



Financial Savings of Home Based Primary Care for Frail Veterans with Chronic Disabling Disease

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Financial Savings of HBPC

- What is VA Home Based Primary Care?
- VA longitudinal case-control analysis – but what about Medicare costs?
- VA + CMS analysis of utilization and cost
- Hierarchical Condition Category (HCC) scores and implications for use in Independence at Home

What is VA Home-Based Primary Care (HBPC) ?

- Comprehensive, longitudinal primary care
- Primarily delivered in the home
- By an Interdisciplinary team: Nurse, Physician, Social Worker, Rehabilitation Therapist Dietitian, Pharmacist, Psychologist
- Targets patients with complex, chronic, disabling disease
- When routine clinic-based care is not effective

For those “too sick to go to clinic”

Characteristics of HBPC Population

“Too sick to go to clinic” -

Mean age 78.4 years; 96% male

More than 8 chronic conditions
24% annual mortality

Mean ADLs: 2.1 (requiring human assistance)
23% 5+ ADLs

47% married; 29% live alone; Caregivers: 32% limited ADL

Longitudinal: Mean duration in HBPC 315 d; 3.1 visits/mo

Conditions and Complexity in HBPC

64% 4+ Hierarchical Condition Categories (HCCs)

45% 5+HCCs

<u>Condition</u>	<u>% with Condition</u>
Heart disease	72%
Diabetes	48%
Depression	44%
Heart failure	35%
Dementia	33%
Substance abuse	29%
Cancer	29%
Anxiety/Personality Disorder	24%
PTSD	21%
Schizophrenia	20%



2002 Utilization 6 mos Before vs During HBPC

All HBPC programs; n=11,334; days or visits per patient per year

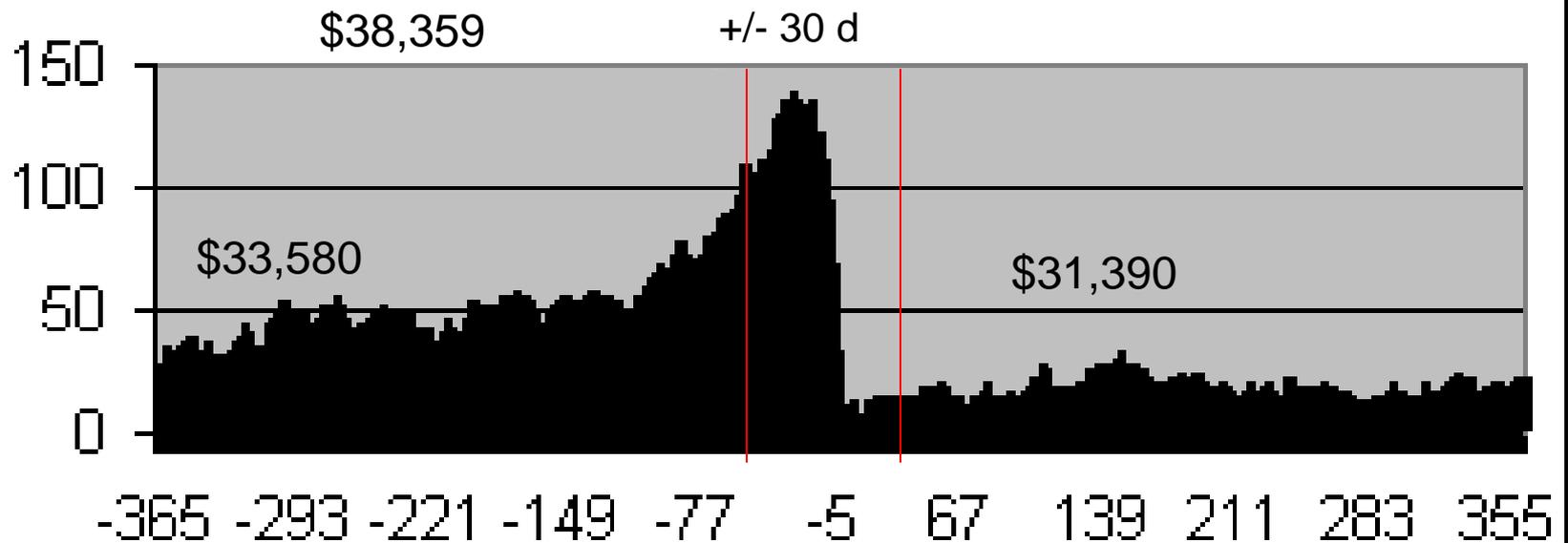
	Before HBPC	During HBPC	Change
Hospital BDOC	14.8	5.6	- 62% P < 0.0001
Nursing home BDOC	26.8	3.2	- 88%
Outpatient visits	31.6	32.2	+ 2%
All home care visits	20.6	73.8	+ 264%

