The Case for Medical Care in the Home

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The Health Industry Forum
Home-Based Healthcare in the 21st Century
March 17, 2016
Washington, DC
Let’s Think About

- Spectrum of home-based care and disruptions in the field
- Who’s at home
- Some models of home-based care
The Spectrum of Home-Based Care

- Informal Services
- Formal Personal Care Services
- Medicare Skilled Home Health Care
- Home-Based Primary Care
- Hospital at Home

10-15M  2M  3.4M  500 K  1-2K

Low acuity ──────── High acuity
Chronic care ───────────────────── Acute care
Little or no MD involvement ─ High level MD involvement

The Field is Expanding and Being Disrupted

- Home-Based Palliative Care
- Transitional / Post-Acute Care
- Urgent Care at Home (and on phone)

- Informal Services
- Formal Personal Care Services
- Medicare Skilled Home Health Care
- Home-Based Primary Care
- Hospital at Home
- Formal Personal Care Services Plus
- Function-Focused Brief Interventions
- Telemedicine and Sensor Technology
- EMS-Based Models
What do we know about people who are at home or homebound?
• National Health and Aging Trends Study (NHATS)
• Population-based study
• Random sample ≥ 65 Medicare enrollment rolls
• In-person interviews + physical and cognitive performance assessments
• Our N = 7603 non-NH subjects
• NHATS had no predefined measure of homebound – capacity and ability approach

JAMA Intern Med. 2015;175(8):1426
<table>
<thead>
<tr>
<th>Level</th>
<th>Definition</th>
<th>%</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely Homebound</td>
<td>Never went out in last month</td>
<td>1.1%</td>
<td>395,422</td>
</tr>
<tr>
<td>Mostly Homebound</td>
<td>Rarely (weekly or less) in last month</td>
<td>4.5%</td>
<td>1.5M</td>
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<tr>
<td>Semi homebound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never by self</td>
<td>Out at least sometimes (twice per week) but never by self</td>
<td>3.3%</td>
<td>1.5M</td>
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<tr>
<td>Needs help or has difficulty</td>
<td>Out at least sometimes (twice per week) but needs help or has difficulty</td>
<td>11.8%</td>
<td>4.1M</td>
</tr>
<tr>
<td>Not Homebound</td>
<td>Out &gt;= twice weekly without help or difficulty</td>
<td>79%</td>
<td>28M</td>
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</tbody>
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Frequency/Ability to Leave the Home Among Community-dwelling Medicare Benefes Age > 65

THOSE WHO NEVER GO OUT (1.1%)

THOSE WHO RARELY GO OUT (4.5%)

THOSE WHO GO OUT SOME DAYS (10.1%)

THOSE WHO GO OUT MOST DAYS (15.3%)

THOSE WHO GO OUT EVERY DAY (68.9%)

Not homebound

Not homebound

Not homebound
Demographics by Homebound Status

- Race - B
- Education < HS
- Married / w Partner
- Income < 15K
- MA Beneficiary

Legend:
- All NHATS
- Complete
- Mostly
- Not
Health and Function by Homebound Status

- Self Rep Health Fair or Poor
- Depression PHQ2
- Dementia possible or prob
- Can walk .6 blocks
- Hosp w/in 12 mos

- All NHATS
- Complete
- Mostly
- Not
The Homebound are Not Like You and Me

- Greater burden of chronic illness
- Worse health status
- Greater functional impairment
- Limited social capital
- These folks need home-based health care approaches – few get what they need
  - Completely homebound – 11% regular physician visit is a home visit
  - Mostly homebound 5%
- Invisible
Some Models of Home-Based Care: Existing and Newer
Current Skilled Home Health and Personal Care

• Medicare Skilled Home Health
  • Intermittent skilled home health care
    • Homebound + skilled need
    • 60-day episodes
    • 12,000+ agencies
    • Large workforce
    • Unloved by many, including MedPAC

• Personal Care Services
  • Home health aides
  • Financial criteria – Medicaid
  • Otherwise, self-pay and difficult to access

• Discontinuous, skilled, intermittent
• Weak medical model
• Slow response to urgent problems
• Inconsistent, variable ADL support
• Payment in silos, not aligned

Adapted, courtesy of Peter Boling
Newer Models of Home-Based Medical Care

• Home-based primary care
  • VA HBPC
  • Non-VA HBPC
  • Independence at Home
• Home-based palliative care
• Transitional care
• Consultative – GRACE
• CAPABLE
• Hospital at Home
Home-Based Primary Care

- Continuous, comprehensive, longitudinal medical care in a patient’s residence-extraordinary means to prevent crises
- Interdisciplinary - coordinate ALL medical AND social
- Geriatrics and palliative care skill sets
- Careful selection of specialists
- Portable diagnostics
- Support and empowerment of caregivers / family
- 24/7 ready access to care
- Not in the body part business!
Better Access, Quality, and Cost for Clinically Complex Veterans with Home-Based Primary Care

Thomas Edes, MD, MS, Bruce Kinosian, MD, Nancy H. Vuckovic, PhD, Linda Olivia Nichols, PhD, Margaret Mary Becker, LCSW, and Monir Hossain, MS

