

IMPROVING MEDICATION USE ACROSS STATE PROGRAMS

Aging in America

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Partners in Care Foundation

- Los Angeles, CA
- Changing the shape of health care
- Collaboration * Innovation * Impact
- Design, develop and pilot new programs that will serve as replicable models of care

Medication Management Project Rationale

Medication-related problems and errors are:

- Serious: 1.5 million preventable adverse drug events (ADEs) annually; 7,000 deaths per year. ^{1,3}
- Frequent: Up to 48% of community dwelling older adults have medication-related problems ²
- Costly: Drug-related morbidity/mortality for seniors > \$170 billion (incl. hospital and SNF admissions)
- Preventable: $\geq 25\%$ of ADEs in ambulatory settings

1. IOM (1999) *To err is human: Building a safer health system*. Kohn, L., Corrigan, J., Donaldson, M. (Eds.) National Academy Press, Washington D.C.

2. Zhan C, Sangl J, Bierman AS et al. Potentially inappropriate medication use in the community-dwelling elderly: findings from the 1996 Medical Expenditure Panel Survey. *JAMA*. 2001; 286:2823-9.

3. IOM (2006) *Preventing Medication Errors*.

Medication Management: Evidence-Based Origins



Vanderbilt University Study mid-1990s

- Tested at the VNA-LA (now Partners) and VNS-NYC among Medicare beneficiaries aged 65+ receiving home health services
 - RCT proved efficacy in home health agencies
 - Pharmacist-nurse collaboration to identify & resolve medication errors
- **Results:** Up to 19% had potential medication errors using criteria developed for home health (30% including Biers)
 - Medication use improved in 50% of intervention patients, (compared to 38% of controls) when a pharmacist helped home health staff

Evolution of MMIS



- **Hartford Phase 1993-2003 HOME HEALTH AGENCY**
 - Vanderbilt Univ. randomized controlled trial to improve medication use; developed, tested, disseminated and adopted
- **AOA Evidence-Based Prevention Initiative, 2003-2007**
 - Community-Based Medication Intervention
 - Model successful in Medicaid waiver programs
- **Current Phase, 2006–2010, Hartford Foundation**
 - Taking meds management statewide (CA) first; then nationwide in care management!



Why Use Care Managers (CMs)?

- Role is consistent with resource coordination and communication functions of care managers – non-medical
 - CMs have routine contact with client via quarterly or semi-annually and phone calls
- Already visiting frail, low-income seniors in their homes and collecting medication and other clinical information
- Focused on maintaining health status, delaying institutionalization, and improving linkages with medical & community resources
- In Waiver Programs, CM can authorize purchase of health-related services to supplement Medicaid

