

Implementing Medication Management:

A How-to Guide for Care Management Agencies

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Partners in Care Foundation

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

Value of Medications

- “the single most important health care technology in preventing illness, disability and death in the geriatric population”¹

1. Avorn, J. (1995). Medication use and the elderly: Current status and opportunities. *Health Affairs*. (Spring): 278-86.

Medication Management Project

Rationale

■ Patient Safety

- **Medication errors are serious:** there are at least 1.5 million preventable adverse drug events (ADEs) that occur each year; 7,000 deaths per year due to ADEs. ^{1,3}
- **They are frequent:** Studies estimate up to 48% of community dwelling older adults have medication-related problems ²
- **They are costly:** The cost of drug-related morbidity and mortality for seniors exceeds **\$170 billion** (includes hospital admissions and long-term care admissions) ²
- **They are preventable:** At least 25% of adverse drug events in ambulatory settings are preventable.

■ **Olmstead Act: MSSP Equity issue - Pharmacist review is mandated for all Skilled Nursing Facilities and medication review for ICF, ADHC**

■ **Medicare Drug Act: Medication Therapy Management provision for high-risk seniors**

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*.

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
- **Next Phase, 2006–2010, Hartford Foundation**
 - Taking meds management statewide (CA) first then nationwide in care management!



Medication Management: Evidence-Based Origins



- **Vanderbilt University Study to discover the prevalence of medication errors and improve medication management among Medicare beneficiaries aged 65+ receiving home health services.**
 - Tested at the Visiting Nurse Assoc-LA (now Partners) and Visiting Nurse Services, NYC in the mid-1990s
 - Randomized, controlled trial proved the efficacy of the Medication Management Model in home health agencies
 - The model used a pharmacist-centered intervention to identify & resolve medication errors
- **Results:** Up to 19% had potential medication errors using criteria developed for home health
 - Medication use improved in 50% of intervention patients, (compared to 38% of controls) when a pharmacist helped home health staff



Why Use Care Managers?

- Focused on maintaining health status, delaying institutionalization, and improving linkages with medical & community resources
- Already collecting medication and clinical information
- Visit frail, low-income seniors in their homes
- Established rapport with and care about their clients
- Linguistically and culturally competent staff
- Knowledgeable of available resources



Home Care Patients are at High Risk

- Demographics
 - Age
 - Co-morbidity
 - Medication use
- Recent changes in clinical conditions
- Recent transitions in levels of medical care
- Receiving health services in fragmented settings

AoA Intervention

- 615 clients screened at 3 Medicaid waiver sites in LA County
 - 65+, Dually eligible (Medicare & Medicaid)
 - certifiable for skilled nursing facility placement
- Average age: 81 (65-108)
- Female: 80%
- Ethnicity:
 - Caucasian – 24%
 - African-American – 39%
 - Latino/a – 24%
 - Asian/Pacific Islander – 9%
 - Other – 4%
- Hospitalization, SNF, or ER in last year? ~ **38% yes**
- Falls in last 3 Months ~ **22%**
- Dizziness ~ **27%**
- Confusion ~ **31%**
- Lived alone ~ **21%**
- Mean # of medications: 8.76
 - 12+ medications – 22%