Issues

- Possible cost-shifting to Medicare—savings a “shell game”
- Pre-post design ignores historical trends and regression to the mean
- Not a randomized clinical trial--
Complex, individualized interventions can make pharmacology-style RCTs an exercise in evidence-based archeology

VA Inpatient Days Before and During HBPC

All VISNs BDOC 1FY08 - Acute, LTC TRTs



Addressing the Issues

Medicare Shell Game

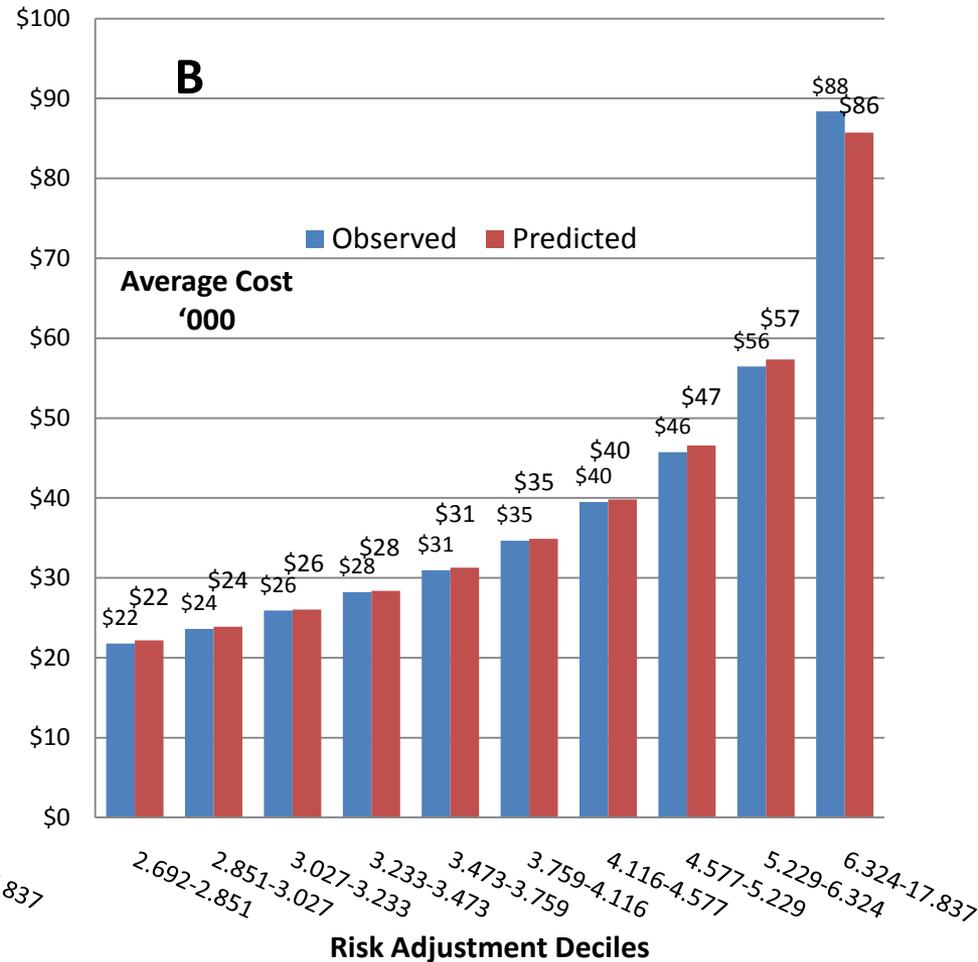
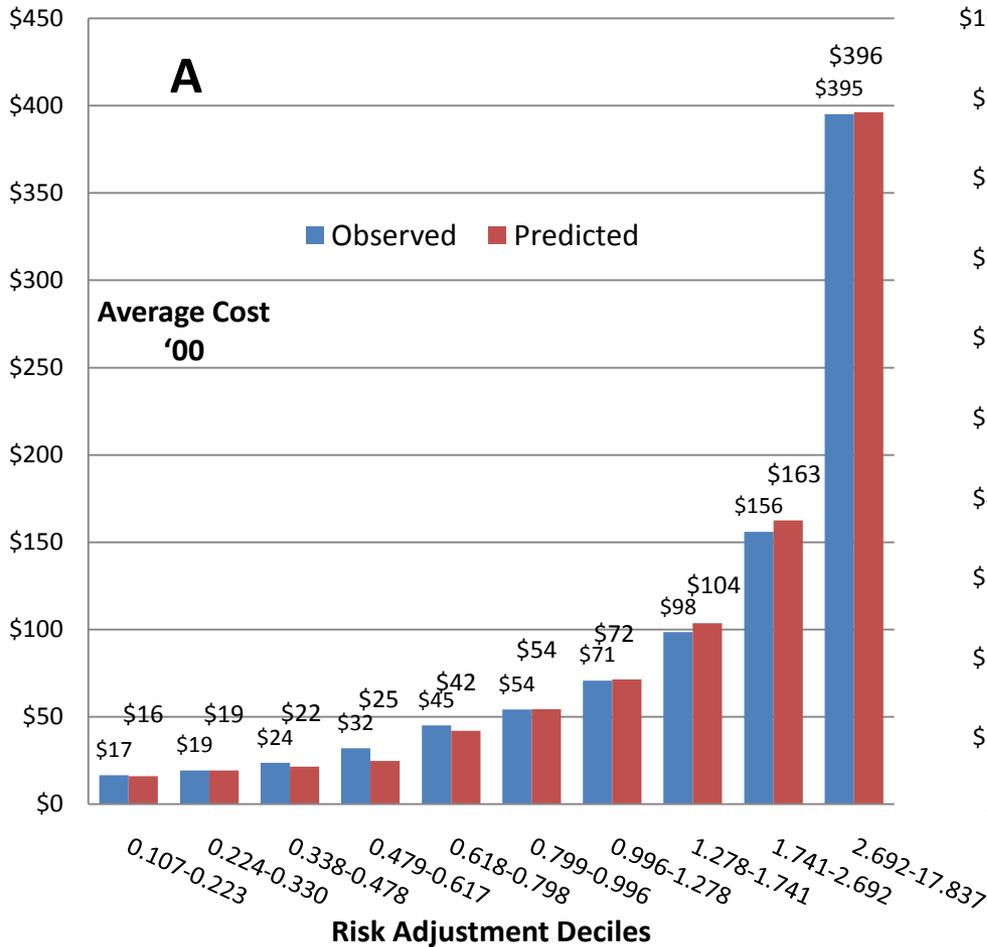
- Combined CMS and VA cost data for all veterans served by VA (n=6.6M)
 - receiving health care: VHA
 - receiving benefits VBA
- Repeated 6 month pre/post analysis for new FY 2006 HBPC patients (n=9425), with look back to March,2005