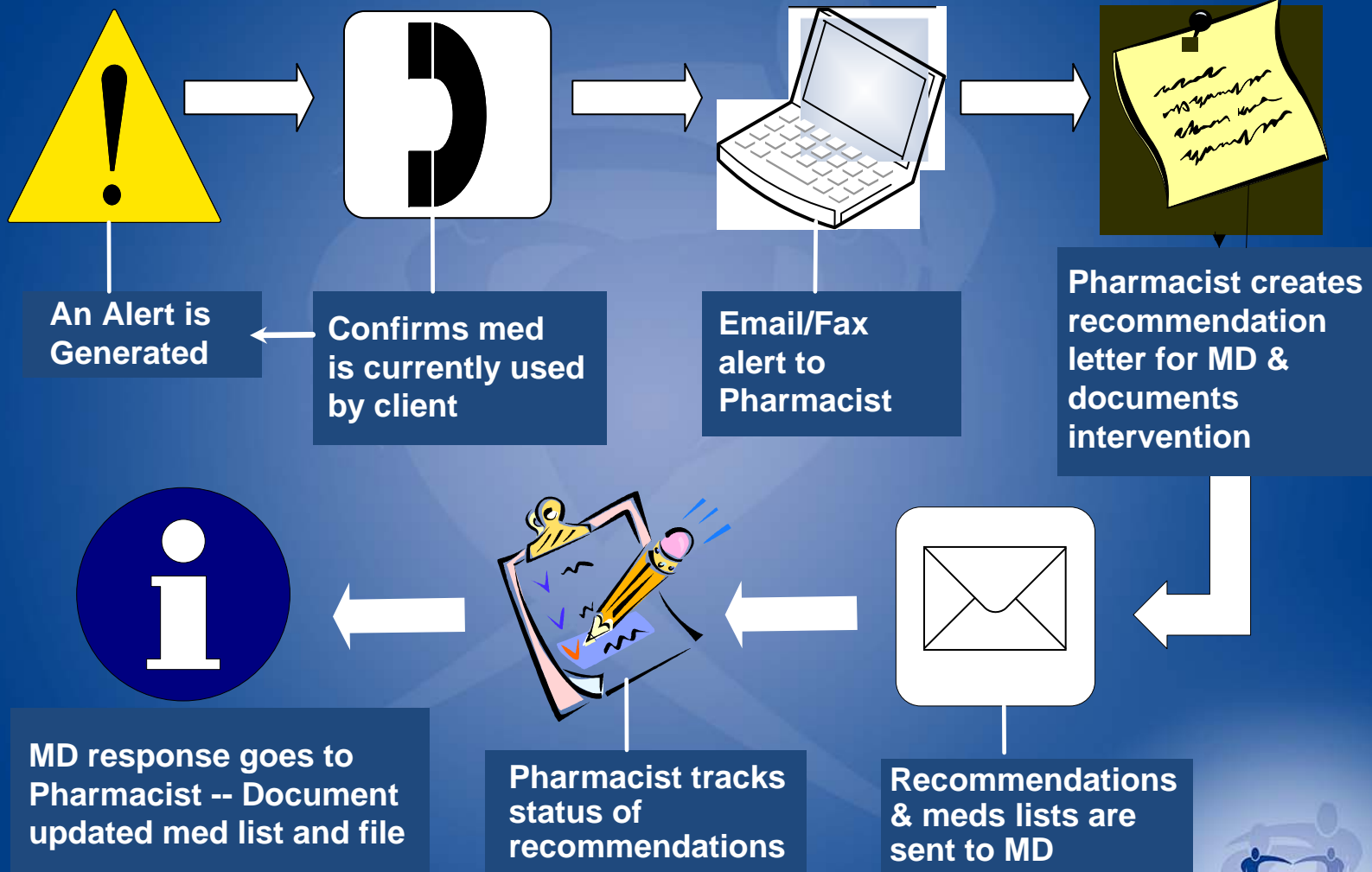
Results in Waiver Programs



Medication Problems and Change Rates at 3-Month Follow-Up

Total Screened: 615 Potential Problems: 49% (299) <i>Medication Problem</i>	Confirmed Problems		Medication Change (N=162)	
	<i>N</i>	<i>% Prevalence</i>	<i>N</i>	<i>% Change</i>
All confirmed problems	162	26.3%	99	61.1%
Therapeutic Duplication	79	12.8%	49	62.0%
Psychotropic – All	59	9.6%	32	54.2%
-Confusion	34	5.5%	23	67.6%
-Falls	37	6.0%	16	43.2%
Cardiovascular Problems	24	3.9%	11	45.8%
NSAIDs	44	7.2%	22	50.0%

Intervention – From Alerts to Action





Results in waiver program:

- *49% had at least 1 potential medication problem vs. 19% in home health*
- The highest problem prevalence was *unnecessary therapeutic duplication*
- Greatest predictor of problems: *# of medications*

“As a social worker I became aware of potential dangers of or complications of some medications; I now look at all medications my clients are taking”





