ARE YOU READY FOR PRIME TIME?

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Objectives

- At the end of this session, participants will be able to:
  - Identify the differences between quality improvement and research
  - Verbalize basic requirements for developing a research proposal
  - Describe three things to consider before submitting a research proposal

Clinical Inquiry

- Evidence based practice
- Qualitative versus Quantitative
- Improve Outcomes
- Quality Improvement
  - Focus – PDCA
  - Failure Mode and Effects Analysis
- Six Sigma and Lean Tools
- APIE – assess, plan, implement, and evaluate

Evidenced Based Practice

- Purpose
- Synthesis of Evidence
- Proposed changes in practice
- Implementing Strategies
- Evaluation

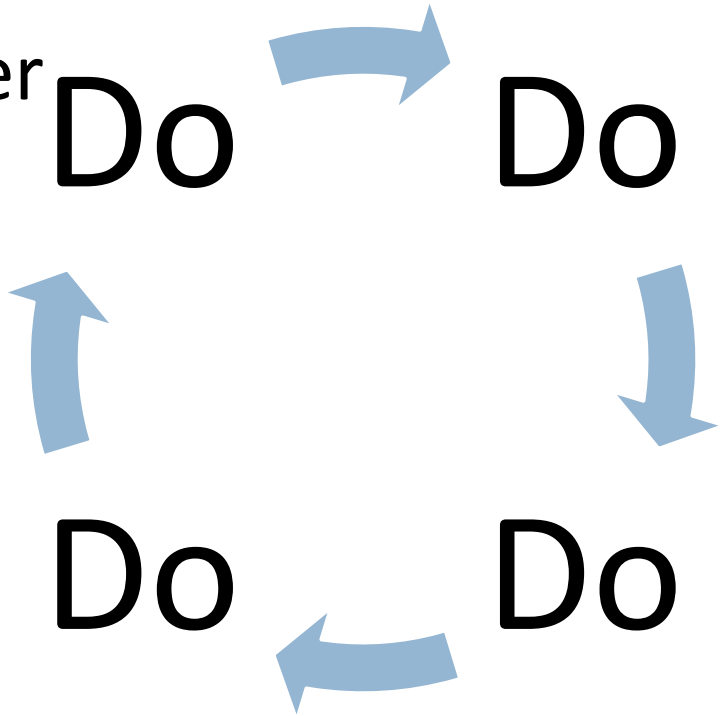
Use Plan-Do-Study-Act cycles

People are in a hurry

Want results now

Feel the need to skip over steps

Instead they want to do, do, do, do

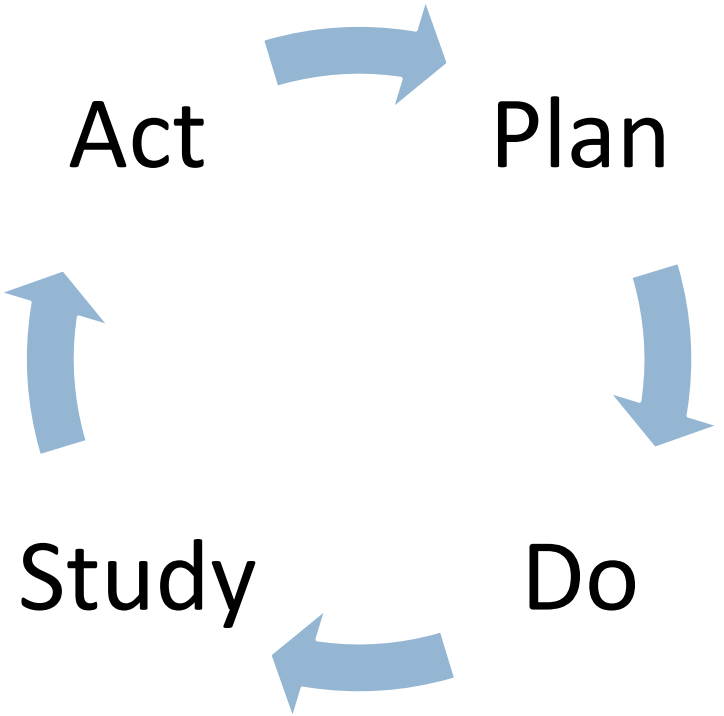


Use Plan-Do-Study-Act cycles

Instead – you should create

Small tests of change

- Plan
- Do
- Study
- Act



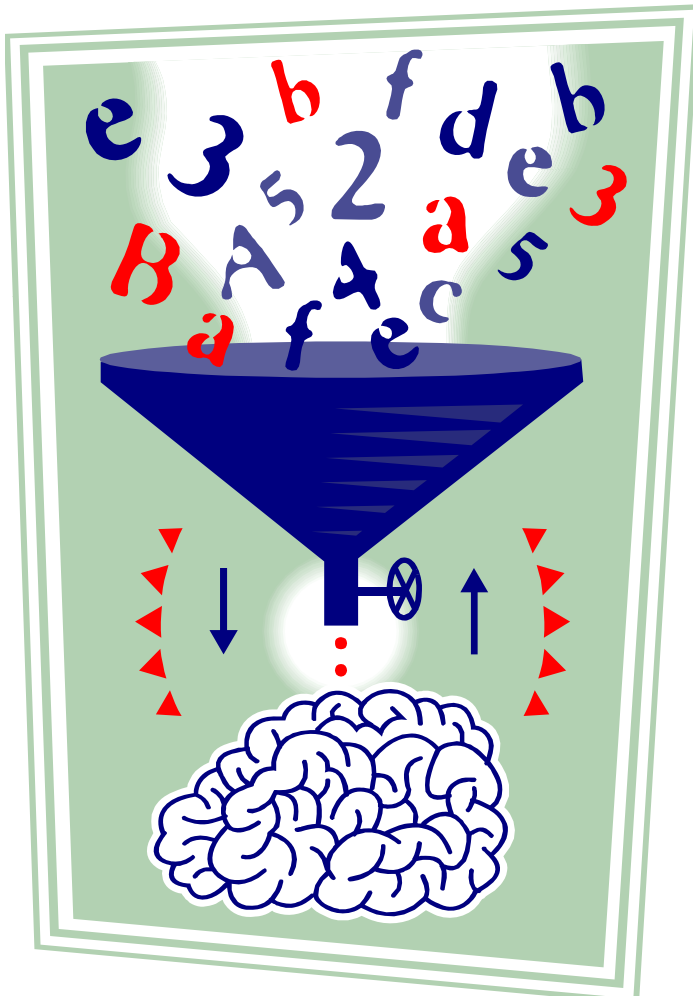
What is FMEA

- Failure Modes Effect Analysis (FMEA)
- Failure Modes Effect Criticality Analysis (FMECA)
- Allows an assessment of the risk to customers if a key process input were to fail
- Helps to determine what actions to take to minimize the risk

I'M BEGINNING TO BELIEVE THIS IS JUST BUSY WORK..

Things to consider

- Not every idea is a research idea waiting to be proposed



Words of Wisdom

1. A little study takes as much time as a big study
2. Know the difference between what is quality improvement and research
3. Make sure everyone understands the definitions
4. If there is already an established, evidence based practice, why would you need to do more research?
5. Develop trust with people

Words of Wisdom

6. As with life, there are good times and bad times to survey people
7. Know what you really want to measure
8. If you are going to measure something, you need something to compare it to
9. What you measure needs to be specific
10. You can have a abundance of data and still be starving for information

Discipline is the bridge between goals and accomplishment.

Jim Rohn

Seven Questions

- Who are your stakeholders?
- Who is your target audience?
- What are you trying to answer?
- Why study this question and why now?
- What do you want to be able to show at the end?
- What will you do with the data?
- Are you trying to do too much?

