Weill Cornell Medicine

Actionable Taxonomy to Identify Patients with High Healthcare Utilization and Potential Interventions

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Background & Unmet Need

- The top 10% of healthcare-utilizing patients account for 50% of healthcare spending
- This high-need, high-cost category of patients is highly heterogenous and difficult to identify with current taxonomy
- Current systems of identifying these high-touch patients rely on claims data, which do not incorporate important aspect of social circumstance
- Moreover, current classifiers limit patients to mutually exclusive groups, giving an incomplete picture of their medical needs
- **Unmet Need:** A method to classify high-need, high-cost patients into actionable groups which incorporate the complex and numerous determinants of health

Technology Overview

- **The Technology:** A new taxonomy which integrates both claims data and social determinants of health to identify high-cost patients and potential interventions
- The new groups are classified by differentiated patient attributes, including the presence of chronic conditions, substance use disorders, mental illness, and social vulnerability
- **PoC Data:** In a cross-sectional study of a Medicare fee-for-service cohort in NYC, patients were sorted into 10 overlapping categories
- The study identified "*multiple chronic conditions*" as the category with the most high-cost patients, and found that 73% of high-cost patients fell into multiple of these categories
- In another study, the group found that patients with both the highest preventable utilization and highest costs represented only 1.9% of patients but 33% of preventable costs among Medicare patients

Inventors:
Rainu Kaushal
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Patents:
US Application Filed

Publications:

Zhang et al. *J Gen Intern Med*. 2020.
Zhang et al. *Med Care*. 2020.
Benda et al. *Jamia*. 2020
Khullar et al. *J Gen Intern Med*. 2020
Zhang et al. *Healthc (Amst)*. 2020

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Technology Applications

- Analyze patient populations to identify targeted interventions for those with high healthcare utilization
- Inform strategies for improving population health outcomes and healthcare delivery
- Reduce the burden of healthcare on traditional providers by identifying areas of alternative care

Technology Advantages

- Classifiers integrate data from both claims and social health data sources
- Datasets integrate more current data sets as well as longitudinal data
- The taxonomy can help identify opportunities for targeted interventions among patient populations

Supporting Data / Figures

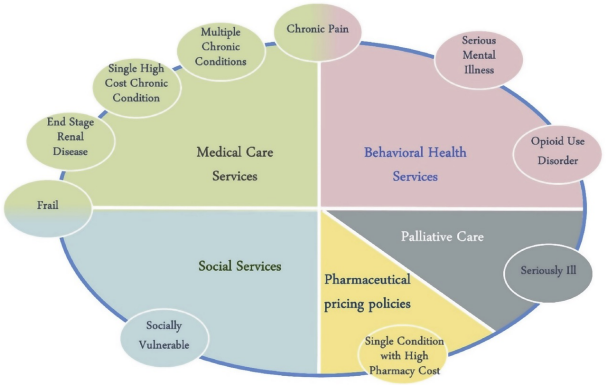

Figure 1: The categories outlined by the taxonomy integrate both claims data and information on social determinants of health.

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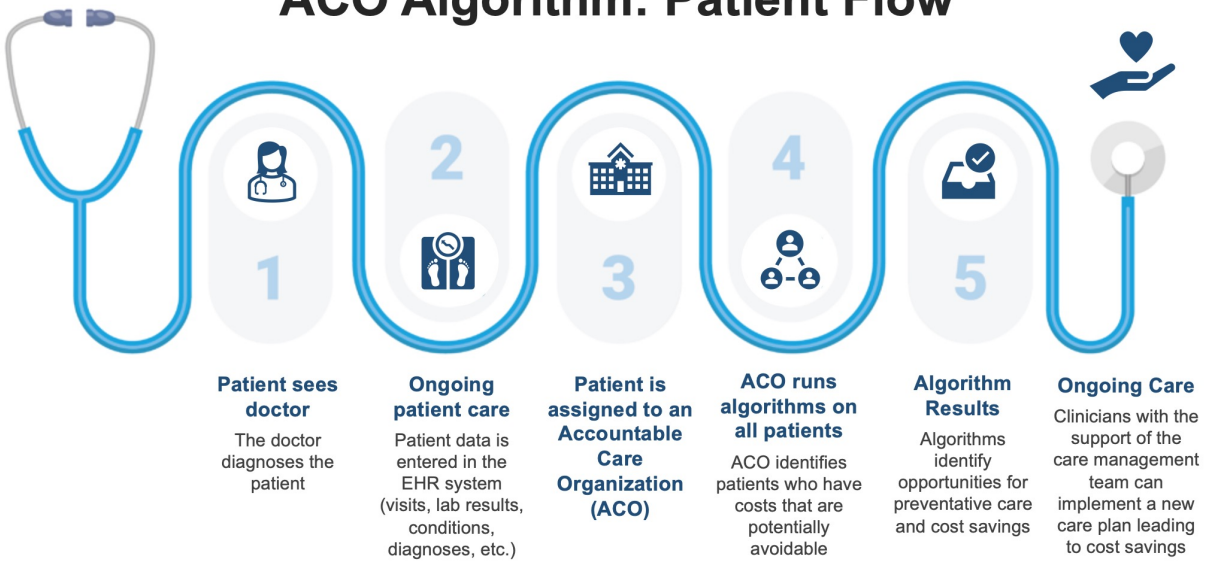

Figure 2: Theoretical patient journey using the taxonomy in an Accountable Care Organization (ACO) setting.

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