

# INNOVATIONS IN HBPC

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# Objectives

- Review briefly HBPC services, population served
- Discuss outcome measures
- Discuss current innovations
- Discuss educational initiatives

Home Based Primary Care (HBPC) is a home care program designed to meet the longitudinal, primary care needs of an aging veteran population with complex, chronic, disabling disease.

# HBPC

- Provide services 30 minutes from PVAMC (Philadelphia, Delaware, Montgomery, Bucks counties, Camden, Gloucester, Burlington counties in NJ)
- Team = NP, MD, RN, SW, Psychologist, Geriatric Psychiatrist, Dietician, Pharmacist
- Rehab (PT, OT, Speech) outsourced but very much a part of the team

# Veteran Population

- Homebound/difficulty accessing primary care
- Complex, multiple medical problems
- ALS, MS, Parkinson's
- Complex social and psychiatric problems
- TBI, PTSD
- Majority WWII, Korean, Viet Nam Wars

# Outcome Measures

- Infection control surveillance (Pneumonia, UTI, Skin and Soft Tissue)
- Hospital Utilization pre/post HBPC
- Falls

Government Use Only

(HBPC Patients) Master Patient File: count size = 52,333

Location		Patients, Admits, & Days				Patients, Admits & Days				Change in Admits & Days		
		Before HBPC				During HBPC				from Before to During HBPC		
Station	Station Name	B: Total # of Inpt	C: Total # of Inpt	D: Total # of Inpt	E: Total # of Inpt	F: Total # of Patients	H: Total # of Inpt	I: Total # of Inpt	J: Total # of Inpt	M: Inpt Admits %	N: Ratio of Inpt Days	O: Inpt Days %
		Admits before HBPC (IPA)	Admits / 1000 VA Patient before HBPC (IPA/PDV-K)	Days before HBPC (IPD)	Days before HBPC (IPD/PDV-K)	Newly Enrolled into HBPC the 12 Month Period of Analysis	Admits during HBPC (IPAH)	Admits during HBPC / 1000 Patient Days (IPAH/PDH-K)	Days during HBPC (IPDH)	Reduct. during HBPC	during before HBPC, days [(IPDH/PDH-K)	Reduct. during HBPC
National	NATIONAL	9,642		133,379		19,631	4,651		28,728	33.70%		70.00%
Network	NETWORK	342		5,512		842	210		1,285	22.80%		71.00%
642	PHILADELPHIA (VAMC) PA	35		332		71	14		113	56.30%		63.00%

# Quality Improvement: Falls

- 2011: 4 falls with major injury (fractures, hospitalization)
- Instituted ACOVE Fall Guidelines with post fall assessment and intervention



