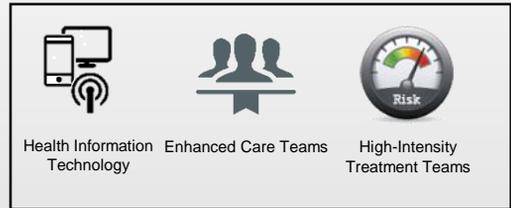




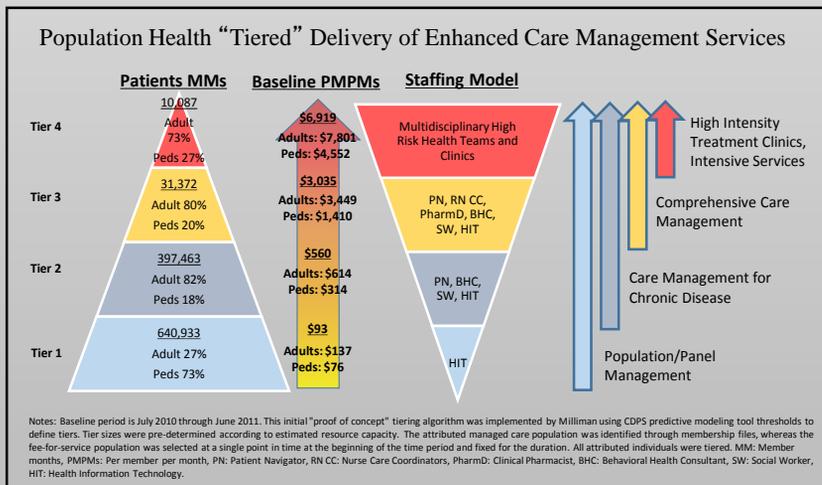
21st Century Care

Denver Health (DH) is an integrated safety net delivery system, located in Denver, Colorado. DH's 21st Century Care practice transformation employed a "population health" approach to Ambulatory Care Services (ACS) that built on the Patient Centered Medical Home (PCMH) and incorporated Wagner's Chronic Care Model principles. This project leveraged health information technology (HIT), new high-intensity treatment teams, and an enhanced care team staffing model to tailor care management services to patient need – especially for patients at risk for hospitalization – to achieve the "Triple Aim" of better care, smarter spending, and healthier people



Denver Health (DH) Approach to Risk-Stratification for Improved Population Health

Using a combination of clinical and financial criteria, Denver Health dynamically stratified this population and identified four broad categories (tiers) of care needs for adults and children. A graduated set of enhanced clinical and HIT services were matched to each risk tier and allocated according to individual needs within tiers, with more and higher intensity services targeted to higher tier patients. Services ranged from text message appointment reminders, to integrated behavioral health services, to complex care coordination and care transition support, to specialized, high-risk clinics.



Population segmentation allows us to match resources to the level of risk, improve quality of healthcare at reduced costs, and group patients based on a combination of demographic and health risk assessment information, disease/condition-specific registry information, and predictive modeling taking into consideration diagnosis, past medical services utilization and other factors. Patient tiering supported the identification of patients who may benefit from HIT-facilitated interactions, the identification of patients who are eligible for patient navigation and high-risk patients, and the ability to trigger appropriate interventions at the appropriate time.

DH expanded its primary care staffing model to include new team members to optimize clinical visits and support complex patients between visits. This enhanced care team included patient navigators, nurse care coordinators, clinical pharmacists, and behavioral health consultants. DH also funded three specialized clinics with small patient panels that focus exclusively on high-risk populations: the Children with Special Health Care Needs Clinic; the adult Intensive Outpatient Clinic; and a mental health high risk team at the Mental Health Center of Denver. All high-risk models provided tailored "wrap-around services" that focus on coordinating care for complex patients and addressing unmet social and behavioral needs. They also facilitated access to specialty care and community-based services ranging from development disability services, school-based services, substance abuse treatment, supported housing, supported employment, peer support, and residential treatment.



Algorithm Development

- DH assembled a multidisciplinary team led by a health policy director and an information technology (IT) expert and comprised of clinical directors, clinical operations staff, IT developers, health plan and financial staff, and health services researchers
- This team working defined an accountable population consisting of: current primary care patients, members of DH's managed care plans, and frequent users of DH's urgent care, and hospital services
- Commercially-available risk prediction software was applied to administrative data to sort patient into risk groups according to diagnosis, gender, age, pharmacy use, procedures, and other billing information
- Clinical leaders developed rules for sorting software-defined risk groups into DH's risk tiers according to clinical assessments of "actionability" and likelihood of avoidable utilization
- Clinical leaders developed and applied additional logic, making use of clinical registry information and patient-specific utilization patterns

Lessons Learned

- After implementation of the model, DH improved overall quality of care and patient satisfaction, while reducing the total cost of care
- Reducing avoidable hospitalization was an outcome that had broad, interdisciplinary support; financially-oriented outcomes spoke less well to clinicians
- Considerable heterogeneity exists among DH's high-utilizing patients, with implications for who, where, and how to intervene
- Ability to adapt the definition of intervenable "high-risk" patients to our specific clinical setting facilitated more tailored interventions and clinician engagement
- Separate algorithms were developed for adults and children to account for different measures of risk
- Risk tiering was most helpful for "mass tailoring" of interventions; matching individual services to individual patients often required a second, clinical screening step
- Not all patients, even high-risk patients, require intensive care coordination
- Health plan/payer requirements both helped and hindered implementation

Policy Implications

- Plan/payer requirements to focus on high-risk populations provide helpful external impetus
- Accountability measures should focus less on target population definition, qualified staff requirements, and service definition and more on process and health outcomes (e.g. patients reached, primary care visits post-discharge, readmission rates)
- Current ACO attribution models do not attend well to frequent users who do not use primary care
- Aligning Medicare and Medicaid payment policy will facilitate all-payer approaches
- Value-based payment models (preferably capitation) are needed to support long-term sustainability