gender, race [African American vs Caucasian], ethnicity [Hispanic vs non-Hispanic], insurance status (insured vs self-pay), median income by ZIP code, length of stay (LOS), medical vs surgical diagnosis-related group (DRG), risk of mortality (ROM), and certain comorbidities: congestive heart failure, obesity, weight loss, diabetes with complications, coagulopathy, paralysis, chronic pulmonary disease, and fluid/electrolyte abnormalities. Logistic regression was used to assess the effect of the variables of interest on the odds of developing HAPUs. Odds ratios and 95% confidence intervals were derived for each of the covariates in the logistic module.

**Results:** Overall, the risk of HAPU in the population studied was less than the national average. On initial statistical analysis, the HAPU incidence was associated with increased age, diabetes with complications, weight loss, fluid and electrolyte disorders, coagulopathy, surgical DRG, increased LOS, and increased ROM. On subanalysis, subtle differences emerged in the data based on demographic factors and DRG. HAPUs were statistically associated on subset analysis with race, gender, and medical diagnoses. There was an increased risk of HAPU in African American patients compared with Caucasian patients in the medical population based on DRG, as well as a decreased risk of HAPU in females in the medical population based on DRG. There was an increased risk of HAPU development in females in the surgical population based on DRG. There was no difference in HAPU incidence in Hispanics vs non-Hispanics, self-pay vs insured, or median income based on ZIP code data.

**Conclusion:** Disparities in the incidence of HAPUs were seen on subanalysis of demographic and DRG data points, with an increased risk of HAPU in African American vs Caucasian patients in medical DRGs and in females with surgical DRGs. At-risk populations can potentially be targeted for further interventions for HAPU prevention.

### Project Management Plan – Hospital-Acquired Pressure Ulcer: Association with Population Disparities

<table>
<thead>
<tr>
<th>Vision Statement</th>
<th>This project will attempt to identify and mitigate demographic risk factors for development of hospital-acquired pressure ulcers (HAPUs) in certain populations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team Objectives</td>
<td>Our objectives were as follows:</td>
</tr>
<tr>
<td></td>
<td>• Establish an executive sponsor and resident team</td>
</tr>
<tr>
<td></td>
<td>• Design a project in collaboration with Healthcare Improvement</td>
</tr>
<tr>
<td></td>
<td>• Examine the Midas database for the incidence of HAPU</td>
</tr>
<tr>
<td></td>
<td>• Compare with certain demographic factors and comorbidities</td>
</tr>
<tr>
<td></td>
<td>• Conduct statistical analysis of variables</td>
</tr>
<tr>
<td>Success Factors</td>
<td>The most successful component of our project was teamwork between the Healthcare Improvement Department and the Division of STEEEP (safe, timely, effective, efficient, equitable, and patient-centered) Analytics to mine data and determine potential disparities in the development of pressure ulcers.</td>
</tr>
<tr>
<td>Barriers</td>
<td>The largest barriers encountered were the graduation of the senior internal medicine residents involved with this project and the difficulty in recruiting residents to continue with the project.</td>
</tr>
<tr>
<td>Lessons Learned</td>
<td>The single most important piece of advice to provide another team embarking on a similar initiative is to engage residents at an earlier level of training.</td>
</tr>
</tbody>
</table>

# Christiana Care Health System, Newark-Wilmington, DE

“A-HA!” Advancing Health Advocacy Through Resident Education

Arlene Smalls, MD; Renee Kottenhahn, MD; Michael Maguire, MD, MPH; Loretta Consiglio-Ward, MSN; David Paul, MD

**Background:** Christiana Care Health System (CCHS) provides the clinical learning environment for more than 280 residents in 13 residency programs. CCHS residency program directors confirmed that there is currently no
standardized method of educating trainees on issues of health disparities and limited opportunities for busy residents to interact with the local community. Our NI V initiative consisted of a multitiered educational curriculum utilizing preexisting resident group activities to develop experiential and didactic learning.

**Methods:** Using the Community Action Poverty Simulation (CAPS) kit, a structured event was integrated into our multispecialty intern orientation on June 23, 2016. The 74 residents experienced what it might be like to be part of a typical low-income family and were tasked to use a variety of hospital-based and community resources. Representatives of hospital-based resources and volunteer community organizations were recruited to participate in the immersion experience. Validated pre- and postsimulation surveys (included in the CAPS kit) were administered before and after the experience to evaluate any changes in attitudes regarding poverty. The program directors of 7 core residency programs agreed to substitute a relevant, specialty-specific health equity article into their existing, mandatory journal clubs. Faculty champions and resident trainees were enlisted to conduct dual-purpose journal clubs to include community resource tools (for practical execution of local patient advocacy) along with the article. A GME-wide Health Equity – Resident Survey was developed and disseminated electronically to all our residency programs. Residents were invited to complete a brief self-assessment about their confidence with engaging patients in conversations about social determinants of health.

**Results:** There were important differences between the pre- and postsurvey response of “strongly or somewhat reflect what I believe” for the following statements: “People with low income do not have to work as hard because of all the services available to them” (from pre 13.89% [10/72] to post 4.05% [3/74]; P = 0.04); “People are generally responsible for whether they are poor—they get what they have earned or deserve” (from pre 16.67% [12/72] to post 6.76% [5/74]; P = 0.06); “People with low income could get ahead/improve their situation if they could just apply themselves differently” (from pre 44.44% [32/72] to post 30.14% [22/73]; P = 0.08); “People with low income have low self-esteem” (from pre 34.72% [25/72] to post 50.00% [37/74]; P = 0.06). Overall, residents reported that they were less than competent in their ability to engage patients in conversations about housing conditions, public benefits, food security, and domestic violence/public safety. The response rate was high (72%).