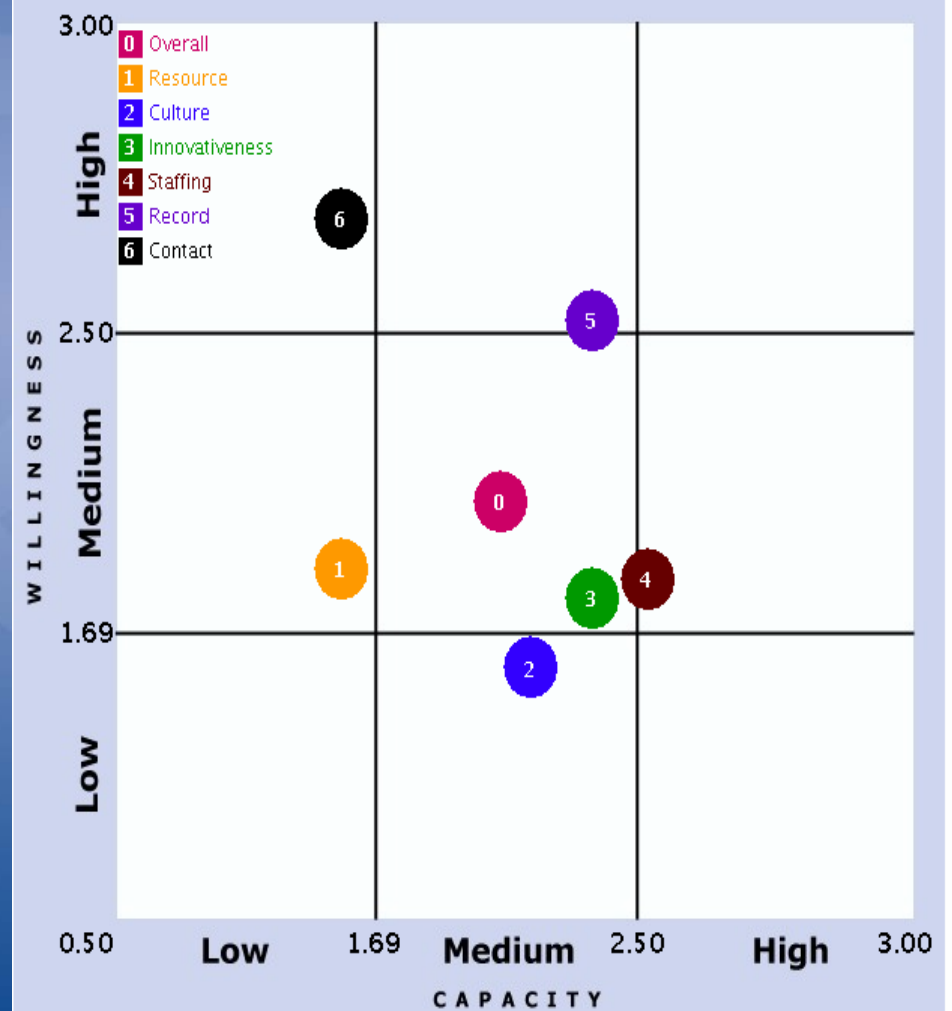
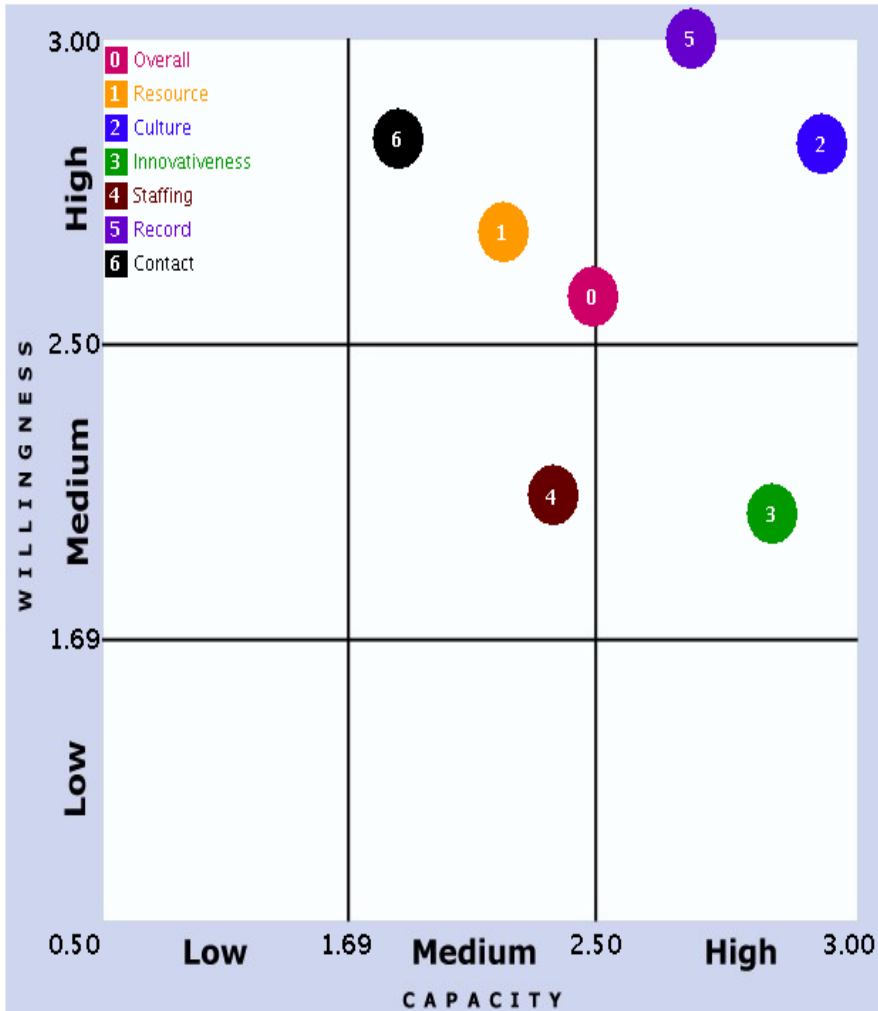
Lessons Learned