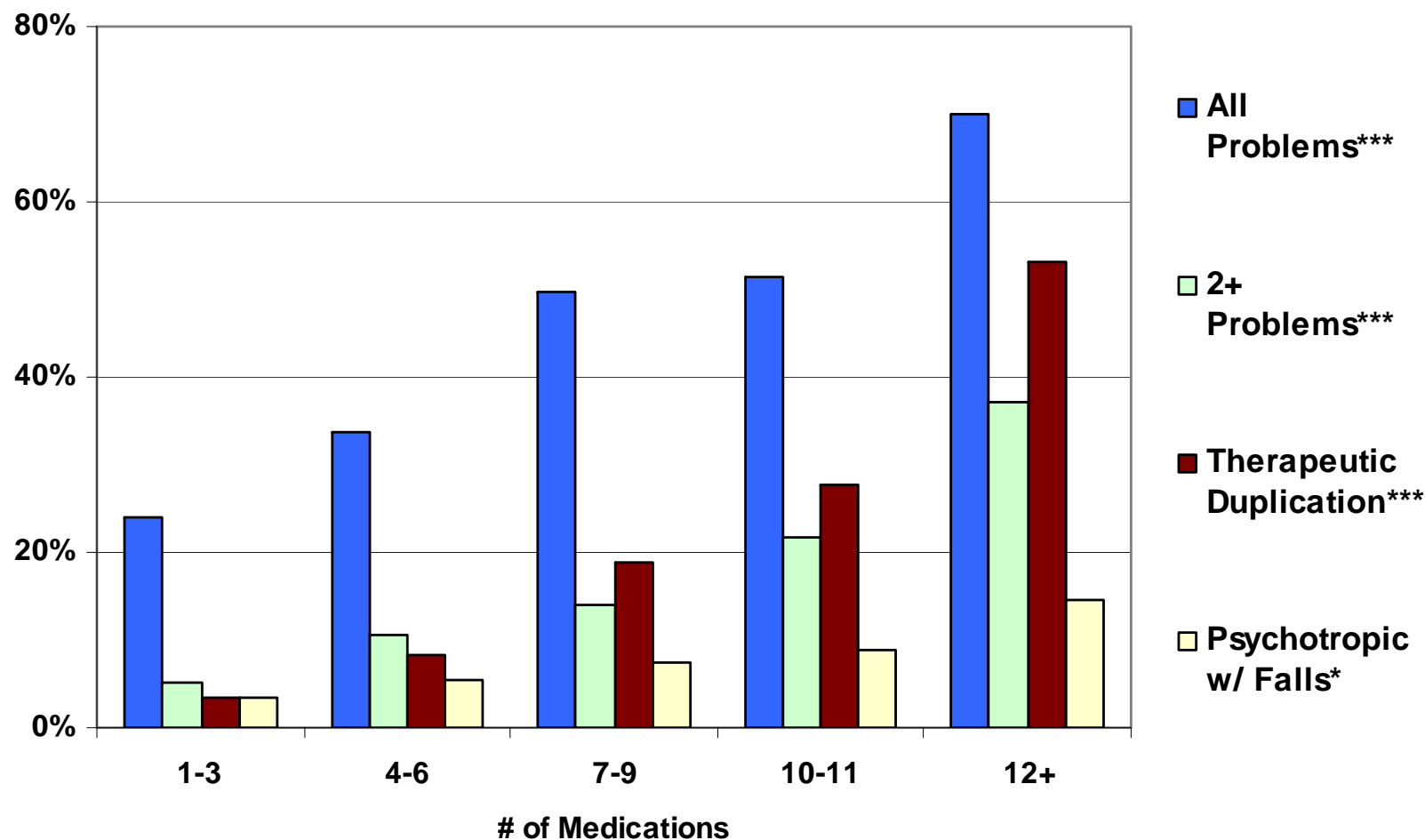


Potential Medication Problems by Type

- 49% of clients had at least one potential medication problem (N=299)
 - 24.2% w/ therapeutic duplication (N= 149)
 - 14.3% w/ inappropriate psychotropic medications (N=88)
 - 14.1% w/ cardiac problems (N=87)
 - 12.8% w/ inappropriate NSAIDs (N=79)



of potential problems increases with # of medications taken



* $p < .05$, ** $p < .01$, *** $p < .001$

Improvement after intervention

Medication Problems and Change Rates at 3-Month Follow-Up				
<i>Medication Problem</i>	MSSP Sample Screened (N=615)		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%

Lessons Learned

- Need for a computerized medication risk assessment and alert system
- Hybrid nature of MSSP presented challenges
 - MD Communication
 - Scope of Practice
 - Clinical issues e.g. cardiac assessment
- Agency readiness is essential for success



What are the core features of an effective program?