**Conclusion:** Poverty simulation is an innovative modality to engage and educate residents on the topic of health equity and is now part of our annual orientation. The resident surveys, health equity journal club topics, and poverty simulation event are customizable, allowing for targeted learner discussions on health equity topics. Data collected from surveying the entire resident population about their attitudes and knowledge of social determinants of health can be used to tailor future journal club topics.

**PROJECT MANAGEMENT PLAN – Advancing Health Advocacy (A-HA), A Health Equity Educational Curriculum**

| Vision Statement | Physicians in training are exceptionally positioned to establish a new culture of medicine with an appreciation for diversity and the social determinants of health. Effective interdisciplinary partnerships are necessary to create sustainable, system-based changes that impact the populations we serve. Our vision is to leverage the current educational infrastructure to create a longitudinal, collaborative learning curriculum that addresses topics of diversity and healthcare disparities and resonates across all medical specialties. We aim to help our learners become competent, mindful, and compassionate clinicians who are engaged in their local community (ie, health advocates) via a curriculum that provides the opportunity for insightful (“A-HA!”) experiences. |
| Team Objectives | Our project assumptions were as follows:  
• Integrate a structured poverty simulation event into the Christiana Care Health System (CCHS) resident orientation that will introduce participants to the concepts of poverty and highlight both hospital-based and community resources  
• Use the validated pre- and postsimulation survey and consider the creation of other measures such as the Attitude Toward Poverty Scale, the Understanding Others Scale, the Critical Thinking Scale, or customized surveys and word mapping  
• Repeat collection of the measures longitudinally during residency training (simulation surveys, resident surveys)  
• Allow for feedback from residency program directors and establish faculty champions to act as healthy equity journal club mentors who work actively with a resident team member  
• Substitute a relevant, specialty-specific health equity article into the existing, mandatory residency specialty CCHS journal clubs |
A key goal was to strengthen and create community partners to allow resident work within our community. Two long-term goals were to compile the identified resource tools into an accessible CCHS repository and to create a pathway toward a CCHS Certificate in Diversity and Health Equity based on resident participation and leadership in multiple venues for community and health advocacy.

### Success Factors

The poverty simulation event was extremely well received by the inaugural resident trainee class and deemed the highlight of the weeklong orientation by Academic Affairs. The simulation will be included within resident orientation longitudinally. After publication in the CCHS internal magazine FOCUS, the poverty simulation received interest across the health system, resulting in requests to repeat the exercise with leadership to better integrate health equity into our clinical operations and strategies. CCHS set aside time for our health system managers and directors to experience the poverty simulation. Early data analysis suggests that the poverty simulation activity did impact resident trainees’ attitudes and knowledge regarding health equity topics. A manuscript describing the poverty simulation experience with new residents and interns was accepted for publication in the *Journal of Graduate Medical Education*.

### Barriers

The largest barrier encountered was that team members found it difficult to meet with any regularity because of schedule conflicts and the lack of protected time for clinical faculty and residents serving in lead positions. We worked to overcome this challenge by capitalizing on each other’s commitment with frequent handoff of key tasks between team members. We leveraged each other’s strengths and professional networks and maintained momentum via early morning and late night phone meetings/email and text communication.

### Lessons Learned

The single most important piece of advice to provide another team embarking on a similar initiative is that team members need to understand early the magnitude of the time commitment necessary for successful project completion. We recommend recruiting a diverse and actively engaged group of core team members who have an identified, institutional commitment to health equity and resident education early in the project. It is important to recognize that the hospital administrative partners who are key to project execution may have competing priorities that make it difficult to establish their commitment to NI V activities.

---

**Cleveland Clinic Akron General, Akron, OH**

**Improving Primary Care Follow-Up After Sexual Assault**

**Tricia Olaes, MD; Nancy Murphy, MD; Mohamed Khayata, MD; Cheryl Goliath, PhD; Lily Holderbaum, BSN, SANE-A; Nairmeen Haller, PhD; Titus Sheers, MD; Jennifer Savitski, MD**

**Background:** More than 320,000 US adults are sexually assaulted yearly. Sexual assault nurse examiners provide trauma care and perform forensic medical examinations and evidence collection. Medical follow-up after sexual assault plays a significant role in the physical, mental, and emotional healing process. Essential care provided at a primary care follow-up after the initial forensic medical examination includes injury and medication follow-up, sexually transmitted infections testing, and referrals for counseling and/or advocacy. Historically, the reported follow-up rates after a medical forensic examination for sexual assault are low (31%-35%). Patients who suffer sexual assault often experience a disparity in follow-up healthcare and treatment of related and subsequent medical and psychiatric conditions.

**Methods:** The study period was May 1, 2016 through October 31, 2016. Coordination of follow-up care was offered to all patients ≥18 years who underwent a forensic medical examination and evidence collection kit for sexual assault. A sexual assault nurse examiner or social worker scheduled follow-up appointments for patients who agreed. Patients with appointments were mailed letters verifying dates, times, and physician locations. Letters including patient information, suggested follow-up testing, and patient needs were mailed to the physicians. Appointment compliance was verified via patient self-report and chart review.