As a response to these problems, the Affordable Care Act is providing unprecedented opportunities for healthcare reform and education. To drive these efforts, the Institute for Healthcare Improvement established the Triple Aim Initiative, consisting of three goals: (1) Improve the patient experience of care, including quality and satisfaction, (2) improve the health of populations, and (3) reduce the per capita cost of health care. Oregon has been a leader in implementing coordinated care organizations (CCOs) and the Triple Aim goals form the foundation of Oregon’s Action Plan for Health. At the same time, a 2015 Institute of Medicine report has linked the interprofessional learning process—learning about, from, and with other professions—with downstream outcomes, patient safety, and quality improvement.

In spite of progress, national experts in healthcare reform have noted an ongoing failure of healthcare professionals to work collaboratively to address social determinants of health (SDH), which are root causes of illness and key indicators of morbidity and mortality.

To significantly improve health outcomes, healthcare professionals must be educated interprofessionally and a system must be established that makes team-based, patient-centered, and SDH-oriented care the new standard.

Oregon Health & Science University (OHSU) has developed a program that demonstrates a new way to coordinate care and educate healthcare providers now, while meeting healthcare reform goals and providing cost-savings data that could help encourage system change. The program is the Interprofessional Care Access Network, better known as I-CAN.

THE I-CAN MODEL
I-CAN is an innovative model that:
- Provides community-based, interprofessional care coordination to socially isolated and vulnerable populations.
- Demonstrates that providing patient-centered health care focused on social determinants of health (the conditions in which people are born, grow, live, work, and age) is more effective than only focusing on disease management.
- Models an interprofessional service-learning healthcare education system in a real-world context so future providers can better encourage and deliver collaborative health care.
- Addresses the Triple Aim goals of better health and care, and lower costs.

“"We can’t wait for the healthcare system to change on its own... we need to help individuals now, while demonstrating that there is an alternative way to coordinate care, educate healthcare professionals, and meet reform goals. I-CAN is doing just that.”

Peggy Wros, PhD, RN
I-CAN Director & Senior Associate Dean,
OHSU School of Nursing

ACADEMIC PRACTICE PARTNERSHIPS
I-CAN links OHSU’s interprofessional academic healthcare programs (including Schools of Nursing, Medicine, Dentistry, and College of Pharmacy) with community partners by establishing Neighborhood Collaboratives for Academic Practice Partnership (NCAPPs). Community partners include federally-qualified health centers (FQHCs), community dental clinics, and community service agencies in medically underserved communities.

With a faculty practice model providing oversight, and working in collaboration with community partners, I-CAN’s interprofessional student teams visit disadvantaged individuals and assess life stability and social determinants of health. Typically, these individuals have a history of nonacute ED/EMS utilization, missed medical appointments, and unmanaged chronic illness, and may lack a primary care home, healthcare insurance, or stable housing. Students work with participants to identify goals, set priorities, and develop a care coordination plan focused on navigating the healthcare system, increasing health literacy, and reducing barriers to health. Students collaborate with community partners weekly to report participant progress and plan next steps, and each NCAPP meets quarterly to identify population-level issues and strategize around project development and resources.

CURRENT PROGRAMMING
The I-CAN program has been implemented in four neighborhoods over the past three years, serving 138 previously vulnerable and disadvantaged individuals to date. This care coordination has been provided by over

This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number UD7HP25057 and title “Interprofessional Care Access Network” for $1,485,394. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.
Nearly one-third (30%) of the interprofessional student team visits take place in participants’ homes (29% in a community agency or clinic), with visits averaging 49 minutes. I-CAN maintains a small caseload in each NCAPP due to the complexity of the individuals referred and time required for them to make sustainable life changes.

The cost of health care for these individuals is disproportionately high. In the six months prior to joining I-CAN, 41% of participants visited an ED at least once. Additionally, 28% were hospitalized at least once and 28% called EMS at least once. On admission to I-CAN, 27% do not have a primary care provider, 25% lack stable housing, and 17% lack health insurance.