- *There must be a "felt need"*
 - A sense of the importance and urgency of the problem
 - A desire to do something to solve the problem
- *There must be a champion*
 - Pull others along, learn systems, mentor others, serve as an example, and cheerlead when there are successes.
- *There must be underlying stability*
 - Staff turnover minimal
 - Recovery time since last big change.

Readiness – Different Time/Role

Champion – Agency Director

Supervisor – New Director



Readiness Survey: Resource Section

- Nurses on staff
 - None
- Time to implement MMIS
 - Champion – Software integration in planning and viewed as feasible
 - Supervisor – Integration not possible because CM software to be changed, double entry of medications and other information
- Undergoing any capacity changes
 - Champion – retired
 - Supervisor – new director; slower roll-out

Comparison of Implementation Sites

	SCAN	AltaMed	Senior Care Network	Illinois	Indiana	Florida
Type of agency and population served	MSSP; serving waiver clients	MSSP; serving waiver clients	MSSP; serving waiver clients	Oversight by East Central Illinois AAA; implementation by comprehensive care management organization serving older adults in the Champaign-Urbana area.	Generations, comprehensive care management organization affiliated with Vincennes University	United Home Care, large home health agency serving Miami-Dade county and a mostly Cuban-American population
# of clients	945	529	~400	400 waiver	300 waiver	1100 waiver
# of CMs	N/A	N/A	N/A	6 case managers	19 total	30 case manager
CM Program type	Waiver	Waiver	Waiver	Integrated – waiver and non-waiver	Integrated – waiver and non-waiver	Waiver only
Source of Pharmacist	SCAN Contractor	Consulting Pharmacist	Consulting Pharmacist	Local community: St. Joseph's Apothecary	Volunteer, using interns– Good Samaritan Hospital	Local community: Navarro Discount Pharmacy
Which clients	All new clients & reassessments	Reassessments	All new & reassessments	All new & reassessments	Reassessments on waiver clients	Reassessments on waiver clients
Roll-out	All care managers	All care managers	All Care Managers	All CMs	Pilot one per team (3) before rolling out to all CMs	2 MIS member and CM Supervisor before rolling out to 5-6 CMs
Data entry	Care Managers	Care Managers	MIS dept.	CMs	CMs	MIS dept.
Software integration	Use MSSPCare.	Use MSSPCare.	Use MSSPCare.	Online MMIS - Separate from usual CM software. Illinois is planning statewide software.	Online MMIS - Separate from usual CM software. They are transitioning to new software.	Online MMIS - Separate from usual CM software. They are transitioning to a new software