Regression: Snow's Pump handle,2010

External benchmarks:

- Recalibrated CMS HCC model on VA+CMS veteran cost data, projected annual cost
- PACE equivalent care:
 - CMS-HCC + frailty predicted Medicare costs using 2006 mean PACE county ratebook + HCBC portion of mean Medicaid payment (\$1590)

Average Observed & Predicted Costs by CMS-HCC Risk Adjustment Decile: A) all Veterans and B) 10th Decile (N=660,000)



VA-HCC Methodology

1. Used 2009 CMS model (variables), recalibrated on combined cost and utilization data for all Veterans served in 2006 by CMS and/or by VA.
2. Used those re-calibrated weights to predict costs for HBPC patients in 2006.

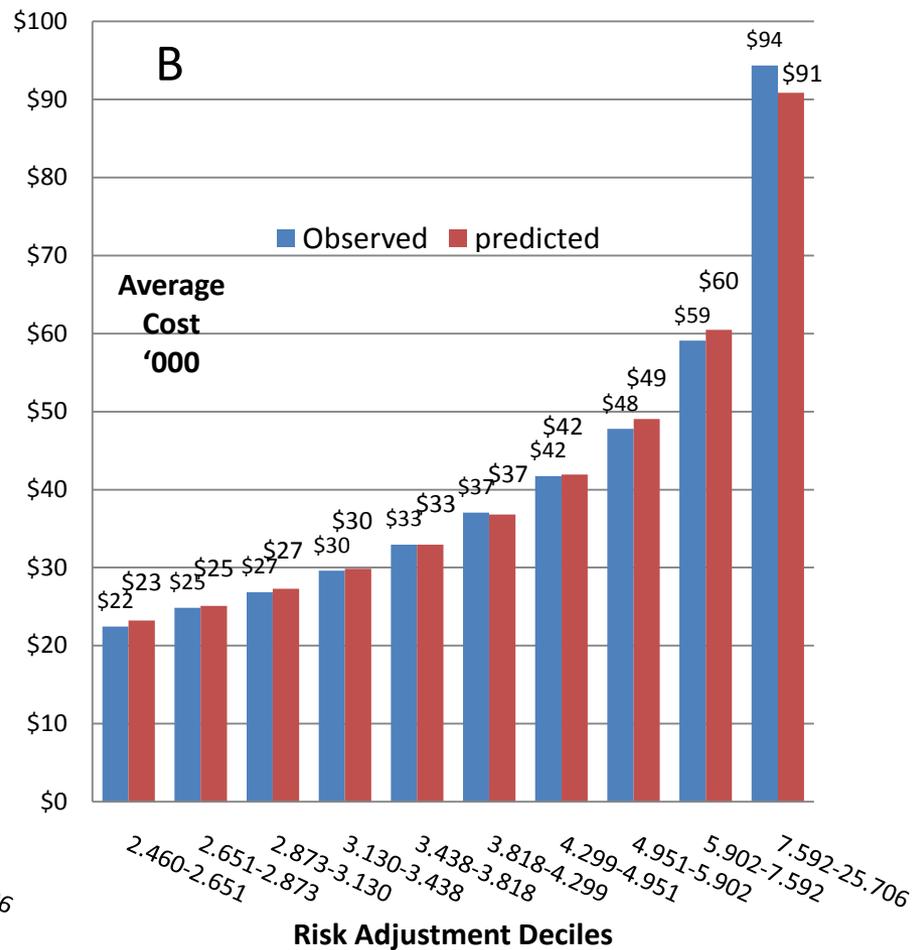
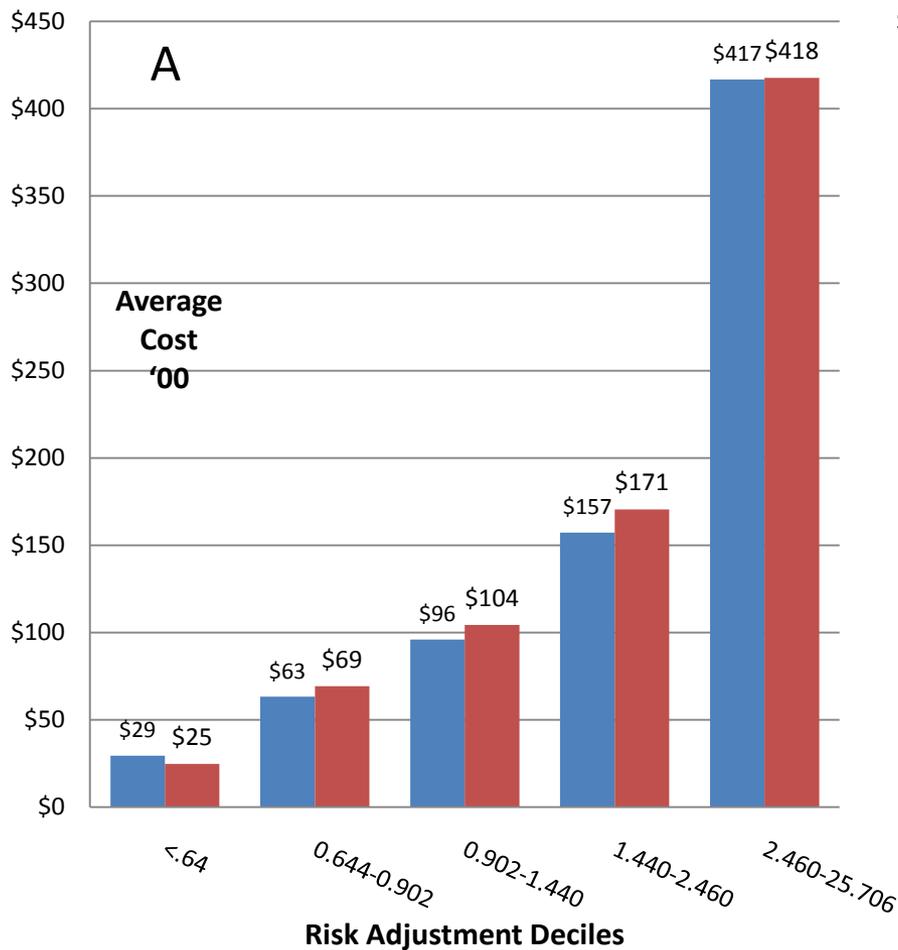
Differences:

1. Used current year (r^2 .56) rather than next year (r^2 .11), since primary interest in accuracy, not avoiding gaming
2. Added HBPC demographic variable to account for extended care use (e.g., HCBC) by the HBPC patients (services not covered in CMS model). Variable weight 2.1
3. Costs of frailty captured in HBPC demographic variable

Average Observed & Predicted Costs by VA-HCC Risk Model:

A) Veteran Population (grouped lower 6 deciles)

