IMPROVING EQUITY IN U.S. HEALTH SYSTEMS

IDENTIFYING AND ADDRESSING HEALTH DISPARITIES IN PREVENTIVE HEALTH SERVICES AT INTERMOUNTAIN HEALTHCARE

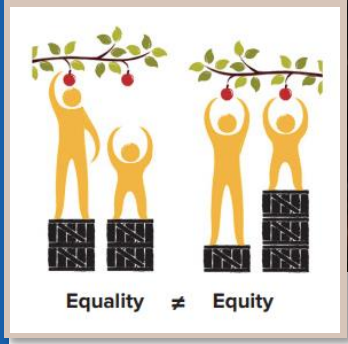
Emily Savage

MPP Candidate 2021 | Harvard Kennedy School of Government
MBA Candidate 2021 | Stanford Business School

THE HEALTH EQUITY CHALLENGE

Marginalized groups in the United States experience disparities in the healthcare they receive and the health outcomes that they have. For example, while Americans generally have worse infant and maternal mortality than any other OECD nation, the child of an African American mother is more than twice as likely as the child of a white mother to die before reaching its first birthday. Further, health outcomes often follow socioeconomic lines – individuals with lower income and lower educational levels consistently have lower health outcomes than wealthier, more educated individuals.

Health equity means that everyone has a fair and just opportunity to be as healthy as possible. Achieving health equity requires that health disparities – avoidable differences in health outcomes for disadvantaged groups – be reduced.



Key questions for American health systems:

- Using preventive health services as a proxy for equity in health access and utilization, what factors predict use of preventive services?
- How can health systems implement health equity efforts?
- How can health systems intervene to address disparities?

ANALYSIS FOR INTERMOUNTAIN HEALTHCARE – DATA AND METHODOLOGY

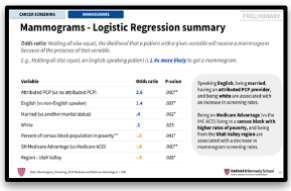
POPULATIONS STUDIED

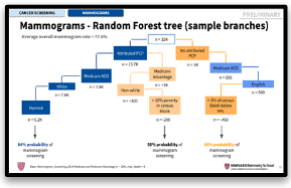
- **Medicare cancer screening cohort (n = 36K)** Intermountain patients aged 50-74 who were eligible to receive breast or colon cancer screenings in 2018-2019 according to HEDIS guidelines
- **Pediatric vaccination cohort (n = 43K)** Intermountain patients aged 5-16 who were eligible to receive MMR and HPV vaccines in 2019-2020 according to CDC guidelines

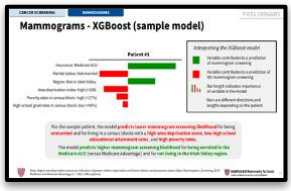
RESEARCH PROCESS

- **Quantitative analysis in Python** using three models – logistic regression, Random Forest, and XGBoost
- **Qualitative analysis from 15+ interviews** with physicians and executives at leading health systems around the country
- **Synthesis** of data insights, interviews, and case studies to develop frameworks and recommendations

MODEL OUTPUT







WHAT FACTORS PREDICT USE OF PREVENTIVE HEALTH SERVICES?

Insurance and Provider Type – At-risk Model; Pediatric vs Family Medicine

- Enrollment in the Accountable Care Organization (ACO) (vs. Medicare Advantage) and physician attribution were associated with higher cancer screening rates.
- Having Commercial insurance (vs. Medicaid) and attribution to a pediatric provider (vs. Family Medicine providers) were associated with higher vaccination rates.

Location / Geography - Major Regions in Utah

- Living in Utah's rural regions, as compared to the Salt Lake City area, was associated with lower rates of cancer screening and vaccinations.

Socioeconomic Indicators - Poverty, Education

- Higher-poverty census blocks were associated with lower cancer screening rates.
- Living in census blocks with higher rates of high school education was associated with lower HPV rates. However, census block-level poverty was not significantly associated with variation in pediatric vaccination rates.

Patient Demographics - Race, Language, Marital Status

- Being White, speaking English, and being married were associated with higher cancer screening rates.
- MMR vaccinations had few significant associations with demographics. However, being White, non-Hispanic, and male were associated with lower HPV rates.

HOW CAN HEALTH SYSTEMS IMPLEMENT HEALTH EQUITY EFFORTS?

ACTIONS THAT ADVANCE HEALTH EQUITY

- *Changing provider and health system incentives to align behavior with outcomes*
- *Relying on the "army of the willing" to jumpstart efforts*
- *Using employee diversity training as a starting point, not an end goal*
- *Working directly with community members to develop solutions*
- *Coordinating health equity efforts centrally rather than relying on siloed efforts*
- *Recognizing racism and institutional oppression to build a culture of equity*
- *Investing in health equity, even without additional financial return-on-investment*
- *Exploring root causes of health challenges, rather than simply acute health needs*

HOW CAN HEALTH SYSTEMS INTERVENE TO ADDRESS HEALTH DISPARITIES?

Share best practices: *Apply models of excellence throughout the organization – the "positive deviation" approach*

Improve access: *Radically increase patient access to health care by removing barriers*

Build high-touch interventions: *Engage with community stakeholders for longer-term programs & initiatives*

Examples for Intermountain Healthcare:

- Use pediatric clinical pathways for family medicine provider visits
- Send at-home fecal collection kits to patients with low colon screening rates
- Partner with faith-based organizations to increase health education and access

Sources: Abrams M, Tikkanen R. "U.S. Healthcare from a Global Perspective, 2019: Higher Spending, Worse Outcomes?"; "Table 1. Infant mortality rates, live births, and infant deaths by selected characteristics and Hispanic origin of mother and by race of mother for mothers of non-Hispanic origin: United States, 2016." User Guide to the 2016 Period Linked Birth/ Infant Death Public Use File.; Braveman P, Cubbin C, Egerter S, Williams D, Pamuk E. "Socioeconomic Disparities in Health in the United States: What the Patterns Tell Us." Braveman P, Arkin E, Orleans T, Proctor D, and Plough A. "What Is Health Equity? And What Difference Does a Definition Make?"; EQUIP Healthcare. "What is Health Equity? A Tool for Health & Social Service Organizations and Providers."