Comparison of Implementation - 2

	SCAN	AltaMed	Senior Care Network	Illinois	Indiana	Florida
Pharmacist contact after alert	In person. PharmD at SCAN 2x/week	In person. PharmD comes 1x/week	In person. PharmD comes 1x/week	Fax	Email	Fax/Email
Funds raised/ Source	Funded pharmacist out of operating budget	Intern contributed for data entry. Supervisor used MMIS for Master's project.	Local grant (Patron Saints) funds to apply model to other care management program.	\$40,000/year from Carle Foundation		\$311,751 from Health Foundation of South Florida
Follow-up by pharmacist	PharmD faxes MD letters and notifies care manager (CM) of recommendation.	PharmD faxes MD letters and notifies CM of recommendation. Intern F/U with CM regarding changes to meds	PharmD faxes MD letters and notifies care manager of recommendation.	Pharmacist will fax back report to CMs. Pharm has access to the system. Pharm will also call MDs after initial letter	Pharm will email recommendations to CMs. In process of finalizing contact with MDs	Pharm will send 2 MD letters.
Follow-up by CM	CM checks medications at next quarterly visit.	CM checks medications at next quarterly visit.	CM checks medications at next quarterly visit.	CM to keep in touch with Pharm. CM visits clients 2x/year	CM enters changes into the system. CM visits client 4x/year.	CM supervisor to update system. CM visits client 2x/year
Unique characteristics	Pharmacist contracted and paid directly by MSSP. Associated with health plan and conscious of reputation with physicians.	Hired intern to F/U with CM and enter any MD updates into system. Had just recently started using IT system and not fully implemented among CMs.	Piloted the project w/o a software till IT issues were resolved. Implemented within a Hospital community outreach and care management dept.	Small county where pharmacist knows all the physicians	Small pilot. Small county where pharmacist runs into physicians at the hospital. Small pilot before rolling out to complete staff.	One of our bigger sites.

Implementation: CA and Other States

California

- *Program Type:* Waiver sites
- *Roll out:* To all CMs
- *Which clients:* only reassessments; new and reassessed clients
- *Source of Pharmacist:* Consulting Pharmacists; Contractor
- *Software Integration:* Use MSSPCare

Other States

- *Program Type:* Integrated waiver or non-waiver
- *Roll out:* Pilot with few CMs; use MIS for data entry; All CMs
- *Which clients:* only reassessments; new and reassessed clients
- *Source of Pharmacist:* local community; Volunteer + intern
- *Software Integration:* Online MMIS – Separate from usual CM software; Hope to embed online tool in planned integrated software

Implementation: CA and Other States

California

- *Pharmacist contact after alert:*
In person 1-2x/week
- *Follow-up by CM:* Quarterly visits to client – re-check meds
- *Follow-up by Pharmacist:* send MD letters; access to system
- *Funds:* local grant; through operating budget

Other States

- *Pharmacist contact after alert:* Fax &/or Email
- *Follow-up by CM:* Re-check meds at next visit (3 or 6 mo.)
- *Follow-up by Pharmacist:* Access to system & call MD; send MD letters
- *Funds:* local grants for start-up; using agency and Older Americans Act funds

Unique Characteristics

- California
 - Pharmacist contracted by MSSP
 - Hired Intern to follow-up with CMs and enter MD updates
 - Piloted project (on paper) till IT issues resolved
- Other states
 - Small county where pharmacist knows MDs
 - Small pilot before rolling out to complete staff
 - Big county with many CMs and using MIS dept for data entry

Role of the pharmacist

- Review medication list per evidence-based criteria
- Screen alerts to confirm problems in light of dose/frequency, diagnoses, symptoms, other medications, etc.
- Consult with care manager to develop care plan
- Communicate with client's MD(s)
- Identify medication-related problems beyond protocols. Assist with complex cases, e.g. home safety or frequent utilization issue
- Educate staff about medications/risks
- Avg. 15 minutes per client

Source of Pharmacist

- Hired consultant (American Society of Consulting Pharmacists (www.ascp.org))
- College professor/students
 - <http://www.acpe-accredit.org/standards/default.asp>
 - <http://www.aacp.org>
- Local chain or independent pharmacy
- Affiliated or local health system
- Hospital community benefit outreach
- Part D Plan

Sustainability – Pharmacist Review

- California
 - Using waiver purchase-of-service dollars
 - Pharmacist time budgeted within site budget
- Other states
 - Older Americans Act Title III-D funding
 - Waiver funds
 - General AAA and other agency funds
- Nationwide
 - Potential to coordinate with Part D plans.