B) Top docile (N=660,000)





2006 Hospital Utilization 6 mos Before vs During HBPC

All HBPC programs; n=9425; days per 1000 patients per year

	Before HBPC	During HBPC	Change
VA Days	8877	4339	- 51% p<.001
Medicare Days	4511	4161	-9.5%
Total Hospital BDOC	13,388	8500	-36% p<.01
Total Admissions Per 100 patient-months	15.7	11.7	-25% p<.01

2006 LTC Utilization Before vs During HBPC

All HBPC programs; newly enrolled in FY2006

(Oct 1, 2005 through Sept 30, 2006): HBPC and Medicare Part A
Long-term care days and cost per patient per year

		Before HBPC	During HBPC	Change
HBPC n=9,425	LTC BDOC	10.9	1.4	- 87 %
	Cost	\$24,697	\$3,189	- 87 %
Medicare Part A n=6,951	SNF BDOC	5.56	5.59	0.6 %
	Cost	\$1,732	\$1,616	- 6.7 %

Dual and VA-use only Veterans Complexity and Cost

	Dual Veterans— Medicare and VA N=6951 / 5989 users	VA Use only N=3434 (non-MC users)
Age	78.4 +/- 9.8	70.8 +/- 13
Mean CMS HCC	3.31	2.22
Mean VA-HCC	5.45	4.36
Mortality	16.1 6-mo 27.3 1-yr	10.5 6-mo 18.1 1-yr
Observed /Predicted Cost	\$48,894/ \$49,561	\$40,807/\$39,645

Costs of Care Before vs During HBPC

(per patient per year) * = without HBPC costs; 9425 (2006)

	Before HBPC	During HBPC	Change
2006 VA Cost	\$40,951	\$24,977*	\$15,974 (-39%)
2006 VA-HCC Predicted Cost of Total Care	\$45,947	\$30,680*	\$15,267 (-33%)
2006 VA + Medicare Cost (observed)	\$45,980	\$30,680*	\$15,300 (-33%)
HBPC Cost 2006		\$9116	
Total Cost VA+Medicare	\$45,980	\$39,796	\$6184 (-13.4%)
2006 PACE-equivalent Cost of Total Care	\$47,184	\$39,796	\$7388 (-15.6%)

Conclusions

- 1. Interdisciplinary team-managed, home based, all-inclusive care can result in substantial savings for frail veterans with complex chronic disabling disease.**
2. Both acute and long term institutional use is reduced.
- 3. Reductions NOT due to shift to Medicare**
- 4. Reduction NOT due to regression to mean**
5. Reductions similar to other interdisciplinary, all-inclusive care programs such as PACE.
6. Supports Independence at Home

Conclusions II

- Interdisciplinary teams are expensive.
- The net cost-benefit may be increased by greater IDT efficiency .
- For our frailest veterans, the full IDT may provide improved quality worth the extra cost.

A methodological comment:

Interdisciplinary teams are not a drug.

Some complex, evolving forms of care may not be suitable to pharmacology-style testing.

2009 Utilization Before vs During HBPC

All HBPC programs; newly enrolled in FY2009
(July 1, 2008 through June 30, 2009): n= 15,917
Care days per patient per year

	Before HBPC	During HBPC	Change
Hospital BDOC	6.2	2.5	- 60 % P < 0.001
Nursing home BDOC	8.1	0.8	- 90 % P < 0.001
Total Inpatient BDOC	14.9	3.4	- 77 % P < 0.0001

2006 Utilization Before vs During HBPC

All HBPC programs; newly enrolled in FY2006

All in HBPC; those who were also enrolled in Medicare Part A

Acute care days and cost per patient per year

		Before HBPC	During HBPC	Change
HBPC n=9,425	Acute BDOC	8.9	4.3	- 51 %
	Cost	\$20,095	\$9,824	- 51%
Medicare Part A n=6,951	SSH BDOC	4.5	4.2	- 7.8 %
	Cost	\$5,563	\$4,996	- 10.2 %

2006 Utilization Before vs During HBPC

All HBPC programs; newly enrolled in FY2006

(Oct 1, 2005 through Sept 30, 2006): HBPC and Medicare Part A

Total inpatient admits and care days per patient per year

		Before HBPC	During HBPC	Change
HBPC n=9,425	Total Admits	1.4	1.0	- 28.7%
	BDOC	22.4	6.4	- 71.1%
Medicare Part A n=6,951	Total Admits	0.1	0.6	- 9.5%
	BDOC	10.7	10.2	- 4.6 %

2006 Utilization Before vs During HBPC

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Acute care days and cost per patient per year

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