare Advantage (MA-Affiliated) Hospitals

Medicaid:

- Physicians (primarily doctors of medicine and doctors of osteopathy)
- Nurse practitioner
- Certified nurse-midwife
- Dentist
- Physician Assistant who furnishes services in a Federally Qualified Health Center or Rural Health Clinic that is led by a physician assistant
The Incentive

Medicare EHR Incentive:

In addition to receiving an additional 75% of Medicare claims, EP would also receive the following:

- 2011: up to $18,000 per physician
- 2012: up to $12,000 per physician
- 2013: up to $8,000 per physician
- 2014: up to $4,000 per physician
- 2015: up to $2,000 per physician

Medicaid EHR Incentive:

In addition to receiving a check for 85% of the EHR cost and serving more than 30% Medicaid patients, the EP would also receive the following:

- Year 1: up to $21,250 per provider
- Year 2: up to $8,500 per provider
- Year 3: up to $8,500 per provider
- Year 4: up to $8,500 per provider
- Year 5: up to $8,500 per provider
- Year 6: up to $8,500 per provider

EMR/EHR Certification

For an eligible provider to qualify for this incentive, it must purchase a certified EHR and meaningfully use it to meet the stage 1 of meaningful use requirements.

- The certification commission for health information technology (CCHIT) is the first authorized testing and certification body (ONC-ATCB) for EHRs as recognized by Office of the National Coordinator (ONC) and US Department of Health and Human Services (HHS).
- Meaningful Use as defined by center for Medicare and Medicaid services (CMS), meant that the eligible providers and hospitals must be able to show meaningful use of their certified EHR.
**Meaningful Use**

The CMS rules for stage 1 Meaningful Use is characterized for both eligible providers/professional and eligible hospital as follows:

- **Eligible Providers/Professionals (EP)** must abide by the 25 rules listed to be qualified for incentive. Some of which are listed below:
  - Computerized physician order entry must be used by the physician at least 80% of the time for all orders.
  - The EP must enabled the functionality for drug-drug and drug-formulary checks.
  - Maintain an up-to-date problem list of current and active diagnoses based on ICD-9-CM or SNOMED CT entry at least 80% of the time.
  - Generate and transmit permissible prescriptions electronically (eRx) using certified EHR technology at least 75% of the time.

Eligible Hospital and Critical access hospitals (CAHs) must abide by the 23 rules listed to be qualified for incentive. Some of which are listed below:

- Use of CPOE for orders (any type) directly entered by authorizing provider (for example, MD, DO, RN, PA, NP) and used at least 10% of all orders.
- The eligible hospital must activate the functionality for drug-drug, drug-allergy, and drug-formulary checks.
- Maintain an up-to-date problem list of current and active diagnoses based on ICD-9-CM or SNOMED CT and used 80% of the time.
- Maintain active medication list and ensured at least 80% of all unique patients admitted to the eligible hospital have at least one entry or indication of “none” recorded as structured data.

**Barriers to Medical Students Education**

- Medical students receive most of their HIT education from house staff and attending physicians in the clinical setting. This method is frequently limited by a prevailing culture that highlights the use of the EMR to just document and communicate rather than to transform and to improve the way medicine is practice.
- In order to promote the teaching of these competencies at the highest level, the teaching of EMR/EHR should be introduced to medical students early in their course of training, whereby the faculty would be able to assess the expected level of competence of their students and residents.
Top 10 Certified Commercial EMR/EHR

- **AdvancedMD**: Web-based application.
- **Allscripts**: Delivers intuitive clinical and business solutions.
- **PrimeSUITE® 2011**: Greenway’s integrated electronic health record.
- **Sage**: Provides total business management with technology and information solutions that transform both the clinical and financial aspects of healthcare delivery.
- **Aprima**: Users can tailor their health maintenance solution to fit the unique needs of different groups of patients, solution that reduces administrative red tape.
- **Practice Fusion HER**: Web-based practice management software from Kareo.
- **Abraxas**: Medical Solutions, Inc. develops and markets ONE unified software.
- **Celerity**: Medical documentation outsource partner; features Celerity Voice® Dictation System and Legacy Dictation System Integration.
- **NextGen**: Healthcare continually adds advanced features and functionality unique to its practice management system.
- **meridianEMR**: Surescripts certified, which means that meridianEMR providers are able to electronically and securely exchange prescription information directly with pharmacies and payers in communities.