Sustainability – Risk Screening Tool

- California
 - Embedded in comprehensive care management software – no *extra* fee
- Other states
 - Using online tool parallel to existing systems
 - Modest fee for hosting/subscription
- Nationwide
 - Investigating practicality of programming into SAMS and enabling integration with other local and statewide information systems

Medication Risk-Screening Tool

Medications

Show Status:


Active



Name	Dosage	Form	Frequency	Route	Doctor	Status	
TYLENOL	500 Milligram	1 Tablet	1 As Needed	Oral		Active	edit D/C
GABAPENTIN	600 Milligram	1 Capsule	3 Per Day	Oral		Active	edit D/C
LYRICA	50 Milligram	1 Capsule	1 Per Day	Oral		Active	edit D/C
ZYPREXA	5 Milligram	1 Tablet	1 Per Day	Oral		Active	edit D/C
SERTRALINE HYDROCHLORIDE	50 Milligram	1 Tablet	1 Per Day	Oral		Active	edit D/C
DESYREL	50 Milligram	1 Tablet	1 Per Day	Oral		Active	edit D/C
ABILIFY	10 Milligram	1 Tablet	1 Per Day	Oral		Active	edit D/C
AMBIEN	5 Milligram	1 Tablet	1 As Needed	Oral		Active	edit D/C
PROCHLORPERAZINE	5 Milligram	1 Tablet	3 Per Day	Oral		Active	edit D/C
CLONIDINE	0.3 Milligram	1 Tablet	3 Per Day	Oral		Active	edit D/C
NAPROXEN	220 Milligram	1 Tablet	1 As Needed	Oral		Active	edit D/C

[+ Add Medications](#)

Computerized Risk Screening Tool - Alerts

Alerts						
					Show Status:	Active 
Type	Originated	Updated	Description	Status	Action	
Duplicative Medication	12/11/2008	12/11/2008	LYRICA may be an inappropriate duplication of GABAPENTIN.	Active	Action	
Duplicative Medication	12/11/2008	12/11/2008	GABAPENTIN may be an inappropriate duplication of LYRICA.	Active	Action	
Duplicative Medication	12/11/2008	12/11/2008	ZYPREXA may be an inappropriate duplication of ABILIFY.	Active	Action	
Duplicative Medications in Another Class	12/11/2008	12/11/2008	DESYREL may be an inappropriate duplication of SERTRALINE HYDROCHLORIDE.	Active	Action	
Duplicative Medications in Another Class	12/11/2008	12/11/2008	SERTRALINE HYDROCHLORIDE may be an inappropriate duplication of DESYREL.	Active	Action	
Risk Factors - Risk of Recent Fall	12/11/2008	12/11/2008	PROCHLORPERAZINE may contribute to this client's fall risk.	Active	Action	
Risk Factors - Risk of Confusion	12/11/2008	12/11/2008	PROCHLORPERAZINE may contribute to the client's assessed confusion.	Active	Action	
Risk Factors - Risk of Dizziness	12/11/2008	12/11/2008	PROCHLORPERAZINE may be related to dizziness, which has been assessed for this client.	Active	Action	
Risk Factors - Risk of Confusion	12/11/2008	12/11/2008	AMBIEN may contribute to the client's assessed confusion.	Active	Action	
Duplicative Medication	12/11/2008	12/11/2008	PROCHLORPERAZINE may be an inappropriate duplication of ABILIFY.	Active	Action	
Duplicative Medication	12/11/2008	12/11/2008	ABILIFY may be an inappropriate duplication of PROCHLORPERAZINE.	Active	Action	
Risk Factors - Risk of Dizziness	12/11/2008	12/11/2008	CLONIDINE may be related to dizziness, which has been assessed for this client.	Active	Action	
Risk Factors - Risk Related to Age	12/11/2008	12/11/2008	NAPROXEN should be used cautiously in individuals aged 80 or over.	Active	Action	
Risk Factors - Risk of Recent Fall	12/11/2008	12/11/2008	AMBIEN may contribute to this client's fall risk.	Active	Action	