# ACOVE Guidelines for Falls

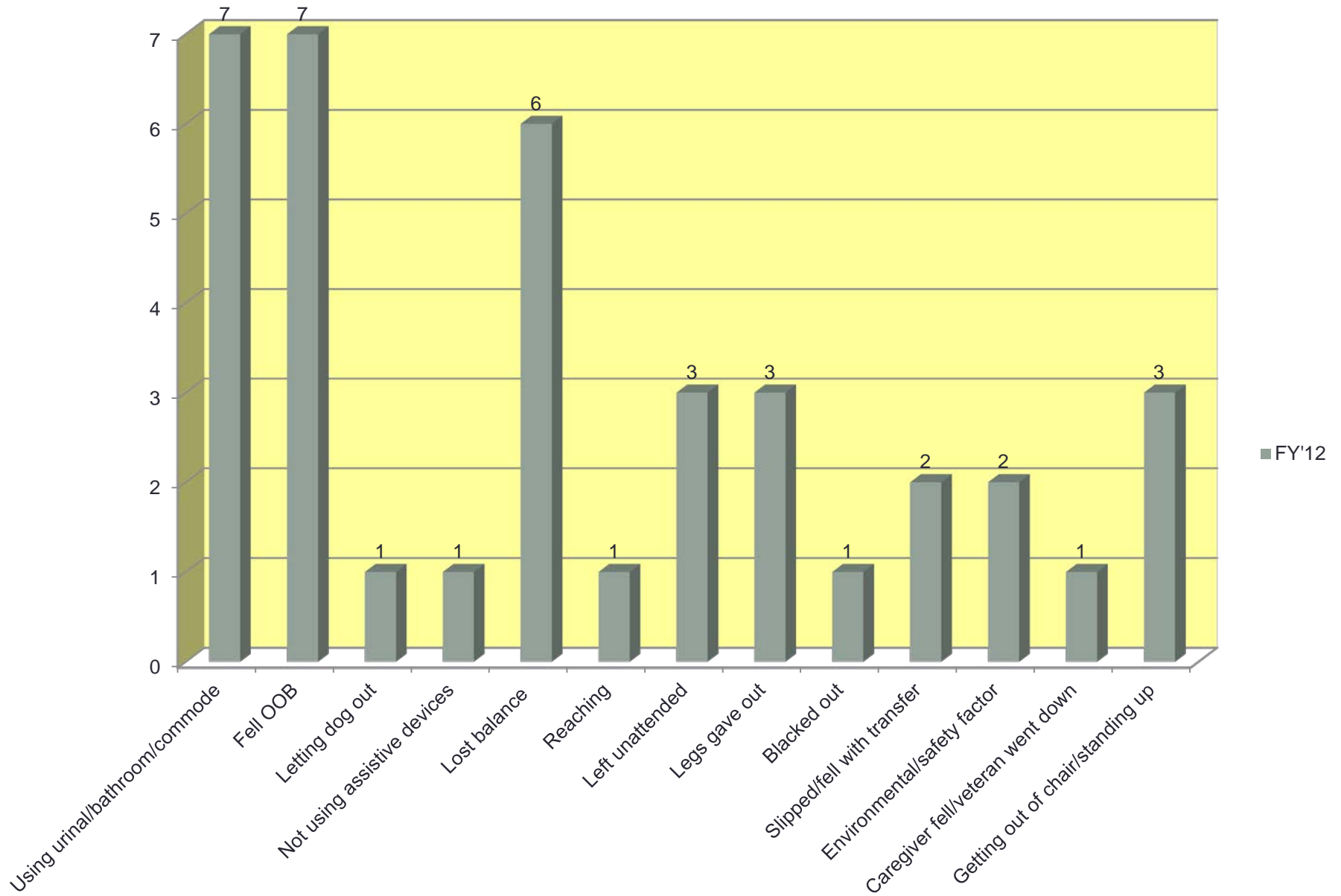
- Imbedded in post fall intervention
- Fall history (circumstances, medications, chronic conditions, mobility, alcohol intake)
- Orthostatic vital signs
- Basic visual exam
- Tinetti Gait and Balance
- Consult to PT/OT
- Cognitive assessment: worsening?

