Promoting Mobility in the Hospital: the Case of STRIDE

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Outline

- Hospitalization-Associated Disability
- STRIDE: Supervised Walking Program for Hospitalized Older Adults
- Implementing Hospital Mobility Programs

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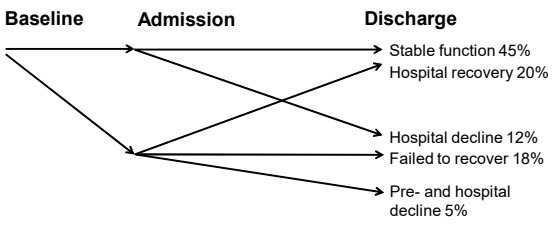
Hospitalization-Associated Disability

- Loss of ability to complete 1 or more ADLs
- ADLs = Bathing, dressing, rising from bed or a chair, using the toilet, eating, or walking across a room
- 30-35% of patients ≥ 70 discharged with new ADL disability

Boyd et al. JAGS 2008
Gill et al. JAMA 2004

Functional Trajectories Across a Hospitalization



Adverse Events Associated with HAD

Hospital

- Falls
- Delirium
- Aspiration
- Longer length of stay
- Discharge to skilled nursing facilities

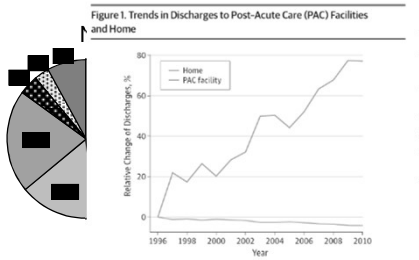
Post-Discharge

- Readmission
- Falls
- Institutionalization
- Death

30-50% recover to pre-illness function within 1 year

Kommuri et al. Arch Med Res 2010, Mahoney et al. Arch Int Med 2000, Hardy et al. JAMA 2004, Boyd et al. J Am Geriatr Soc 2008; Murphy et al. Arch Int Med 2011; Fisher et al. Arch Int Med 2010 Greysen et al, JAMA-IM.2015 Apr;175(4):559-65.

Post-Acute Care 65+



Hospital

	%
	51
s	17.9
	19.5

Medicare spending on SNF care ➔ $30 billion

Risk Factors for Hospital-Associated Disability

Low Functional Reserve

- Advanced age
- Depression
- Cognitive dysfunction
- Difficulty walking
- ADL dependence

Illness/Hospital Factors

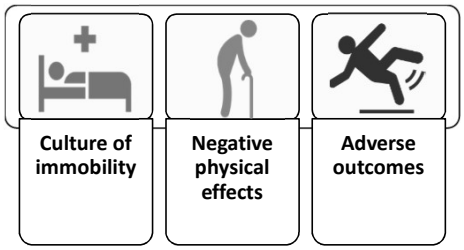
- Severity of acute illness
- Poor nutrition
- Polypharmacy
- Delirium
- **Low mobility**

Hospitalized older adults spend 3-4% of their time standing or walking

- <5% have physician orders for bed rest

Zisberg JAGS 2011; Covinsky et al. JAMA 2011; Fisher et al JAGS 2011; Brown et al JAGS 2009

Need



Covinsky JAMA 2011 306(16); Kommuri Arch Med Res 2010 41(5); Zisberg JAGS 2011 59(2); Brown JAGS 2009 57(9); Murphy Arch Int Med 2011 171(3)

Not a Newly Recognized Problem

THE EVIL SEQUELAE OF COMPLETE BED REST

WILLIAM DOCK, M.D.
LOS ANGELES

JAMA 1944; 125 (16), 1083-1085

agent of disaster. The physician must always consider complete bed rest as a highly unphysiologic and definitely hazardous form of therapy, to be ordered only for specific indications and discontinued as early as possible.

Toward a Solution

- Walking can mitigate functional decline in hospitalized adults
- In RCT of 458 patients in 3 hospitals, 20 minutes of daily ***supervised walking*** reduced length of stay by 1 day (3.8 vs. 4.8 days)
- No VA system-wide approaches to address this important gap in hospital care

Mundy et al. Chest. 2003

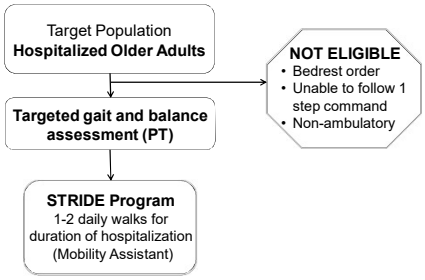
STRIDE: Supervised Walking Program for Hospitalized Older Adults