Risk Factors - Risk of Recent Fall	07/12/2008	07/12/2008	TRIAVIL may contribute to this client's fall risk.	Active	Action
Duplicative Medications in Another Class	07/12/2008	07/12/2008	LOTREL may be an inappropriate duplication of HYZAAR.	Active	Action
Duplicative Medications with another medication	06/19/2008				
Duplicative Medication	06/19/2008				
Duplicative Medications in Another Class	06/19/2008				
Duplicative Medications in Another Class	06/19/2008				
Duplicative Medications in Another Class	06/19/2008				
Duplicative Medication	06/19/2008				
Duplicative Medication	06/19/2008				

Alerts ✕

06/19/2008

TRIAVIL may be an inappropriate duplication of NAVANE.

Disclaimer : Alerts are not medical advice. Individuals should contact their healthcare professional before starting, stopping, or altering a medication regimen in any way.

New Note:

Type: ▼

- Update from client
- Update from client record
- Update from pharmacist
- Update from physician
- Other progress update
- Resolution (inactivate alert)

Medications

Name	Dosage							
LEVETIRACETAM	10 Milligram							
PLAVIX	5 Microgram	0	2 Per Day	Oral		Active	edit	D/C
PROTONIX	5 Microgram	1 Capsule	0			Active	edit	D/C

Client Medication Report

MD:

CM:

MD Phone:

MD Fax:

Client: Demo Partners

ID#: PICF1

DOB: 1920-05-05

Age: 88

Gender: Unknown

Clinical Information:

Known conditions:

Medical History:

Health Habits:

Acute Events:

Dates	Type	Notes
7/10/2008	Confusion	
7/01/2008	Dizziness	
6/18/2008	Fall	patients fell on rug

Medications:

Date	Medication	Dosage	Frequency	Doctor	Comments
8/18/2008	ABILIFY	10 mg 1 tablet	1 per day at bedtime		
3/12/2008	AMBIEN	5 mg 1 tablet	1 as needed at bedtime		
6/01/2008	CLONIDINE	0 mg 1 tablet	3 per day		
7/15/2008	DESYREL	50 mg 1 tablet	1 per day at bedtime		
9/01/2008	GABAPENTIN	600 mg 1 capsule	3 per day		
10/12/2008	LYRICA	50 mg 1 capsule	1 per day		
5/17/2007	NAPROXEN	220 mg 1 tablet	1 as needed 1 prn		
4/18/2008	PROCHLORPERAZINE	5 mg 1 tablet	3 per day prn nausea		
9/01/2008	SERTRALINE HYDROCHLORIDE	50 mg 1 tablet	1 per day at night		

Client: Demo Partners

ID#: PICF1

DOB: 1920-05-05

Age: 88

Gender: Unknown

Date	Medication	Dosage	Frequency	Doctor	Comments
8/01/2008	TYLENOL	500 mg 1 tablet	1 as needed prn for pain		
9/01/2008	ZYPREXA	5 mg 1 tablet	1 per day at night		

Medication Allergies:

Physician Contact Information:

Alerts:

Dates Alert

- 12/11/2008 LYRICA may be an inappropriate duplication of GABAPENTIN.
- 12/11/2008 GABAPENTIN may be an inappropriate duplication of LYRICA.
- 12/11/2008 ZYPREXA may be an inappropriate duplication of ABILIFY.
- 12/11/2008 DESYREL may be an inappropriate duplication of SERTRALINE HYDROCHLORIDE.
- 12/11/2008 SERTRALINE HYDROCHLORIDE may be an inappropriate duplication of DESYREL.
- 12/11/2008 PROCHLORPERAZINE may contribute to this client's fall risk.
- 12/11/2008 PROCHLORPERAZINE may contribute to the client's assessed confusion.
- 12/11/2008 PROCHLORPERAZINE may be related to dizziness, which has been assessed for this client.
- 12/11/2008 AMBIEN may contribute to the client's assessed confusion.
- 12/11/2008 PROCHLORPERAZINE may be an inappropriate duplication of ABILIFY.
- 12/11/2008 ABILIFY may be an inappropriate duplication of PROCHLORPERAZINE.
- 12/11/2008 CLONIDINE may be related to dizziness, which has been assessed for this client.
- 12/11/2008 NAPROXEN should be used cautiously in individuals aged 80 or over.
- 12/11/2008 AMBIEN may contribute to this client's fall risk.