Requirements

- Know what is required of you from your facility
- Have you got all permissions to carry out the proposed research?
- Have you obtained adequate resources to carry out your research?
- Research Checklist [2]

Institutional Review Board

- The purpose of IRB review is to assure, both in advance and by periodic review, that appropriate steps are taken to protect the rights and welfare of humans participating as subjects in the research.
- To accomplish this purpose, IRBs use a group process to review research protocols and related materials (e.g., informed consent documents and investigator brochures) to ensure protection of the rights and welfare of human subjects of research.

Institutional Review Board

- Under FDA regulations, an IRB is an appropriately constituted group that has been formally designated to review and monitor biomedical research involving human subjects. In accordance with FDA regulations, an IRB has the authority to:
  - approve,
  - require modifications in (to secure approval), or
  - disapprove research.

Institutional Review Board

- Ask ahead of time for requirements
- CITI education for ALL investigators [1]
- Provide all the information requested

Examples

Reducing Readmission

All Cause, 30 day inpatient readmissions

Goal

- Maintain observed versus expected readmission rate (all cause, 30 day) below OE Ratio of 1.0

Reported: Eight Facilities

Quarter	Cases	Readmission Rate	Expected Readmission Rate	Expected Readmission Rate Index
2011 Q4	18,451	8.05%	9.42%	0.85
2011 Q3	18,442	7.62%	9.17%	0.83
2011 Q2	18,423	7.94%	9.38%	0.85
2011 Q1	18,251	8.33%	9.60%	0.87
2010 Q4	17,015	8.05%	9.39%	0.86
2010 Q3	17,261	7.93%	9.26%	0.86
2010 Q2	17,298	7.91%	9.28%	0.85
2010 Q1	16,215	8.48%	9.49%	0.89

Reported: By Practitioner

Attending Practitioner	Cases	Readmissions	Observed Readmission Rate	Expected Readmission Rate	Expected Readmission Rate Index
Dr. A	31	3	9.7%	14.3%	0.68
Dr. B	30	1	3.3%	10.5%	0.32
Dr. C	40	5	12.5%	12.7%	0.99
Dr. D	24	2	8.3%	11.9%	0.70
Dr. E	5	0	0.00%	12.5%	0.00
Dr. F	9	2	22.2%	10.5%	2.12

Over arching strategy

Just Do (Hospitalists Patient Population)	Watch and Learn	Act and Advocate	Collaborate
3-5 day follow up appointments	MD Office Work • Improving Access • Post hospital calls • Advance Care planning • Case Management Redesign	Care Management Redesign	Inpatient Hospice
Increase End Of Life conferencing	Heart and Vascular Team	SNFist program development	Standardized Patient Education
Identify patients at risk for readmission	Elder Place • Patient Centered Medical Home • Advance Care Planning	Expansion of palliative care capacity	Handovers
Weekly readmission results reported	Mortality Steering Committee work for inpatient Hospice	Integrated Geriatric Program	Care Management Redesign
Test subset of interventions			
Connect inpatient and outpatient Care Managers with Hospitalists			

What if…

- What if we could identify those patients early in the initial admission that were a potential for readmitting and create a solid discharge plan involving the appropriate disciplines?
- What if we could develop a risk assessment tool that could predict those patients more likely to be readmitted in 30 days?
- What if we tested this at three hospitals?

Pilot : Risk Assessment Tool

- August 1 – October 2, 2010
- Three area hospitals and physician office Care Management team
- Hospitalists, Acute Care Managers (nurses and social workers), and Physician Office Care Managers (nurses and social workers
- Test a screening tool for Risk Assessment on Admission, Discharge, and Readmission

Pilot

- For 30 days, all inpatients admitted to all Hospitals A, B, and C will be assessed using Reducing Readmissions Risk Assessment Tool
- Hospitalists complete assessment of all new admissions
- ACM/CM/SW completes assessment of same patients
- (Inter-rater Reliability)