# ACOVE, con't

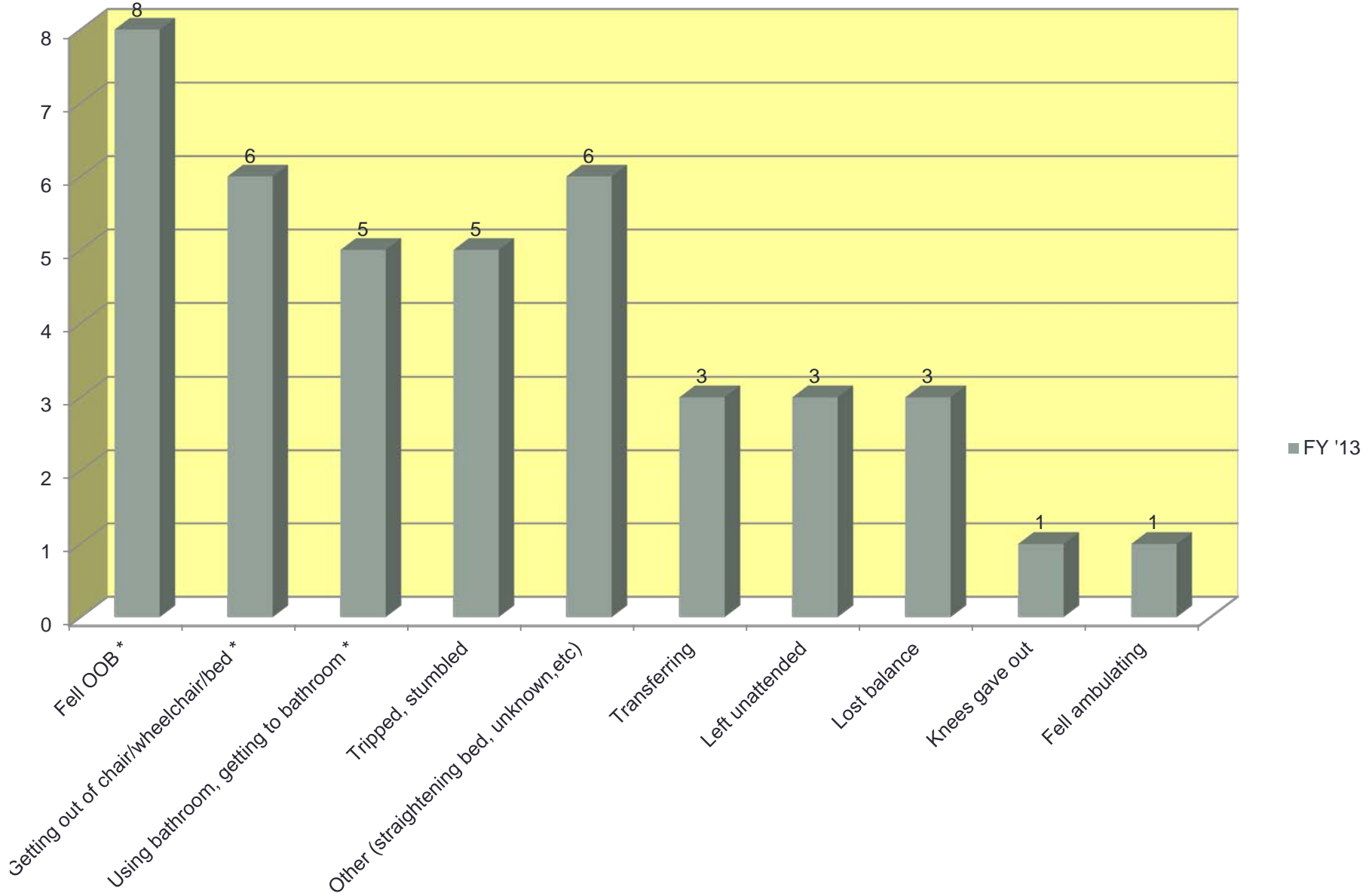
- Assessment of environmental/safety hazards
- Pharmacist review of benzodiazepine use
- Consult to PT/OT for assistive devices, including education of devices
- PT/OT to develop structured exercise program

		FY'11	FY'12	FY'13
<b>Falls without injury</b>		37	14	24
<b>Falls with minor injury</b>		31	20	17
<b>Falls with major injury</b>		4	1	1
<b>Total falls</b>		72	35	42

