The Importance of Home in Healthcare: Lessons Learned from the Care of Persons with Complex Health and Social Needs
One patient’s story (background)

• 46 y/o male (John), history of asthma, Diabetes from frequent prednisone use, possibly schizophrenia, possibly a mood disorder.

• Recently moved to Lancaster from NY, for better “air” and home of “godmother.”

• Uninsured, dual eligible in NY, not able to access $500/mo. Disability income due to not having an address.

• No housing, staying at local rescue mission, anxious with other people around, “too medically complex” for short-term housing.

• Local homeless coalition and non-profit engaged to find housing.
One patient’s story (utilization)

• 2 inpatient admits in 2 weeks, enrolled into Care Connections mid August 2016.
• At least 5 prior admits in past year in NY.
• In 6 weeks mid August to early October, 6 inpatient admits and 11 ED visits.
• “Didn’t have medications”
• Didn’t like being outside.
• Finally found an apartment with help of local Catholic Church.
• No admits for 3 months
One patient’s story (lessons learned)

• Not much available in community to deal with complexity.
• Having a door to lock and a room is the intervention.
• Rapid response is necessary.
• How do we deal with the Social Determinants of Health?
• Health care system was trying to medicalize his psychosocial issues.
What is wrong with US healthcare?

- Fragmented
- Transactional
- Still primarily fee for service
- “Deductible effect” on elasticity of demand
- Are we getting our money’s worth?
- Prioritization of the most expensive interventions
# Global Health Snapshot

<table>
<thead>
<tr>
<th>COUNTRY RANKINGS</th>
<th>AUS</th>
<th>CAN</th>
<th>FRA</th>
<th>GER</th>
<th>KETH</th>
<th>NZ</th>
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<td><strong>Overall Ranking (2013)</strong></td>
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<tr>
<td><strong>Health Expenditures/Capita, 2011</strong></td>
<td><strong>$3,800</strong></td>
<td><strong>$4,522</strong></td>
<td><strong>$4,118</strong></td>
<td><strong>$4,495</strong></td>
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<td><strong>$5,643</strong></td>
<td><strong>$3,405</strong></td>
<td><strong>$8,508</strong></td>
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</table>

Notes: * Includes ties. ** Expenditures shown in US PPP (purchasing power parity); Australian $ data are from 2010.  
Source: Calculated by the Commonwealth Fund based on 2013 International Health Policy Survey of Sicker Adults; 2012 International Health Policy Survey of Primary Care Physicians; 2013 International Health Policy Survey; Commonwealth Fund/Global Scorecard 2011; World Health Organization; and Organization for Economic Cooperation and Development, OECD Health Data, 2013 (Paris: OECD, Nov. 2013).
FIGURE 3. DISTRIBUTION OF HEALTH CARE SPENDING, 2008

LG/Penn Medicine Care Connections

- **Location:** 555 North Duke Street, Lancaster, PA 17604, 1st floor of LGH.
- **Journey:**
  - October 2010, original data gathering
  - Spring 2011, visit to Camden, LG foundation grant $75,000
  - July 2011, first care navigator hired, pilot kicks off, “proof of concept”
  - August 2013, Care Connections begins

**Mission:** *To transform the quality of care for patients with complex needs, by utilizing innovative delivery models and empowering each patient with sustainable skills and resources to self-manage care in his/her primary care setting.*

**Census:** Currently enrolled – 120, enrollments to date > 600.
Care Connections’ Team

- Clinical Support Specialist (front staff), 3.2 FTE
- Patient Care Navigators, 3.0 FTE
- Physician, 2.1 FTE
- RN Case manager, 2.0 FTE
- Promotion Specialist, 1.0 FTE
- Program Supervisor, 1.0 FTE
- Program Manager, 1.0 FTE
- Advanced Practice Provider (NP), 1.0 FTE
- Social worker/ Behavioral Health, 1.0 FTE
- Chaplain, 1.0 FTE
- Medical Legal Attorney, 0.6 FTE
- Clinical Pharmacist, 0.5 FTE
- Clinical Psychologist, 0.1 FTE

Additional Services:
- Population Health Fellow
- Geriatric Assessment
- Homeless Coalition
- Financial counseling and Rep payee services
- Hershey Med Students
- NP students
- FP residents
- ACCT training
- Admin support
Patient Centered Medical Home

Care Connections Team
- Physician
- Advanced Practice Provider (NP)
- Navigators (Home-based)
- Community Health Worker
- Social worker/ Behavioral Health
- Chaplain
- Clinical Support Specialist
- RN Case manager
- Clinical pharmacist
- County Social Services Liaison
- Legal Services
- Financial Counseling Services