Communicating with MD

Please complete form and fax back to _____ with your recommendation(s) or comments:

Physician Response/Comments

_____ I have noted the potential medication issue and will follow-up with the patient;

_____ Please have the patient schedule an appointment with my office;

_____ I do not believe an issue exists and the patient's treatment will remain the same;

_____ Other: _____

_____, MD Signature Date _____

_____, MD
Print Name

Patient's Name: _____ DOB: _____ MSSP #: _____



Pharmacy Tracking Log

Client #	Problem	Date	Meds involved	Confirm?	Recommend	Time w/CM	Time w/ct.	Time rev/doc	Total Time (min)
5959	NSAID	2/4/2009	Ibuprofen + age>80 yrs	Y	RVW	0	0	5	20
5959	TD	2/4/2009	Docusate Na + Lactulose	Y	Meds appropriate	0	0	5	20
6786	Other	2/25/2009	Tylenol PM + age	Y	PE	0	0	10	15
6863	Dizziness	2/25/2009	Amitriptyline	Y	RVW	0	0	10	25

Physician	Status of rec. - 1 month	2nd request - date	2nd request time	Status of rec. - 2 month	Date resolved	Wks until resolution	Follow-up time
Pacheco							
Pacheco							
Filart							
Adhami							

What does it take to implement MMIS ?

- Dedication to providing high-quality care for clients
- Staff open to enhancing standards or scope of practice
- Culture values continuous quality improvement and evidence-based practice
- Staff use computerized client assessment system.
- CMs document clients' medications, work with pharmacist, inform families, update records
- \$100+/month for online medication screening tool.
- Average 15 minutes of pharmacist time per client.

Benefits of Becoming A Site

- Comprehensive education and training for staff on medication use and problems among older adults;
- Detailed manuals, protocols on medication management;
- Use of a modestly-priced, secure on-line medication risk screening and management tool;
- Consultation to adapt the intervention for your agency's needs;
- National prominence as part of the vanguard in making this AoA evidence-based disease prevention program a new national standard of care for care management.

Requirements for Participating Sites

- Take MMIS/NCOA Readiness Survey
- Make decisions about local procedures, contracts, etc.
- Attend training
- Use the system's medication library, alert, and assessment features consistently
- Follow through on alerts and pharmacist recommendations and document actions taken and their outcomes
- Share baseline operational information, summary data from online system, and feedback

Before Taking the Survey...

- # clients in full caseload _____
- Average # clients served PER MONTH, over the past 3 months: _____
- Number of supervisors: _____
- % turnover for care managers (including supervisors) in the last year: _____
- Number of total care management staff: _____
 - # RNs, LVNs, LPNs: _____
 - # MSWs: _____
 - # other Master's level staff: _____
 - # other care managers: _____

The Next Stage – True Integration

- **GOAL:** Medication risk screening and pharmacist review will become a standard of practice in care management throughout the US
 - Duplication of effort is not what this is about
 - Integration of medication risk screening tools into CM software
 - Integration into SAMS and other national-standard systems
 - Inclusion of pharmacist reimbursement in all waivers
 - Coordination with Part D and other systems

Are You Ready? Next Steps

- For more information: www.Homemedics.org
 - NCOA/MMIS Readiness self-assessment tool available on “Become a Site” page
 - Comprehensive toolkits, presentations, etc.
- Contact the Medication Management Improvement System team c/o:
 - Iya Kahramanian at 818.837.3775 x112, ikahramanian@picf.org

For More Information:

- Please visit us at: www.HomeMeds.org and www.picf.org
- Presentations available online after March 23, 2009