- Comprehensive client medication list
- Use of evidence-based protocols and processes
- Computerized medication risk assessment screening and alert process
- A consultant pharmacist assisting the care management team to assess and resolve potential medication problems.
- Effective communication and education
- Agency readiness

Medication List

Client Name: Last _____	First _____	ID #: _____
Client DOB: ___ / ___ / _____		
Age: _____		<input type="checkbox"/> Male <input type="checkbox"/> Female

Date	Medication	Dosage	Frequency	Prescribing Physician	Pharmacy

a) Falls:

- | | |
|---|--|
| <input type="checkbox"/> No falls in the last 90 days | <input type="checkbox"/> 2 or more falls in the last 30 days |
| <input type="checkbox"/> No falls in the last 30 days, but fall in 31-90 days | <input type="checkbox"/> 1 or more falls in the last 6 months. |
| <input type="checkbox"/> 1 fall in the last 30 days | |

b) Have you felt dizzy or light headed in the last 3 months? Yes No

c) Confusion: Yes _____ No _____

d) Blood Pressure: Lying _____ / _____ Sitting _____ / _____ Standing _____ / _____

e) Pulse: _____

Evidence-based Protocols

- Guidelines established by an expert panel for resolving high-risk medication problems among clients receiving in-home services:
 - unnecessary therapeutic duplication
 - use of psychotropic drugs in patients with a reported recent fall and/or confusion
 - use of non-steroidal anti-inflammatory drugs (NSAID) in patients at high risk of peptic ulcer complications.
 - cardiovascular medication problems
 - High BP, low pulse, orthostasis and low systolic BP

Therapeutic Duplication

- **Goal of therapy:** *Discontinue duplicate drug*
- “Low hanging fruit” with high yield
- Can be effectively identified with a computerized risk assessment screening and alert program

Computerized Risk Assessment

- Computerizing medication risk assessment screening can be a cost effective tool!
- Care managers can be “alerted” to potential problems and implement the intervention quickly
- Decreases the amount of time a pharmacist needs to implement intervention
 - Screens-out clients
 - Identifies high risk clients

Computerized Risk Assessment

Date	Medication	Dosage	#Freq. RX	Doctor	Pharmacy
1/8/2007	Aspirin	81 mg	i QD	Not Specified	Not Specified

Nursing [logged user: Admin]

Vital Signs Medications Interventions Medication Alerts Health Assessment Partners in Care Foundation MSE

MANAGEMENT, MED - 'a'

User-def Date: / /

Med/Treatment	Dosage	Frequency	Route	Start	End	Admin	Note	IC	Doctor
ADALAT CC	1 10 MG Tab	2 x/Day		01/21/2006	02/21/2008	H		N	NOT SPECIFIED
ASPIRIN 81MG TABLETS	1 81 MG Tab	1 x/Day	Oral	01/08/2007	06/08/2008	H		N	NOT SPECIFIED
ATENOLOL TABLET USP	1 50 MG Tab	1 x/Day	Oral	01/21/2006	03/21/2008	H		N	NOT SPECIFIED
COUMADIN	1 1 MG Tab	1 x/Day		01/18/2007	10/18/2008	H		N	NOT SPECIFIED
DIAZEPAM	1 10 MG Tab	2 x/Day		02/27/2006	02/27/2008	H		N	NOT SPECIFIED
DIPHENHYDRAMINE CAPSULE	1 1 MG Tab	1 x/PRN		01/21/2006	02/21/2008	H		N	NOT SPECIFIED

Show All
 Show Current

Medication Details

Medication: ASPIRIN 81MG TABLETS

Dosage: 81.000 MILLIGRAM

Simple
 Combo

Quantity: 1.000 Dosage Form: TABLET

Frequency: 1 x/ Day

Route: ORAL

Administer: []

Covered by Medicare? Yes No

Pharmacy: NOT SPECIFIED

Start: 01/08/2007

End: 06/08/2008

Doctor: NOT SPECIFIED

Add'l Doctor(s): []

Notes on Medication: []

Medication Allergies: []

Computerized Alerts

Medication Alert



The following alerts were generated for the newly added medication

- CELEBREX may be an inappropriate duplication of INDOMETHACIN CAPSULES

Medication Alert



The following alerts were generated for the

- DIAZEPAM may contribute to this client's Fall risk.

