

A Telerehabilitation Enhanced Wellness Program in Spina Bifida *Reducing morbidity, mortality, and cost*

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The Impact of Chronic Illness

- 133 million Americans – almost **1 out of every 2 adults** – have at least one chronic illness.
- 50 million Americans --**1 in 5 people** -- have a disability
- Associated costs of chronic illness and disability preventing gainful employment exceed **\$260 BILLION annually**.

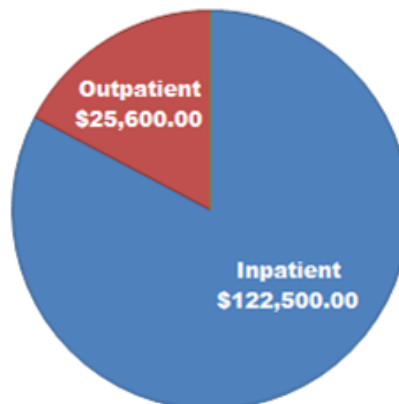
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The Additive Effect...

- Chronic illnesses can lead to *additional secondary disability*, and death.
- We are currently **unable** to effectively manage or prevent chronic conditions in a cost-effective manner.

**PREVENTABLE COSTS
of secondary conditions
per person per year =
\$148,100**



Overview of Lecture

- Spina Bifida as an example disability
- Pilot data from successful face to face program
- Telemedicine as new opportunity in marketplace
- Smartphones as low cost alternative

Spina Bifida: ideal cohort

- >100,000 Americans, 700 in Western PA
- Most common congenital disability
- Over 85% living well into adulthood
- Permanent cognitive and physical disabilities
- Cognitive impairment results in lack of initiative for self care activity
- Outliving caregivers

Secondary Conditions in people with Spinal Cord Conditions

Preventable

- 1/3 of hospitalizations due to preventable conditions
- Skin and Bladder infections most prominent
- 1% of these hospitalizations lead to death
- 30 day readmission rates high

Expensive

- Nationally
- Expenditures 3-6x higher than general population
 - Each hospitalization \$30K
 - ~4 hospitalizations/yr/person
 - Total cost is > \$360M/yr
- Locally
- UPMC >\$2M for all preventable conditions in '09

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(Dicianno & Wilson, 2011)

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Face-to-Face Wellness Pilot Program

Outcomes of Wellness Program	SBAWP Survey		UPMC Adult SB Clinic population		Wellness Pilot Program	
	#	%	#	%	#	%
# of subjects	142		31		31	
skin breakdown episodes	41	28.9	11	35.5	3	9.7
# urinary tract infections	50	35.2			5	16.1
# hospitalizations	29	20.4	7	22.6	4	12.9
mean # days per hospital admission			11.4		5.7	

**30-50
%
Reduction
In
Preventable
Conditions**

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UPMC Center for Wellness

- Full time nurse practitioner
- Triple Aim
 - Medical outcomes, cost, quality of care
- Care modules:
 - Skin integrity
 - Medication/supplies management
 - Behavioral health
 - Bladder management
 - Bowel management
 - Nutrition and Exercise
 - Health care appointments

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Telerehab Approach

- Dynamic two way communication
- Patient
 - Reminders
 - Educational Tools
 - Reporting Tools

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Telerehab Approach



- Dynamic two way communication
- Wellness Coordinator
 - Quick triage/monitoring
 - Interventions

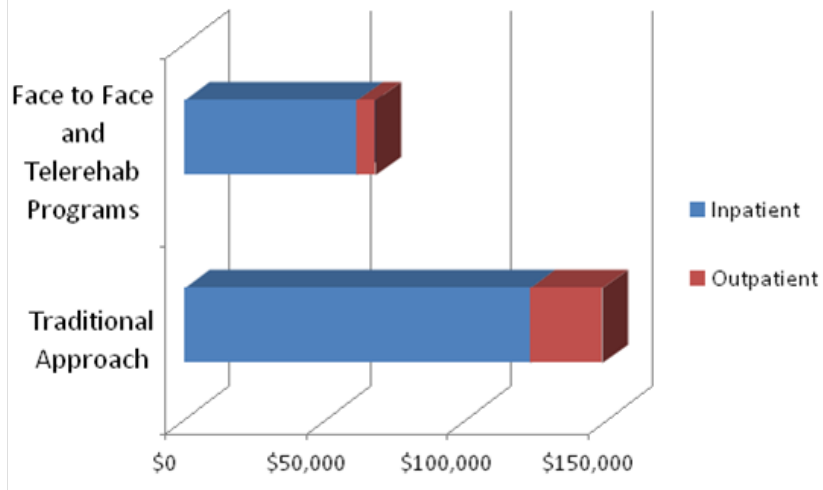


Name	Wounds	Location	Comment
Adams, A	None		
Bright, B	None		
Charles, C	1	Foot	Red, drainage
Dwight, D	None		
Ender, E	None		
Francis, F	None		
Grant, G	None		

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Potential Cost Savings per Patient per Year



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Timeline

- Phase 1: Usability Testing
- Phase 2: Controlled Clinical Trial
- Phase 3: Diversify App Portfolio
- Phase 4: Expand to other Populations

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Contact information / Partners

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