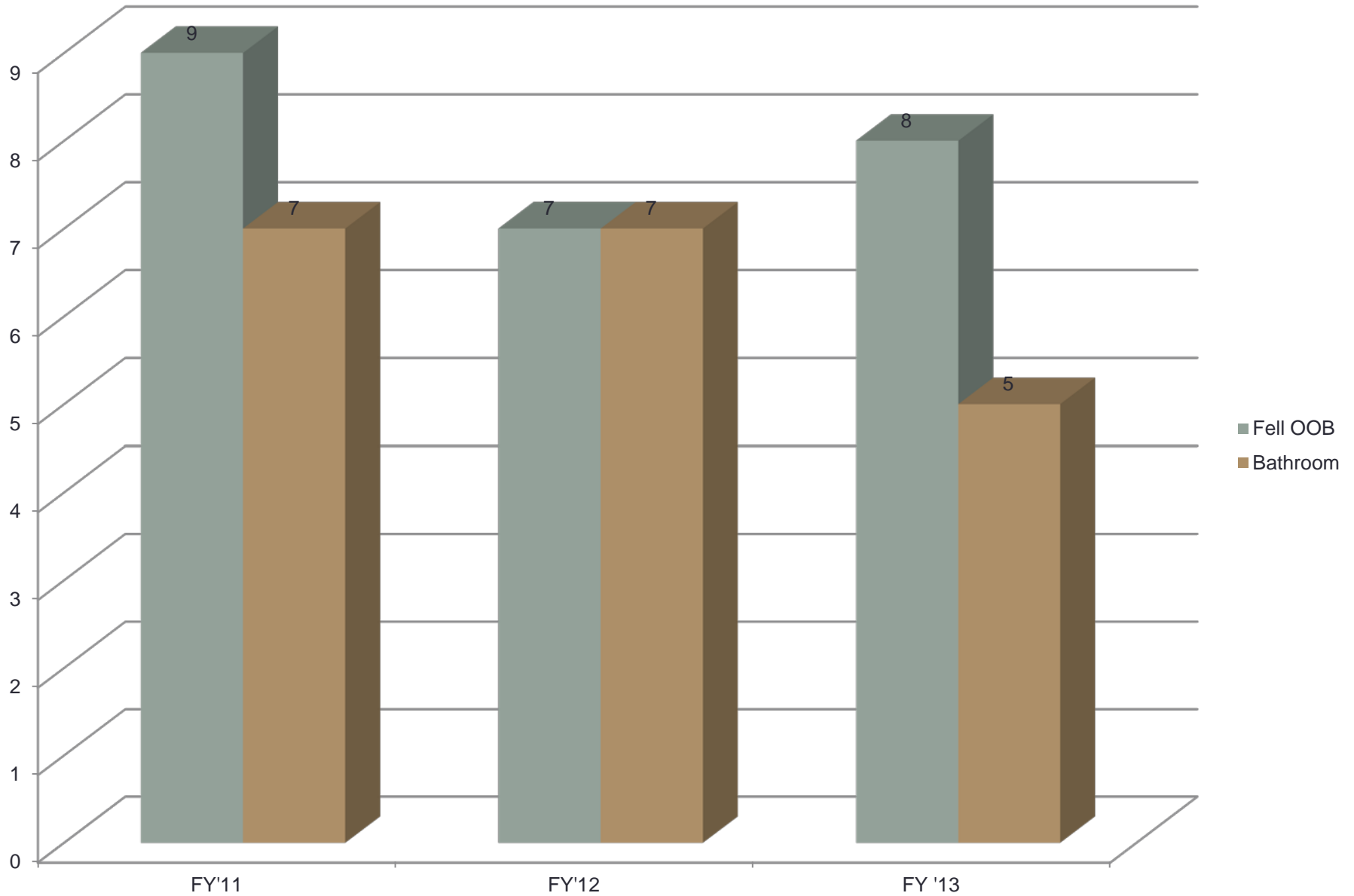
# FY'12 Causes of Falls



# FY '13



# Problem Causes of Falls



# Innovations

- Video visits
- Medical Foster Home
- Hospital at Home
- Weekly journal club
- Interdisciplinary staff retreat

# Video Visits

- Clinical Video Technology: VA initiative
- American Telecare video units
- IP to home





# Goals of Video Visits

- Cut down on travel time
- Increase Veteran's access to team
- Expand the HBPC service area
- Promote a new innovation for providing home care

# Challenges

- Technology, connection
- Patient buy in : replacing a face to face
- Staff buy in
- Provider units are located in HBPC offices
- Behavior Health utilizing it
- Dietician and Pharmacist

# IP to Home

- Utilizes the Veteran's own computer
- Veteran supplies the camera
- Can be done from any computer that has MOVI software
- Does not have peripheral equipment (BP cuff, stethoscope, etc )

# Medical Foster Home

- Approved caregiver accepts 1-3 Veterans into their home for care
- Nursing home eligible
- Veteran pays the caregiver
- HBPC provides the in home medical care
- Challenge: finding appropriate Veterans!