Medication Alert



The following alerts were generated for the newly added

- CELEBREX should be used cautiously in individuals aged 80 or over.

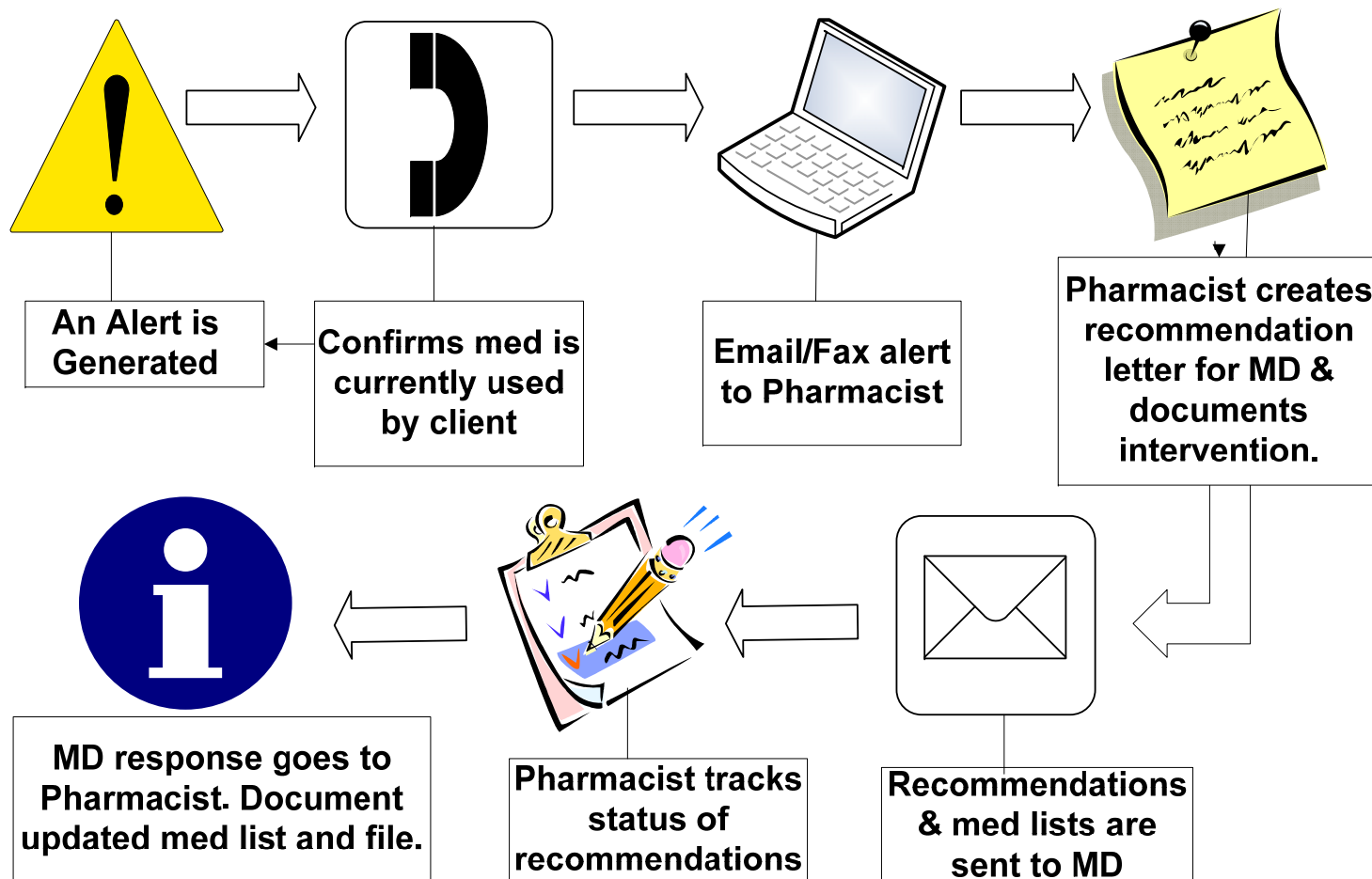
Role of the pharmacist

- Reviews medication list according to study criteria
- Screens alerts to confirm true problems in light of diagnoses, symptoms, other medications, etc.
- Consults with care manager to develop care plan
- Assists with complex cases, particularly when there is a home safety or frequent resource utilization issue;
- Communicates with a client's MD(s) to request re-evaluation.
- Occasionally identifies other medication-related problems – outside of protocols.