To optimize the physical function of older Veterans by increasing the amount of time spent walking during their hospitalization

Key Program Elements

(1) Proactive, no baseline functional deficits required
(2) Early enrollment, ideally within 24 hours of admission
(3) Supervised walking, up to 20 minutes daily until discharge

Durham STRIDE



Staff Roles

Physical Therapist

- Screens consults
- Performs baseline balance and gait assessment
- Recommends assistive devices and/or gait belt if needed
- Identifies activity goals with patients

Mobility Assistant

- Works with Nursing to plan timing of daily walks
- Supervises walks for safety
- Reviews activity goals
- Provides motivation and encouragement

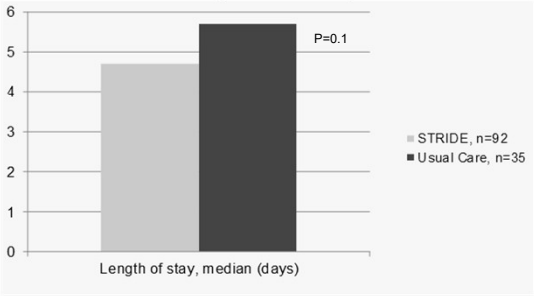
Participant Characteristics

	STRIDE participants, n=92	Usual Care,[1] n=35	P-value
Age, median (IQR), y	74 (66-80)	75 (67-83)	0.62
Sex, % male	89 (96.7)	35 (100)	0.56
Heart failure, %	20.7	14.3	0.41
Kidney failure, %	18.5	28.6	0.21
Urinary tract infection, %	14.3	14.1	0.9
Pneumonia, %	8.7	5.7	0.58
Calculated Probability of Readmission Risk Score,[2] % mean (SD)	21.7 (8.6)	18.9 (6.1)	0.1

[1] Usual care – referred by provider and eligible but program at capacity
[2] Calculates risk of 30 day readmission based on risk factors including: patient demographics, hospitalization information, previous admissions, medication, lab values and primary or comorbid diagnoses



Length of Stay



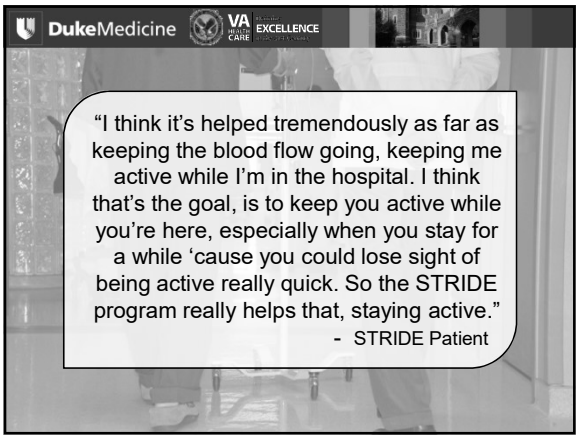
Hastings SN et al. *J Am Geriatr Soc*. 2014 Nov;62(11):2180-4.

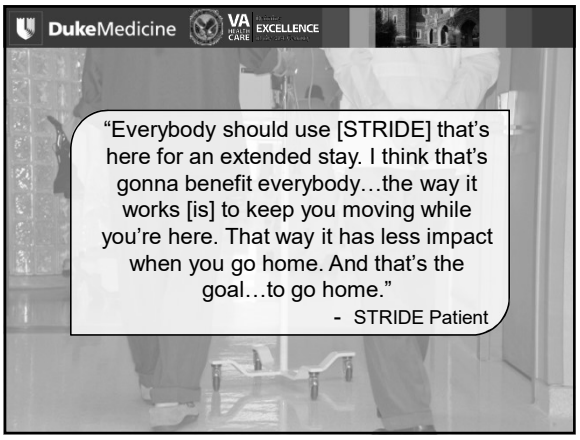
Outcomes

	STRIDE, N=92	Usual Care, n=35	P-value
Discharge home, %	92.3	74.3	0.007
Inpatient falls, %	1.1	2.9	0.48
30-day ED visits, %	23.1	20	0.71
30-day readmissions,%	17.6	14.3	0.66
Deaths, %	4.4	5.7	0.67

* 90% of STRIDE participants reported feeling **better** immediately after their walk

Hastings SN et al. *J Am Geriatr Soc*. 2014 Nov;62(11):2180-4.