# Hospital at Home

- Pilot program to manage Veterans with CHF, COPD, CAP, Cellulitis, Palliative (symptom management) in the home instead of inpatient hospitalization
- T21 funding FY '12 and '13
- Partnered with PCAH to provide intensive nursing visits (PCAH, PHIT, Caring Way)



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**Background**

- Hospital at Home programs have been instituted nation-wide as an alternative to hospitalization
- These programs have been shown to be safe, effective, and reduce costs by 30%
- Patients are admitted through emergency departments (substitutive Hospital at Home) or by early discharge (complimentary Hospital at Home)
- Care teams include physicians, nurses, therapists, social workers and pharmacists.
- VA has implemented Hospital at Home programs at 5 Medical Centers, with each program employing the full program staff.
- Typically takes a program 6-9 months to get started when hiring new staff within VA.
- These programs have been implemented through the Home Based Primary Care (HBPC) programs at each medical center, an interdisciplinary team centered program providing acute and ongoing care to frail, homebound veterans in the community.

**Intervention**

- Created an inter-agency team linking nursing and infusion services through Penn Care at Home with medical care (HBPC) via a Provider Agreement.
- Enrolled patients from the Philadelphia VA Medical Center emergency department, clinics and inpatient medicine wards (through early discharge)
- Provided daily physician and nursing visits, parenteral therapy, durable medical equipment and home oxygen, laboratory and radiology diagnostics.
- For accounting created a "Hospital at Home Fund", which had deposited revenue (as the Direct Variable Cost of the admission's DRG), and from which costs of all services (either VA provided or through the Provider Agreement) were deducted. Full costs for H@H services were used, while Direct Variable costs for each DRG were used, as fixed costs could not constitute "savings".

**Findings to date**

- Program established, provider agreement developed and signed, and first patient admitted within 5 months from award.
- 38 veterans admitted 48 times during the first three quarters.
- Two patients (5%) had 8 (16%) of admissions
- 46 hospital admissions in the 6 months prior to initiation of the program.
- 29 admissions to substitutive H@H (direct from ED or clinic)
- Majority of substitutive and complimentary admissions (56%) were CHF exacerbations
- 43% cost savings for all patients
- 82% cost savings for substitutive H@H admissions.
- Safety: no falls, no cases of delirium (CAM screen), no iatrogenic infections.
- MICU transfers: 1 CHF patient for inotropic support
- Direct costs for H@H services averaged \$240/day.

**Key Lessons**

- Hospital at Home provides safe and efficient inpatient-level care either directly substituting for hospital admission, or as a complement to shorter hospital admission.
- Substitutive Hospital at Home has substantially greater cost savings per admission.
- An inter-agency community partnership between VA and a community home health agency can effectively implement Hospital at Home with shorter start-up time and lower fixed costs.
- Costs of complementary Hospital at Home may also be reduced by earlier identification of eligible patients immediately after admission.
- Identified gaps include identification of appropriate patients by ED and inpatient providers, improved transition back to primary care, development of structured discharge hand-offs, and need for education of VA medical staff on capability of home-based hospital care.

**Objectives**

- Create an interdisciplinary and interagency team to deliver in-home care
- Demonstrate Hospital at Home as a safe and effective alternative to hospital admission
- Demonstrate cost-savings to the VA health system through a partnership approach compared to a staff-model arrangement.

