Senior ASSIST: Bridging a Gap in Care Coordination for High-Risk, Community-Dwelling Elderly

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Purpose

Senior ASSIST (Assisting Seniors to Stay Independent Through Services and Teaching) was implemented by The Nebraska Medical Center to improve chronic disease management and coordination across the health care continuum for community-dwelling, multi-morbid elderly persons

Targeted population:

- High risk for multiple hospitalizations
- Intensive monitoring and teaching needs not adequately addressed by usual outpatient care
- Does not meet eligibility criteria for Medicare-funded home health care

Program Goals

- To enhance client and physician satisfaction
- To improve access to care and care coordination
- To improve clinical quality indicators by improved adherence to treatment
- To reduce healthcare expenditures

Significance

- 99% of healthcare dollars are spent for persons with chronic disease (>$425 billion/year)
- Nearly all growth in Medicare expenditures traced to 50% of beneficiaries with multiple chronic illnesses
- Exacerbations of chronic illnesses and ambulatory-care sensitive conditions result in hospitalizations
- Estimates of 10-20% of Medicare beneficiaries are re-hospitalized within 30 days of dismissal
- Lack of care coordination and medication problems contribute to re-hospitalizations and adverse outcomes
- Care transitions (home-to-hospital, hospital-to-home, hospital-to-skilled nursing facility) are especially hazardous

Strategies and Implementation

Core Client Interventions by Nurse Case Managers

- Home visits for assessment of physical, mental, social, nutritional, functional, environmental status
  - Plan of care to meet needs
  - Frequency of visits determined by need
- Medication
  - Reconciliation-National Patient Safety Goal (NPSG)
  - Management (teaching, medisets, and side effects)
- Lab work as ordered
- Home safety assessments/interventions
- Nutritional assessments/interventions
- Functional assessments (ADLs and IADLs)
- Referrals to community resources

The Team approach

- Reconciled medication list shared with all providers (NPSG)
- Collaborations with physicians
- Timely treatment plans for exacerbations and new problems
- Use of electronic medical record
- Coordination at time of care transitions (NPSG)
  - Upon hospitalization
  - Upon dismissal from hospital

Evaluation: 10-Year Outcome Data

21,149 Home Visits Made **503 Long-term Complex Clients**

Selected Population Characteristics of Clients

(n=503)		n	%
Age:	65-74	104	20.7
	75-84	240	47.7
	85 and above	159	31.6
Gender:	Female	381	75.7
	Male	122	24.3
Race:	Caucasian	393	78.1
	African-American	87	17.3
	Hispanic	16	3.2
	Other	7	1.4
Living Arrangements (may be more than one):			
	Lives alone	254	50.5
	Lives with spouse (who may also be impaired)	135	26.8
	Lives with children	80	15.9
	Lives with others	55	10.9
Functional ADL Impairments:			
	0-3 tasks	443	88.1
	4-6 tasks	30	6.0
	7-9 tasks	30	6.0
Functional IADL Impairments:			
	0-3 tasks	178	35.4
	4-6 tasks	206	41.0
	7-9 tasks	119	23.7
Cognitive Functioning: (measured by the Mental Status Questionnaire by Katzman, et al. 1983)			
	Intact - (score 0-4)	287	57.1
	Borderline/Moderate Impairment - (score 5-9)	101	20.1
	Significant Impairment - (score 10-28)	115	22.9
Risk Level for institutionalization, hospitalization, adverse health outcomes (from assessment tool, initial visit)			
	Low (0-38)	11	2.2
	Moderate (39-105)	431	85.7
	High (106-243)	61	12.1
Having Medication Problems (not taking correctly, not refilling, refusal):		243	48.3
Nutrition Risk (from comprehensive assessment tool, initial visit)			
	Moderate risk	187	37.2
	High risk	174	34.6
Not homebound (according to Medicare home health eligibility criteria)		373	74.2

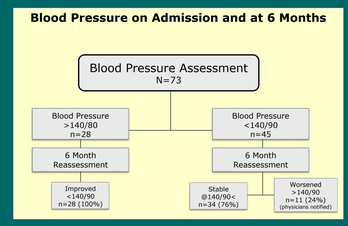
Note: All numbers do not add up to 100% due to rounding