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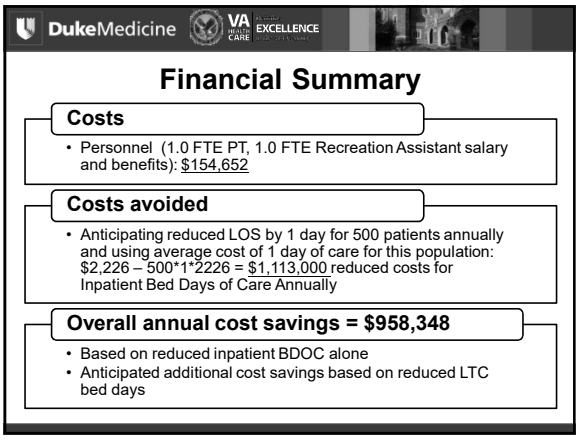
"Everybody should use [STRIDE] that's here for an extended stay. I think that's gonna benefit everybody…the way it works [is] to keep you moving while you're here. That way it has less impact when you go home. And that's the goal…to go home."
- STRIDE Patient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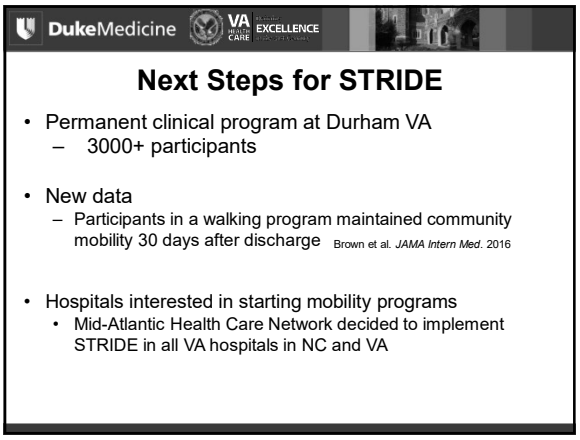
Financial Summary
Costs
• Personnel (1.0 FTE PT, 1.0 FTE Recreation Assistant salary and benefits): $154,652
Costs avoided
• Anticipating reduced LOS by 1 day for 500 patients annually and using average cost of 1 day of care for this population: $2,226 – 500*1*2226 = $1,113,000 reduced costs for Inpatient Bed Days of Care Annually
Overall annual cost savings = $958,348
• Based on reduced inpatient BDOC alone
• Anticipated additional cost savings based on reduced LTC bed days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Next Steps for STRIDE
• Permanent clinical program at Durham VA
– 3000+ participants
• New data
– Participants in a walking program maintained community mobility 30 days after discharge Brown et al. JAMA Intern Med. 2016
• Hospitals interested in starting mobility programs
• Mid-Atlantic Health Care Network decided to implement STRIDE in all VA hospitals in NC and VA

Implementing STRIDE Across a Regional Health Care System

Aims: 1) actionable findings for VISN leadership about experiences with the mandate and 2) locally-initiated implementation strategies

Methods

- Rapid qualitative analysis; framework matrix for cross-site comparisons
- Mapped approaches to published implementation strategies Expert Recommendations for Implementing Change (ERIC) project

Sperber, et al. 2018 *in press*.

Implementing STRIDE Across a Regional Health Care System

Challenges & Facilitators	Strategies
Staffing limitations	*Promoting adaptability* Identifying ways a clinical innovation can be tailored to meet local needs and clarify which elements must be maintained to preserve fidelity
Strength from nursing and PT communication	*Promoting network weaving* Building on existing relationships to promote information sharing, problem solving
Need for stakeholder engagement and training	*Distributing Educational Materials*. Distribute educational materials (including guidelines, manuals, and toolkits) in person, by mail, and/or electronically *Organizing Clinician Team Meetings*. Develop and support teams of clinicians who are implementing the innovation and give them protected time to reflect on the implementation effort, share lessons learned, and support one another's learning.

Sperber, et al. 2018 *in press*.

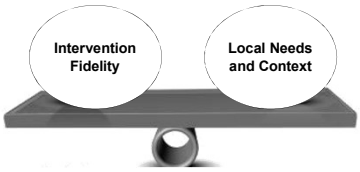
Function QUERI STRIDE

- **Stepped wedge CRT, 8 sites**
- **Function QUERI will**:
  - Evaluate implementation of STRIDE
  - Examine the impact of STRIDE on
    - Independence: discharge from the hospital to skilled nursing facility, hospital length of stay
    - Physical Function: Function and Disability Instrument, and health-related quality of life

Function QUERI
Optimizing Function and Independence
Quality Enhancement Research Initiative

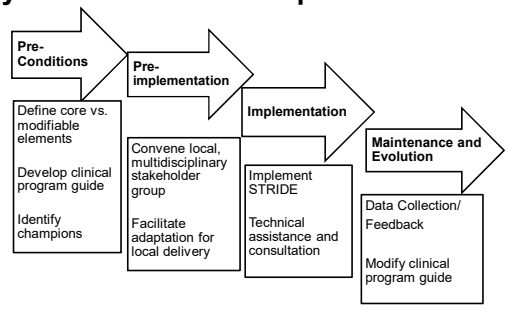
Wang et al. *Implement Sci*. 2018 Apr 20;13(1):58.