**INCORPORATION OF TECHNOLOGY**

I-CAN teams employ mobile technology to facilitate data collection and care coordination. Using tablets, students are able to remotely and securely access OHSU medical records and I-CAN documentation. Additionally, students connect with OHSU Interpretive Services Center to access remote language interpreters via a HIPAA-complaint audio and visual telecommunication platform licensed by OHSU, allowing access to a greater selection of languages and saving thousands of dollars in billable travel costs.

**MOVING FORWARD**

The implementation of the first four I-CAN neighborhoods was funded by a competitive 3-year award from the Health Resources and Services Administration, and additional funding is being sought to support expansion. All of OHSU’s professional schools and the Office of the Provost are committed to sustaining I-CAN as an integrated model of clinical education embedded in the curriculum.

I-CAN is an integral part of both the OHSU Interprofessional Initiative and the OHSU Rural Health Campus, and will be implemented statewide with continued demonstration of impact on individual- and population-level outcomes. There are currently two additional neighborhoods in urban and rural Oregon that have identified community partners committed to implementing the model. In addition, students and faculty in the OHSU/Portland State University (PSU) School of Public Health, the OHSU Graduate Program in Human Nutrition, and the PSU Social Work Program are interested in partnering with I-CAN.

The regional CCO for Klamath Falls has been integral in planning the Klamath Falls NCAPP, and conversations are ongoing with CCO innovators for Medford and Portland. The goal is to create a nexus between education and practice that incorporates I-CAN into a community integrated healthcare system that supports non-traditional partnerships and an inclusive payment model that sustains academic and community partners based on achievement of outcomes.

**NATIONAL RECOGNITION**

In 2014, the National Center for Interprofessional Practice and Education added OHSU to the national Nexus Innovation Network as a Innovation Incubator site with three Innovation Incubator projects, including I-CAN.

**PRELIMINARY EVALUATION**

The project has demonstrated significant positive impact on two critical indicators for Oregon’s Coordinated Care Organizations: reduced ED visits and improved primary care access.

I-CAN uses a mixed-methods approach to evaluation. Quantitative data are collected at baseline and intervention time points, and include demographic and healthcare utilization measures, as well as an established inventory focused on social determinants of health, medication and pain management, family/child care, and mental and oral health. Qualitative data include narrative documentation of student interactions with participants.

**Qualitative data reveal:**

For 38 participants with intake and follow up data:

The rate of healthcare utilization decreased **after 12 visits**, *compared to the six months prior to I-CAN.*

<table>
<thead>
<tr>
<th>Number of participants</th>
<th>ED Visits</th>
<th>EMS Calls</th>
<th>Admissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>with primary care homes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63% in year one (N = 30)</td>
<td>37</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>43% in year two (N = 28)</td>
<td></td>
<td>25</td>
<td>8</td>
</tr>
<tr>
<td>with health insurance</td>
<td></td>
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<tr>
<td>53% in year one (N = 30)</td>
<td></td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>29% in year two (N = 28)</td>
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<tr>
<td>with stable housing</td>
<td></td>
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<tr>
<td>27% in year one (N = 30)</td>
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<tr>
<td>18% in year two (N = 28)</td>
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</tbody>
</table>

*Rates adjusted and standardized for number of occurrences per six month period.*

**Quantitative data reveal:**

<table>
<thead>
<tr>
<th>Number of participants</th>
<th>ED Visits</th>
<th>EMS Calls</th>
<th>Admissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>in year one (N = 30)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>after 12 months</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

ED Visits, EMS Calls, and Admissions per 6 months

For 38 participants with intake and follow up data:

- **$224k** in cost savings per 6 months

Jeanette Mladenovic, MD, MBA, MACP
Executive Vice President and Provost

“**This innovative program addresses community needs with positive impacts on Triple Aim outcomes and prepares graduates to be leaders in healthcare reform. I-CAN has the potential to serve as a sustainable, scalable, and replicable model program that improves health outcomes for disadvantaged people in underserved neighborhoods.**”

ican@ohsu.edu
www.ohsu.edu/ican