- Cost projections using HCC model
- N=9425 newly enrolled HBPC patients
- Projected annual costs compared with actual costs
- During HBPC Medicare costs 10.8% lower than projected
- VA + MC costs were 11.7% lower than projected
- Combined hospitalizations were 25.5% lower than during period without HBPC
- High satisfaction
## Systematic Review of Outcomes from Home-Based Primary Care Programs for Homebound Older Adults

<table>
<thead>
<tr>
<th>Outcome</th>
<th># Studies</th>
<th>Result</th>
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<tbody>
<tr>
<td>ED Visits</td>
<td>4</td>
<td>15%</td>
</tr>
<tr>
<td>Hospitalizations</td>
<td>9</td>
<td>30%</td>
</tr>
<tr>
<td>Hospital BDOC</td>
<td>4</td>
<td>37-50%</td>
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<tr>
<td>LTC Admits</td>
<td>3</td>
<td>10-20%</td>
</tr>
<tr>
<td>LTC BDOC</td>
<td>1</td>
<td>88%</td>
</tr>
<tr>
<td>Costs</td>
<td>4</td>
<td>24%</td>
</tr>
<tr>
<td>Satisfaction/CG QOL</td>
<td>5</td>
<td>Better</td>
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- 8 / 9 substantial effect ≥ 1 outcome
- 6 with three core components:
  - Inter-professional care teams
  - Regular inter-professional care meetings
  - After hours support

*JAGS 62:2243, 2014*
Independence at Home: CMMI ACA 3024

• Sick patients
  • Hospital stay, post-acute care use, 2+ ADL, 2+ chronic conditions
  • Home-based (primary) care model
  • 5% min savings; gain share with CMS
  • Quality measures – mostly utilization
  • 18 Sites – varied organizations, 10,000 participants
  • Year 1: **$3070 average savings per beneficiary**;
    $25M total savings
  • Risk adjustment key in estimating savings

https://innovation.cms.gov/initiatives/independence-at-home/
Home-Based Palliative Care

- KP CO, HI
- RCT, Homebound, Terminally ill
- N=298
- Px ≤ 1 yr, ≥ 1 hosp or ED visit in last year
- Better satisfaction
- More likely to die at home

JAGS 55:993, 2007
Transitional Care – 3 Flavors

• Intense – Naylor
  • RCT, NP intensive bridge, 4 weeks, multiple home visits
  • 6-week readmissions 10% v 25% (62% RR)
  • Hospital costs reduced - ~$3100 ↓ 3 months, 50% savings  JAMA 1999;281:613

• Less Intense – Coleman
  • RCT, Coach model, written care plan, pt empowerment, light clinical touch
  • 30-day readmission 8.3% v 11.9% (30% RR)
  • Hospital costs ↓ $488 in 6 months  Arch Int Med 2006;166:1822

• Community-Based Care Transition Program (CCTP), ACA 3026
  • Community-based organization partners with acute care hospitals
  • CMMI pays direct cost of transition service
  • 102 partnerships

Adapted, courtesy of Peter Boling
Consultative: GRACE

- RCT, Patients have PCP
- NP structured quarterly in-home assessments, 3 year study
- Lower intensity model, no primary care, no urgent care, need experienced team
- Care processes better
- Hospitalizations lower in high risk group in year 2 – 44% decrease

JAMA. 2007;298:2623
• Targets community-dwelling functionally impaired low income older adults
• Time-limited: 16-week RN, OT, handyman
• Focus of intervention patient-directed – REALLY
• CMMI HCIA I, NIH RCT
• Results: 75% improved ADLs. Mean improvement total sample: 3.9 → 2.1 ADL limitations. Significant improvement in depressive symptoms.
• Total cost: home repair+OT+RN visits <$3,000
• High-quality care
• Fewer complications
• Higher satisfaction
• Lower costs of care
• Less CG stress
• Better function
• High provider satisfaction

• CMMI HCIA II Demonstration
• Evaluation funded by the John A. Hartford Foundation
21% Reduction in Mortality: \textit{NNT}=50

24% Reduction in readmission
Technology in the Home and Telemedicine

• Active v passive
  • Physiologic monitoring
  • Monitoring of function and detection of emergencies
• Safety
• Security
• Social interactions
• Cognitive and sensory activity
• Disease management

• VA – 2 M visits
• KP – in 2016 KP N. CA more televisits (phone, email, tele) than in-person
• Mayo – By 2020 plans to serve 200M, most remotely

• Evidence base
  • 2012 review – 141 RCTs telehealth for chronic conditions (only 10 video with doc) J Telemed Telecare 2012;18:211
  • Not really sure what works, what doesn’t
Issues to Consider with All These Models

• Matching target population to the appropriate model / intervention to achieve the result intended
  • Population: medical, functional, social, high-cost
  • Intervention: intensity, type, how long, continuous / short-lived, workforce, scalability, who funds, who gets savings?
  • Outcome: what do you REALLY want to achieve