How to get pharmacist involvement:

- Hired consultant
- 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

Intervention – From Alerts to Action



Effective Communication and Education

- Provide ongoing support and education for staff
- Train new staff members in orientation
- Identify and recognize program champions
- Provide updates and an opportunity to share ideas and problem-solve
- Provide resources
 - www.Drugs.com
 - Most commonly used meds among geriatric population
 - Pharmacist time
 - Meds 101
 - Training materials

Indicators of Agency Readiness



- *There must be a “felt need”*
 - A sense of the importance and urgency of the problem
 - It feels important enough to deserve one’s effort.
- *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*
 - Resources viewed as adequate,
 - Staff turnover minimal
 - Recovery time since last big change.

Implementation Experience

■ ***Start small***

- Champion & small team
- New enrollees only

■ ***Changing care management practice.***

- Ongoing training
- Staff mentor each other
- Staff choice in design options
- Leadership emphasizes the importance of follow-through;
- Clear policies and protocols
- Rewards, challenges, contests
- Help with routine data entry

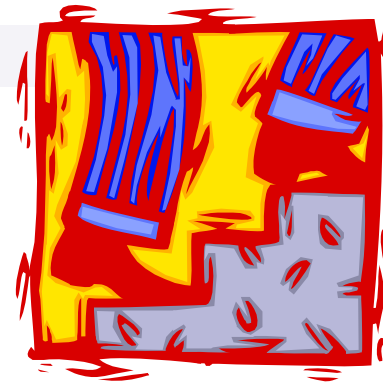
■ ***Use community pharmacy resources creatively.***

- Pharmacy students under the supervision of their professor
- Local community pharmacists that serve care management clients.
- **Future** – Part D Medication Therapy Management