Replicating Effective Programs



REP serves as a framework for program implementation, tailoring clinical programs to achieve balance between **fidelity** and **adaptation** for local conditions

Key REP Activities to Implement STRIDE



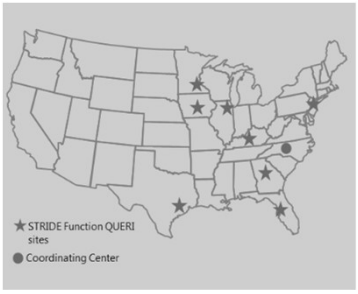
Hastings et al. *Geriatrics* 2018, *3*(4), 61

Examples of STRIDE Adaptations

	Site 1	Site 2	Site 3	Site 4	Site 5
Referral model	Medical providers, PTs	Medical providers, PTs	ACE team, medical providers	Medical providers, nurses	PTs
Staffing model (alt)	Assessment: PT Walking: Rec therapy assistant	Assessment: PT Walking: Nurse techs	Assessment: PT Walking: Nurse techs	Assessment: PT Walking: PTA (nurses)	Assessment: PT Walking: PTA (KTs, nurses)

Hastings et al. *Geriatrics* 2018, *3*(4), 61

Function QUERI STRIDE Sites



Function QUERI STRIDE site #4

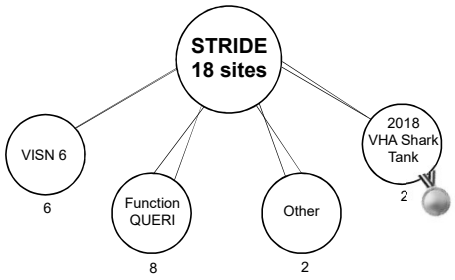
Discharge to Nursing Facility

Ward	Patients (per mo)	Average Age (y)	% Nursing Facility (Before STRIDE)	% Nursing Facility (During STRIDE)	Δ %
3L	143	74	15.0	7.1	-7.9
3K	84	72	7.3	6.4	-0.9
3E	78	73	8.8	7.7	-1.1

34 more patients go home (per quarter) → $714,000-$1,836,000 potential cost savings

Courtesy Denise Duan-Porter

STRIDE Network is Growing



Implementing Mobility Programs

- **Leadership buy-in *and* front-line clinical champions**
  - Definition of success
- **Interdisciplinary communication is critical**
  - Physical Therapy – Nursing
  - Falls committee, Safe Patient Handling Mobility Coordinators
- **Provide tools**
  - Competency checklists, EHR templates
  - Mobility Change Packet and Toolkit
  - STRIDE SharePoint site with information and resources

Implementing Mobility Programs

- ***How-To* of practice change – implementation strategies**
  - Identify core and modifiable elements
  - Tailor for context
  - Frameworks can help: Replicating Effective Programs
- **Cross-system collaboration**
  - Creative solutions to common barriers, e.g. competing demands on staff time
  - Flexibility around staffing model

Implementing Mobility Programs

- **Platform for broader culture change around mobility**
- **Identify and address barriers to ambulation**
  - Overly restrictive activity orders
  - Urinary catheters, IV poles
  - Pain, Nutritional compromise, Dehydration
  - Adverse effects of medications, Delirium
  - Lack of goals for independent walking
  - Staff knowledge and education
- **Consistent messaging to patients and families**
  - Encourage patients to walk and be as independent with self-care as possible
  - Ambulatory assistive devices from home

We are the Champions, my friends

--Queen

Questions?

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Resources

STRIDE SharePoint

- Access directly on VA intranet
- https://spsites.cdw.va.gov/sites/QUERI_FUNCTION/STRIDE/default.aspx
- Or contact STRIDE team for electronic copy of toolkit: Ashley Choate, Ashley.choate@va.gov

Mobility Change Packet and Toolkit

- https://www.johnahartford.org/events/view/mobility-change-package-and-toolkit