

Developing a Taxonomy for High-Need, High-Cost Medicare Patients



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Project Aims

- High-need, high-cost (HNHC) patients are a small proportion of patients with major health problems and account for a disproportionate share of health care utilization.
- In the era of population health management, understanding the characteristics and needs of HNHC patients is an urgent priority for the US health system.

Specific Aims

- Aim 1: Develop a taxonomy to identify and categorize HNHC patients into clinically meaningful patient groups.
- Aim 2: Examine and compare the characteristics of HNHC patients in different patient groups.
- This project leveraged the clinical data from PCORnet and linked to Medicare claims data and social determinants of health data.
- We developed the data linkage and quality assurance algorithms to merge data from multiple sources and organizations.
- We expanded the Common Data Model by including Medicare claims data.

Methods

- We identified 428,024 Medicare fee-for-service patients who were continuously enrolled in Medicare Parts A & B and had no Medicare Advantage in 2013.
- Using Medicare claims data, we calculated standardized total Medicare spending for each beneficiary in 2013.
- HNHC patients were defined as those with the highest 10% of total spending in 2013.
- We calculated the Social Vulnerability Index at census block group level using data from American Community Survey.
- We mapped all Medicare patients and HNHC patients into patient categories using diagnoses, procedures, utilization, and other patient information.
- We calculated the likelihood of being a HNHC patient in each patient category.
- We compared the demographic characteristics and comorbidities in each category.
- This study was a collaboration between New York City Clinical Data Research Network and OneFlorida.

Objectives

- HNHC patients are a small group of patients with complex medical, social, and behavioral issues. They often receive poorly coordinated care and experience various quality and safety problems.
- This project aims to assist health systems to identify HNHC patients, understand their characteristics, and deliver patient-centered care fitting their needs.
- Patients played a significant role in the development of this project from providing input on the research question to the development of patient categories.
- We were able to incorporate patients' perspectives directly into the refinement of our initial patient categories; moreover, based on their feedback, we developed new patient categories or subcategories.

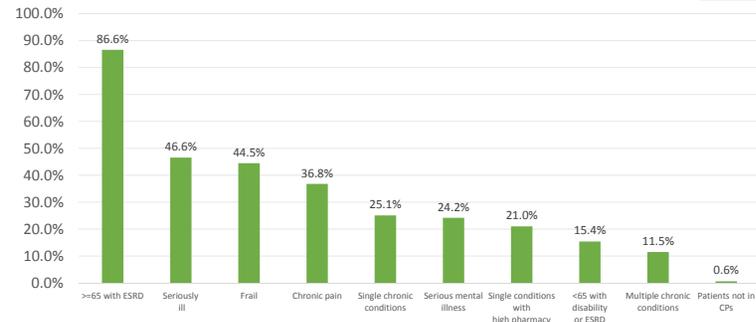


Figure 1 Likelihood of being a HNHC patient in each patient category, overall sample
Notes: HNHC: high need, high cost patients; ESRD: end-stage renal disease.

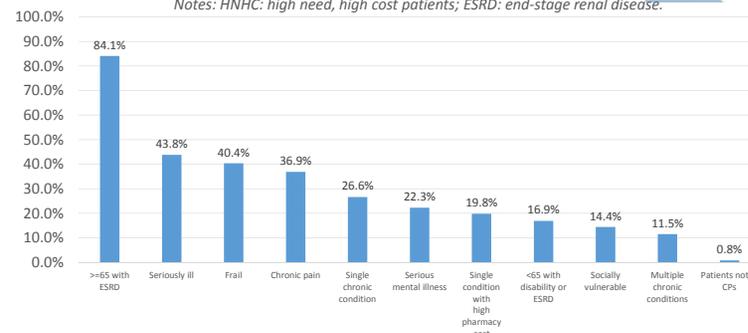


Figure 2 Likelihood of being a HNHC patient in each patient category, subgroup analysis for patients with 9-digit zip codes. Notes: HNHC: high need, high cost patients; ESRD: end-stage renal disease.

Progress or Results

- We identified 10 patient categories that have high health care utilization, including (1) seriously ill; (2) multiple chronic conditions; (3) single chronic conditions; (4) single condition with high pharmacy cost; (5) <65 with disability or end-stage renal disease (ESRD); (6) >=65 with ESRD; (7) chronic pain; (8) frail; (9) serious mental illness; and (10) socially vulnerable.
- The results of this study could help health systems group patients into clinically meaningful groups to target effective, patient-centered interventions that fit patients' needs.
- This project successfully incorporated insights from patients, physicians, and health system leaders.
- This project created a business model of obtaining health systems' funding to contribute to the sustainability of PCORnet and support further research.

DISCLOSURES

None

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