■ ***Best ways to communicate with physicians.***

- Usually FAX
- Pharmacist, nurse, or care manager

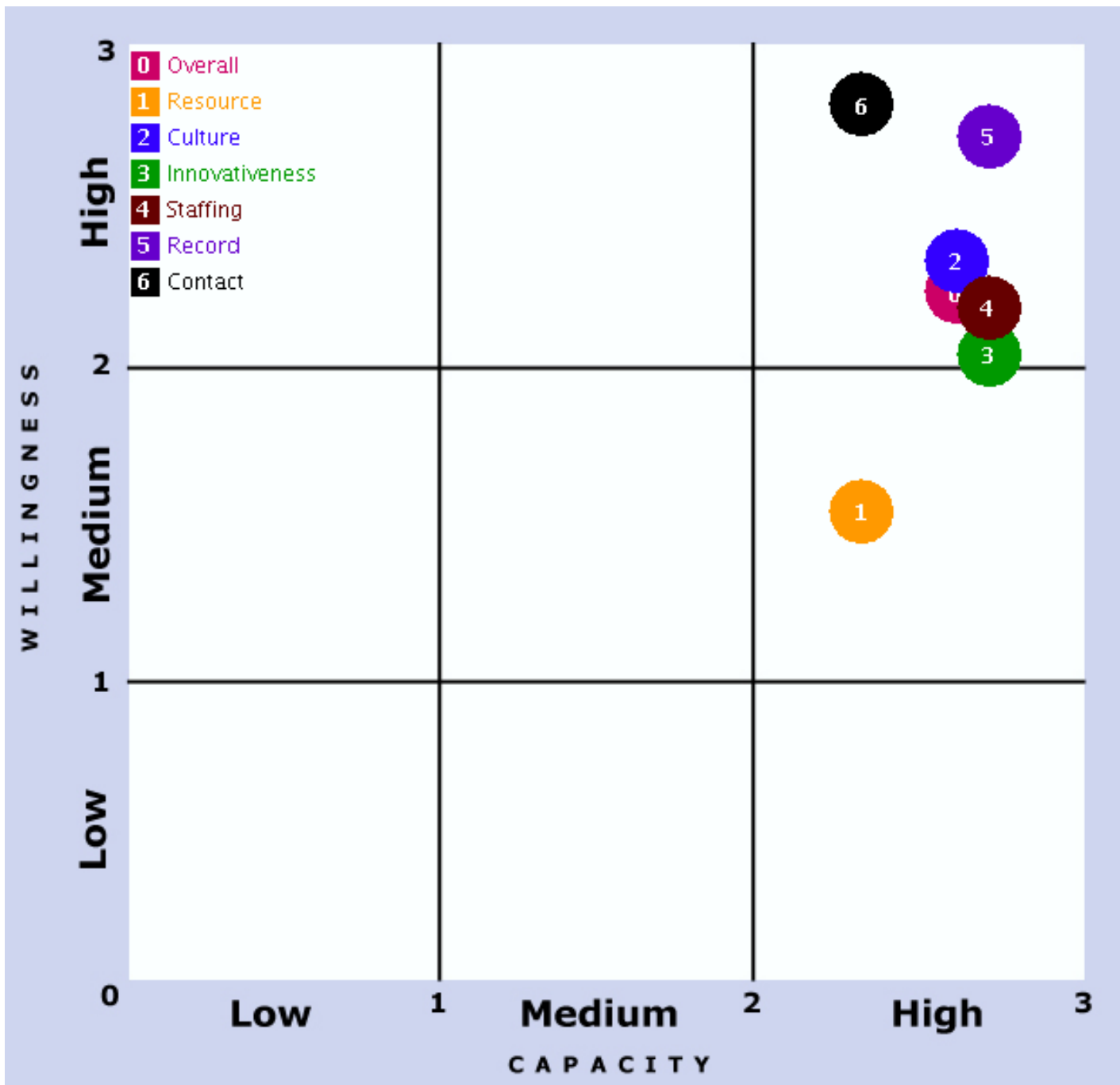
What does it take to implement MMIS ?



- An organization dedicated at every level to providing high-quality health care for waiver clients
- Staff who are open to enhancing their standards or scope of practice for the benefit of client health and safety
- A culture that values continuous quality improvement and evidence-based practice
- Staff use of computerized client assessment system.
- Working relationships with health care consultants capable of advising on medication safety (pharmacist, physician or nurses).
- Ability to work with clients, families, and physicians to resolve medication problems
- Able to spend \$100/month for online medication screening tool.
- Able to arrange for an average of 15 minutes of pharmacist time per client screened.

Are you ready?

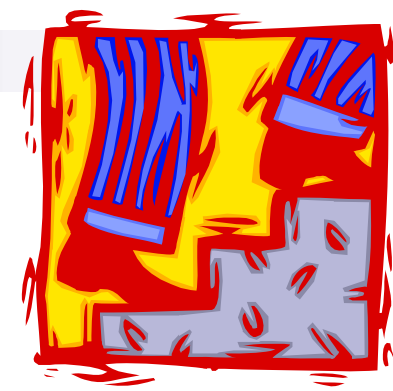
- Partners and the National Council on Aging (NCOA) created a tool that assesses an organization's readiness to undertake MMIS implementation
- Based on research that has shown that there are two dimensions to this readiness
 - the willingness of all staff to do what it takes to reach and sustain new goals
 - the capacity in terms of resources and systems.
- www.HomeMeds.org
 - Go to the "Become a Site" section
 - 15 minute survey



Requirements for Participating Sites

- Provide baseline operational information, ongoing site data, and feedback
- Make decisions about local procedures
- Attend trainings
- Use the system's medication library, alert, and assessment features consistently
- Follow through on medication-related alerts and pharmacist recommendations and document actions taken and their outcomes

Next Steps:



- For more information: www.HomeMeds.org

- Contact the Medication Management Improvement System team c/o:
 - Mira Trufasiu at 818.837.3775 x112, mtrufasiu@picf.org

 - Sandy Atkins at 818.837.3775 x111, satkins@picf.org