Co-Morbidities/Health Problems of Clients

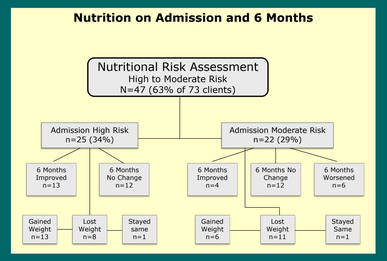
n	%	n=503
417	82.9	**Visual problems (may be corrected)**: cataract, glaucoma, blindness (n=13, 2.6%), other
252	50.1	**Hearing problems**: deafness, tinnitus, other
194	38.6	**Skin problems**: leg or foot ulcers, bedsores, shingles, wounds, rashes, other
197	39.2	**Lung problems**: TB, asthma, emphysema, bronchitis, pneumonia, other
439	87.3	**Heart and circulation problems**: heart attack, congestive heart failure (n=85, 16.9%), high blood pressure (n=363, 72.2%), stroke (n=71, 14.1%), pacemaker, peripheral vascular disease, other
354	70.4	**Gastro-intestinal problems**: ulcers, gallbladder problems, liver problems (cirrhosis, hepatitis), constipation/diarrhea (n=183, 36.4%), rectal bleeding, hemorrhoids, hernias, ostomy, other
340	67.6	**Genito-urinary problems**: bladder/kidney problems (incontinence (n=235, 46.7%), infection, stones, prostate problems, other
407	80.9	**Muscle/bone problems**: fractures, arthritis (n=261, 51.9%), gout, osteoporosis (119, 23.7%), amputation, joint replacements, other
284	56.5	**Neurological problems**: paralysis (n=8, 1.6%), seizures (n=17, 3.4%), dizziness (n=99, 19.7%), numbness, tingling, Parkinson's disease (n=22, 4.4%) headache (n=26, 5.2%), other (n=170, 33.8%)
260	51.7	**Endocrine/blood problems**: potassium/sodium imbalance (n=37, 7.4%), thyroid problems (n=88, 17.5%), diabetes (n=100, 19.9%), anemia (n=60, 11.9%), dehydration (n=5, 1%), other
116	23.1	**Cancer**: any site
426	84.7	**Mental/emotional problems**: depression (n=271, 53.9%), anxiety (n=134, 26.6%), hallucinations (n=20, 4%), confusion (n=71, 14.1%), forgetfulness (n=275, 54.7%), behavior problems (n=22, 4.4%)
258	51.3	**Pain:** Clients experiencing pain Clients reporting pain > 5 on 10-pt. scale (n=67, 13.3%)

Clinical Indicators of Client Subsets

- Blood Pressure (n=73)
  - 28 clients (38%) had B/P >140/90 on admission
  - All were improved to normal limits in 6 months

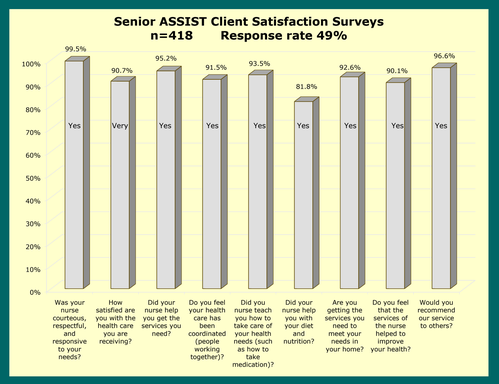


- Nutrition (n=73)
  - 47 clients (63%) were at high or moderate nutritional risk on admission
  - 17 improved to a lower risk level in 6 months
  - 19 of these clients gained weight in 6 months

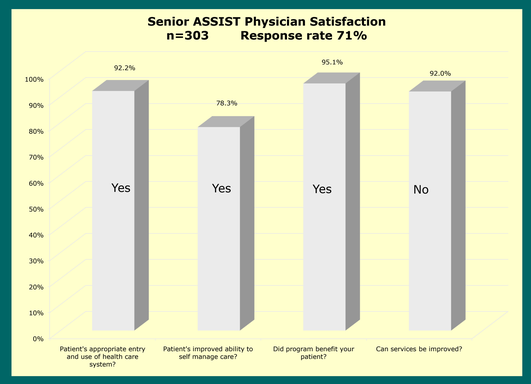


- HgbA1c (n=23 diabetic clients. Records were reviewed of 46 diabetic clients: 20 did not meet inclusion criteria of HgbA1c data for review)
  - 10 diabetic clients had HGbA1c >7.0 on admission
  - 6 of these were improved in 4-12 months

Satisfaction



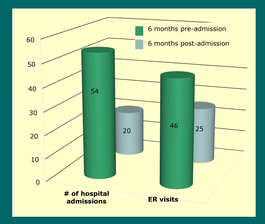
DISCUSSION: Satisfaction surveys are sent to clients annually and upon dismissal from the program as part of Senior ASSIST's performance improvement initiative. The response return rate may have been affected by client factors such as cognitive impairment or relocation to long-term care facilities.



DISCUSSION: Satisfaction surveys are sent to physicians when clients are dismissed from the program as part of Senior ASSIST's performance improvement initiative. Of note, most of the physicians who responded that the program could be improved did so in a philosophical way, as evidenced by added comments (such as "We can all improve" "Expand services")

Cost Effectiveness

- Healthcare expenditures of clients decreased 62% from baseline when compared in a pre- and post- design (n=77 consecutive clients)



- 63% decrease in hospital admissions
- 23% decrease in length-of-stay
- 46% decrease in Emergency Room visits

Implications for Practice: Factors for Success

- Home visits = strong intervention
- Case management model is best fit for complex, multi-morbid clients
- Long–term solution to challenges of chronic illness, not episodic
- Timely interventions with physicians
- Nurse-to-client continuity-of-care
- Senior ASSIST is well-integrated into The Nebraska Medical Center and community
- Use of the electronic medical record for communication, documentation
- A Nebraska Health Care Cash Fund Grant enabled services to be expanded to a population not affiliated with The Nebraska Medical Center. Though processes changed, similar outcome metrics were attained, suggesting the model is effective.
- Senior ASSIST responds to emerging community needs with actions plans. Examples: Medicare D enrollment, flu shot availability during shortages, infection prevention measures, H1N1 information, emergency preparedness, etc

Summary

The Senior ASSIST integrated model of chronic disease management and care coordination adds value to an organization in a pay-for-performance arena of health care reform. It is cost-effective, improves health indicators, prevents hospitalizations, enhances satisfaction, and demonstrates nurses' ability to meet a critical need.

Senior ASSIST is a designated Edge Runner program, American Academy of Nursing *Raise the Voice* Campaign