The core care team is responsible for coordination (gets what is needed, when it is needed, where it is needed)

Data/claims analytics

Enablement

Communication

Coordination

Acute Episodes

Support Services

County & Community Resources

Place of Residence

Graduation Assessment

Transition Plan Development

Virtual care

At the Clinic

Advance Care Planning

At home / Institution

Transition back

Home Visits

The core care team is responsible for coordination (gets what is needed, when it is needed, where it is needed)
Utilization Outcomes

Emergency visits:
- 12 mo. pre-enrollment: 602
- 18 mo. post-enrollment: 350

Inpatient visits:
- 12 mo. pre-enrollment: 605
- 18 mo. post-enrollment: 278

186 graduated patients 1/31/17 since inception

Penn Medicine
Lancaster General Health
Total cost (based on charges)

COST | PRE-ENROLLMENT
$28,935,785

COST | POST-ENROLLMENT
$14,438,894

- 186 graduated patient charges FYD 1/31/17 since inception 9/1/13, 12 month pre vs. 18 mo. post-enrollment

50% cost reduction
Innovation-Medical Legal Partnership

- I - Income/Benefits/Disability
- H - Housing
- E - Employment/Education
- L - Legal Status
- P - Personal/Family Stability

184 Patients since July 2015
Housing-related legal needs

43 PATIENTS
Housing security & Health

• Housing insecurity associated with:
  • Not having a usual source of care
  • Postponing medical care
  • Postponing medications
  • Increased ED use
  • Increased hospitalizations

• Life expectancy 40% decreased from average
• Mortality three times general population
• Homelessness is an independent risk factor for death
Impact on healthcare utilization

• Medicaid claims after moving into stable housing (family housing, permanent supportive housing, and housing for seniors and people with disabilities)
  • Decreased cost to health care system by 12%
  • Increase in primary care visits by 20%
  • Emergency department visits decreased by 18%
  • Improved self reported access to care and quality of care

• Housing First model for men with alcohol abuse disorders:
  • Significant cost savings - decreased public health spending by $42,964/person/year
  • Reduction in alcohol use
Impacts of Supportive Housing

- Decreased ER use
- Decreased Inpatient use
- Increased outpatient use
- Decreased incarceration
- Improved Quality of Life
- Decreased substance abuse
- Improved mental health
- More stable employment
- More stable housing

- Decreased Police costs
- Decreased EMS costs
- Increased income
- Decreased citations and arrest
- Less ambulance rides
Why?

![Bar chart showing per capita health care costs for various countries, with the US having significantly higher costs compared to others.]
Social Determinants of Health-Driven by Poverty

- Account for 70% of avoidable mortality in the US
- Health Behaviors often driven by socioeconomic status
- Epigenetics
Do we have it all backward?

Exhibit 8. Health and Social Care Spending as a Percentage of GDP

<table>
<thead>
<tr>
<th>Country</th>
<th>Health Care</th>
<th>Social Care</th>
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<tbody>
<tr>
<td>FR</td>
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<td>SWE</td>
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<td>AUS</td>
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Notes: GDP refers to gross domestic product.
Are we squeezing the balloon in the wrong direction?
Upstream vs. Downstream

Cost of Supportive Housing Compared to Cost of Alternative Forms of Care That Are Frequently Utilized by Individuals Experiencing Homelessness with Behavioral Health Needs

Costs shown are per day per person

Shelter - CT Coalition to End Homelessness; Supportive Housing - Corporation for Supportive Housing; Prison - CT Dept. of Corrections; Nursing Home - CT Dept. of Social Services (DSS); Inpatient Detox - CT Dept. of Mental Health and Addiction Services (DMHAS); Hospital Inpatient - Yale-New Haven Hospital; Inpatient Psychiatric - CT Dept of Mental Health and Addiction Services (DMHAS); Emergency Room - St. Francis Hospital, Hartford

Data updated June 2011 by the Partnership for Strong Communities
Cycle of Poverty and Health-Generational

- Increased financial vulnerability
- Hospital/ED utilization (uncoordinated care)
- Poor health outcomes
- Less economic vitality
- Housing insecurity
- Social determinants
- Generational instability
- Trauma (ACEs)
What about John? Lessons Learned

• Moved to Texas about 4 months after being housed.

• Overall cost of care could have paid for 5 people to be in supportive housing for 1 year.

• Protecting housing is of utmost importance.
  • Protect a persons financial status
  • Medical legal interventions

• Short-term supportive housing solutions will save money in the long run.

• ROI must include the Total Cost of Care.
References

• Center for Outcomes Research and Education. “Health in Housing: exploring the intersection between housing and health care”. February 2016.


• Lancaster County to End Homelessness: http://www.lcceh.org/about.php