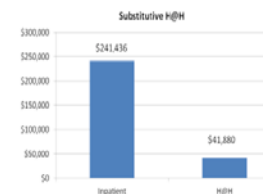
**Measures of Success**

- Clinical data: diagnoses, length of stay, prior hospitalizations, readmissions
- Financial data: direct variable costs, costs of hospitalization for those transferred to Hospital at Home from an inpatient ward
- Qualitative data: patient experience in the program

Patient characteristics	H@H admission	Readmissions (30 days)	Follow-up (Median time)
Age 67 (+/- 12.7)	Average LOS: 5.8 days	6 readmissions (12.5%)	Contact with PCP: 9.5 days
100% male	19 patients transferred from inpatient wards	3 (50%) CHF exacerbations	PCP follow-up visit: 26 days
	Pre-transfer average LOS: 5.5 days		

**Greater Savings from Substitutive Hospital at Home**

Cost of Traditional Admissions vs Hospital at Home (Direct Admissions)



Cost of Traditional Admission vs Hospital at Home



Direct Variable Cost of DRGs \$428,599



Diagnosis	# of admissions (Substitutive)
CHF	25 (10)
UTI	3 (3)
COPD exacerbation	5 (4)
Upper GI bleed	1 (1)
Pneumonia	5 (3)
DM	2 (2)
Abscess/Cellulitis	2 (2)
Atrial fibrillation	1 (1)
DVT	2 (1)



Diagnosis	4/12-3/13 admits (substitutive)	4/13-11/13 admits (substitutive)	Total (substitutive)
CHF	25 (10)	19 (8)	44 (18)
UTI	3 (3)	4 (4)	7 (7)
COPD exacerbation	5 (4)	4 (3)	9 (7)
Upper GI bleed	1 (1)	0	1 (1)
Pneumonia	5 (3)	2 (2)	7 (5)
DM	2 (2)	0	2 (2)
Abscess/Cellulitis	2 (2)	4 (3)	6 (5)
Atrial fibrillation	1 (1)	1 (1)	2 (2)
DVT	2 (1)	2 (1)	4 (2)
total	46 (27)	36 (22)	82 (49)



# Enrollment Data

- 38 veterans admitted 48 times during first 4 Q
- 36 veterans admitted 36 times next 2 Q
- Two patients (5%) had 8 (16%) of admissions first 4 Q
- 46 hospital admissions in the 6 months prior to initiation of the program.
- Safety: no falls, no cases of delirium (CAM screen), no iatrogenic infections first 4 Q
- 1 delirium (complimentary) , 1 line sepsis (substitutive) second 2Q
- MICU transfers: 1 CHF Inotropic support; 1 CHF line sepsis
- Direct costs for H@H services averaged \$240/day first 4 Q; \$286 next 2Q.