Sample Physician’s Order

<table>
<thead>
<tr>
<th>Physician’s Order:</th>
<th>Document this order into the EMR</th>
<th>On the receipt of order, use face mask to simulate nebulizer for oxygen</th>
<th>Initiate steroids therapy via IVs</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-ray, CT scan, Labs test (CBC), Allergies testing, Chest radiography, IV steroid, nebulizer</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: this will form part of data collected to inform clinical decision support systems (CDSS).
**EMR/EHR Portal**

**Exercise:** Call up patient's Chart via the certified EMR and make documentation based on the given encounter. Practice on Fusion, a certified EMRs/EHRs that is widely used in the industry.

- Take a tour of Practice Fusion
- Charting Demo
- Document Management Demo
- Checking Drug Interactions
- Ordering Lab Results
- Structured Lab Results

**Exercise:** Learn about Sage

- Take a tour of Sage
- Intergy Meaningful Use Edition
- Meaningful Use Reporting
- Intergy EHR for Obstetrics and Gynecology
- Intergy Practice Management
References

- http://searchhealthit.techtarget.com/definition/computerized-physician-order-entry-CPOE
- http://www.cms.gov/EHRIncentivePrograms/15_Eligibility.asp#TopOfPage
Hope Log Template

Name: _________________________________________________________________

Rotation Location - City: _____________________________ State: __________

Zip: _______________

Date(s) of Rotation: _______________________________________________________

<table>
<thead>
<tr>
<th>Q1. Rotation Type:</th>
</tr>
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<tbody>
<tr>
<td>1. ☐ Emergency Medicine</td>
</tr>
<tr>
<td>2. ☐ Family Medicine</td>
</tr>
<tr>
<td>3. ☐ Geriatrics</td>
</tr>
<tr>
<td>4. ☐ Internal Medicine</td>
</tr>
<tr>
<td>5. ☐ Obstetrics &amp; Gynecology</td>
</tr>
<tr>
<td>6. ☐ Pediatrics-Ambulatory</td>
</tr>
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<td>7. ☐ Pediatrics-Hospital</td>
</tr>
<tr>
<td>8. ☐ Psychiatry</td>
</tr>
<tr>
<td>9. ☐ Rural/Underserved Medicine</td>
</tr>
<tr>
<td>10. ☐ Surgery</td>
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<table>
<thead>
<tr>
<th>Q2. Race/Ethnicity of the Majority of the Patients:</th>
</tr>
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<tbody>
<tr>
<td>1. ☐ Black or African American</td>
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<tr>
<td>2. ☐ White</td>
</tr>
<tr>
<td>3. ☐ Hispanic or Latino</td>
</tr>
<tr>
<td>4. ☐ Asian</td>
</tr>
<tr>
<td>5. ☐ American Indian</td>
</tr>
<tr>
<td>6. ☐ Hawaiian or Pacific Islander</td>
</tr>
<tr>
<td>7. ☐ Other</td>
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### Q3. Total Number of Patients Seen:

<p>| | |</p>
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<tbody>
<tr>
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<tr>
<td>2.</td>
<td>☐ 1-5</td>
</tr>
<tr>
<td>3.</td>
<td>☐ 6-10</td>
</tr>
<tr>
<td>4.</td>
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<tr>
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<td>☐ 51-100</td>
</tr>
<tr>
<td>7.</td>
<td>☐ 101-150</td>
</tr>
<tr>
<td>8.</td>
<td>☐ 151-200</td>
</tr>
<tr>
<td>9.</td>
<td>☐ 201-300</td>
</tr>
<tr>
<td>10.</td>
<td>☐ &gt;300</td>
</tr>
</tbody>
</table>

### Q4. Total Number of Patients Seen who were Homeless:

<p>| | |</p>
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<thead>
<tr>
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<tbody>
<tr>
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<tr>
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<td>☐ &gt;300</td>
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Works Cited