Risk Assessment Screen Tool

- Age of patient
- Current Living Situation (home versus skilled facility, with help)
- Number of:
  - Previous Admissions
  - Active Medical Problems
  - Mental Health Issues
  - Medications (prescription and over the counter)
- Cognitive Status (awake, alert, oriented – comatose)
- Behavioral Patterns (appropriate, wandering, agitated)
- Functional Status (independent versus dependent for ADLs)
- Sensory Deficit (need to wear glasses and/or hearing aides)
- Mobility (do they need assistance to be mobile)
- Primary Language

Scoring Index

0-15	Minimal readmission risk
16-24	Low Readmission risk; at risk for discharge planning needs; request discharge planning assessment by ACM/Case Manager
25-34	Moderate readmission risk; patient at risk for placement other than home; request ACM/CM discharge planning; consider Home Health or alternative placement
35-40	High readmission risk; request AMC/CM discharge planning and if MD Office patient notify outpatient Case Manager
Comments:	

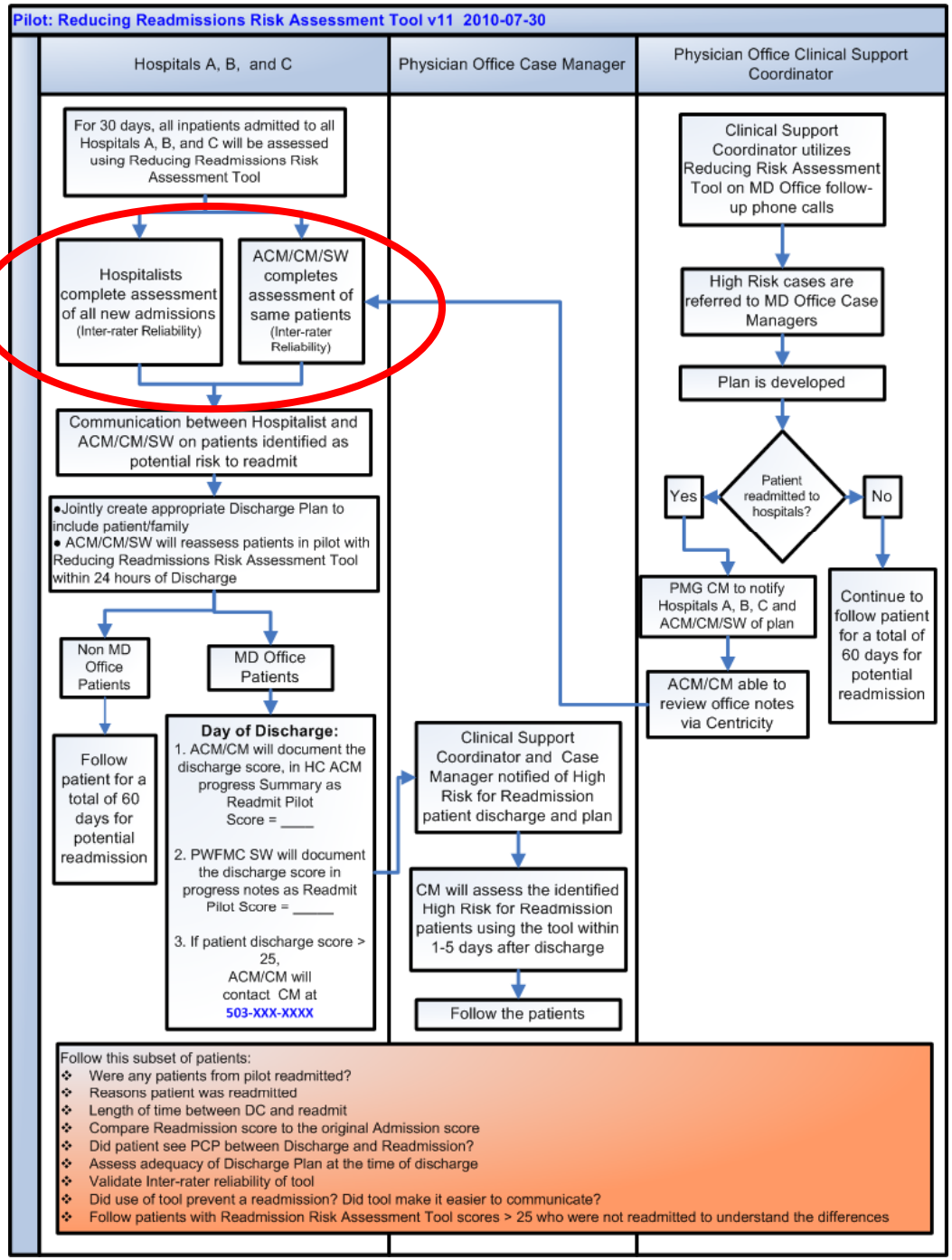
Example

Score: 6

- Dale – 72 yo male, lives with spouse, 2 previous admissions with 1 ED visit in last two months, newly diagnosed heart failure patient, English is his primary language, wears glasses, no cognitive, mental health, or functional problems, and discharged on 3 new medications.

Score: 31

- Ethel – 92 yo female, lives alone no support, 4 admissions with 3 ED visits in last three months, COPD, Diabetes, depression, lymph edema, history of breast cancer, has trouble ambulating from bed-bathroom-kitchen, requires help with ADLs, has a walker, sometimes confused, wears glasses and hear aides, primary language is German, takes 19 medications, and discharged with 5 new medications.


Pilot: Reducing Readmissions Risk Assessment Tool v11 2010-07-30
Hospitals A, B, and C
Physician Office Case Manager
Physician Office Clinical Support Coordinator
For 30 days, all inpatients admitted to all Hospitals A, B, and C will be assessed using Reducing Readmissions Risk Assessment Tool