# Length of Stay

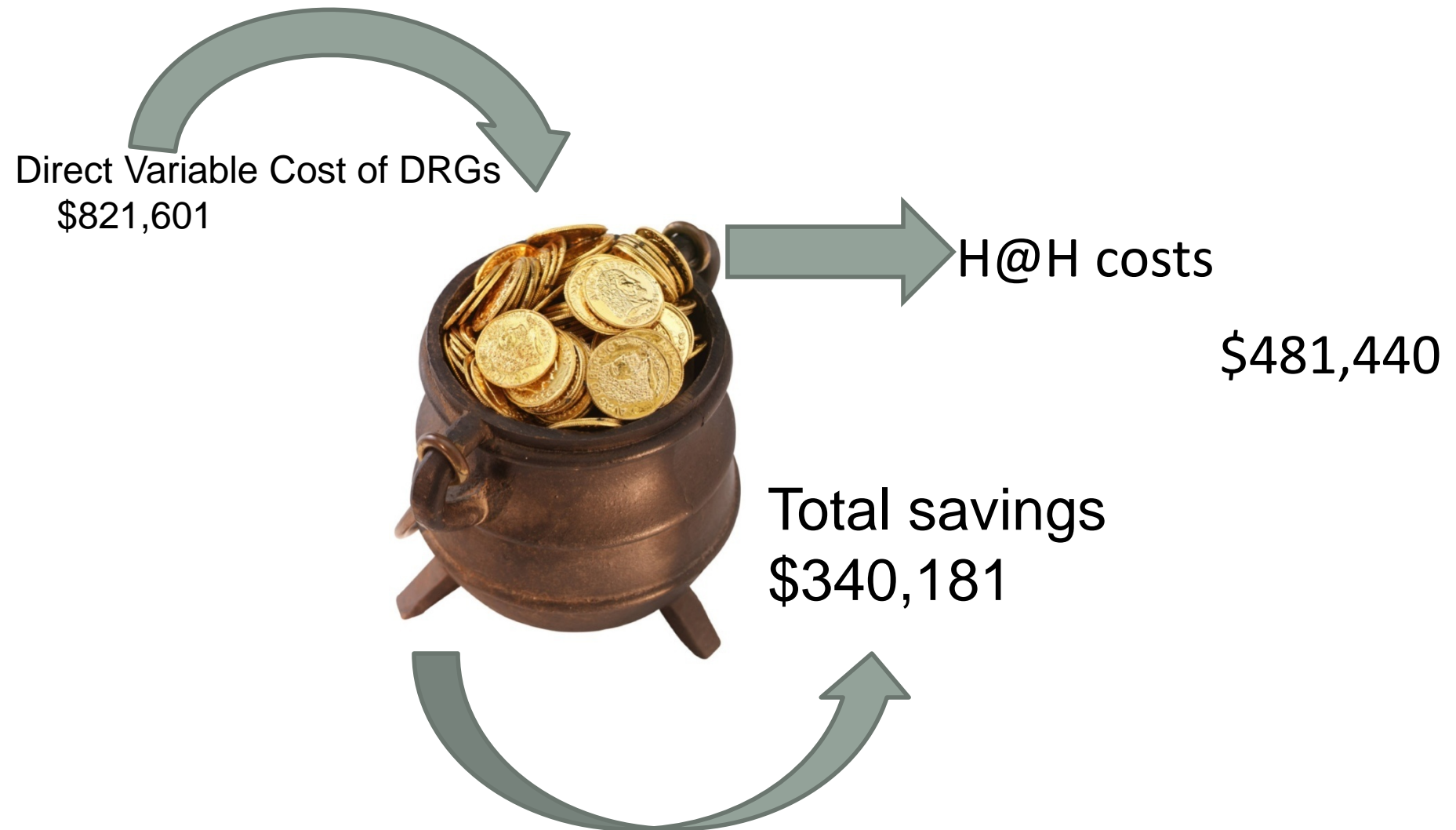
	Pre	H@H	MD visits
Substitutive	0	6.27 +/- 4.98	1.9
Complementary	5.8	6.2 +/- 3.14	1.4
CHF	3.6 +/- 4.7	7.05 +/- 4.9	1.6
Facility	6.1 (all DRGs)	6.6 (DRG 292)	

# H@H Medical Fund Surplus (Savings)

	DRG	H@H cost	H@H savings	Savings (%)
Combined				
4/12-3/13	\$428,559	\$243,522	\$185,037	43%
4/13-11/13	\$393,042	\$237,918	\$155,124	39%
Total	\$821,601	\$481,440	\$340,161	41%
Substitutive				
4/12-3/13	\$241,436	\$41,880	\$199,556	83%
4/13-11/13	\$205,201	\$43,444	\$161,757	79%
Total	\$446,637	\$85,324	\$361,313	81%

# PVAMC Hospital at Home Funds Flow

## March 2012- Nov 2013



# Challenges

- New model of care
- Systems issues: Travel, Pharmacy, Radiology
- Facility support
- Staffing
- Facilitating transition back to PCCM, specialty services

# HBPC Educational Innovations

- Weekly Journal Club/Case Conference
  - All team members participate
  - Evidence based medicine
  - Monthly Behavioral Health rounds
  - Opportunity to discuss in depth topics (ex/ ALS, feedback)
  - Will bring in specialty speakers
  - Trainee involvement

# HBPC Educational Innovations

- Medicine Trainees
  - Medical student
  - Residents
  - Fellows- Geri, Geri-Psych, Pall Care, PADRECC, Pulm
- Nurse Practitioner Trainees
- Social Work Intern
- Psychology Intern
- Pharmacy students/residents

# HBPC Educational Innovations

- Retreats
  - Yearly in the spring ½ day
  - Fun, but learning, too!
  - Past topics– Self management, Goals of care
  - Future- Team Building Skills