Hospitalists complete assessment of all new admissions (Inter-rater Reliability)
ACM/CM/SW completes assessment of same patients (Inter-rater Reliability)
Communication between Hospitalist and ACM/CM/SW on patients identified as potential risk to readmit
•Jointly create appropriate Discharge Plan to include patient/family
• ACM/CM/SW will reassess patients in pilot with Reducing Readmissions Risk Assessment Tool within 24 hours of Discharge
Non MD Office Patients
MD Office Patients
Follow patient for a total of 60 days for potential readmission
Day of Discharge:
1. ACM/CM will document the discharge score, in HC ACM progress Summary as Readmit Pilot Score = ____
2. PWFMC SW will document the discharge score in progress notes as Readmit Pilot Score = _____
3. If patient discharge score > 25, ACM/CM will contact CM at 503-XXX-XXXX
Clinical Support Coordinator and Case Manager notified of High Risk for Readmission patient discharge and plan
CM will assess the identified High Risk for Readmission patients using the tool within 1-5 days after discharge
Follow the patients
Clinical Support Coordinator utilizes Reducing Risk Assessment Tool on MD Office follow-up phone calls
High Risk cases are referred to MD Office Case Managers
Plan is developed
Patient readmitted to hospitals?
Yes
No
PMG CM to notify Hospitals A, B, C and ACM/CM/SW of plan
ACM/CM able to review office notes via Centricity
Continue to follow patient for a total of 60 days for potential readmission
Follow this subset of patients:
❖ Were any patients from pilot readmitted?
❖ Reasons patient was readmitted
❖ Length of time between DC and readmit
❖ Compare Readmission score to the original Admission score
❖ Did patient see PCP between Discharge and Readmission?
❖ Assess adequacy of Discharge Plan at the time of discharge
❖ Validate Inter-rater reliability of tool
❖ Did use of tool prevent a readmission? Did tool make it easier to communicate?
❖ Follow patients with Readmission Risk Assessment Tool scores > 25 who were not readmitted to understand the differences

Age

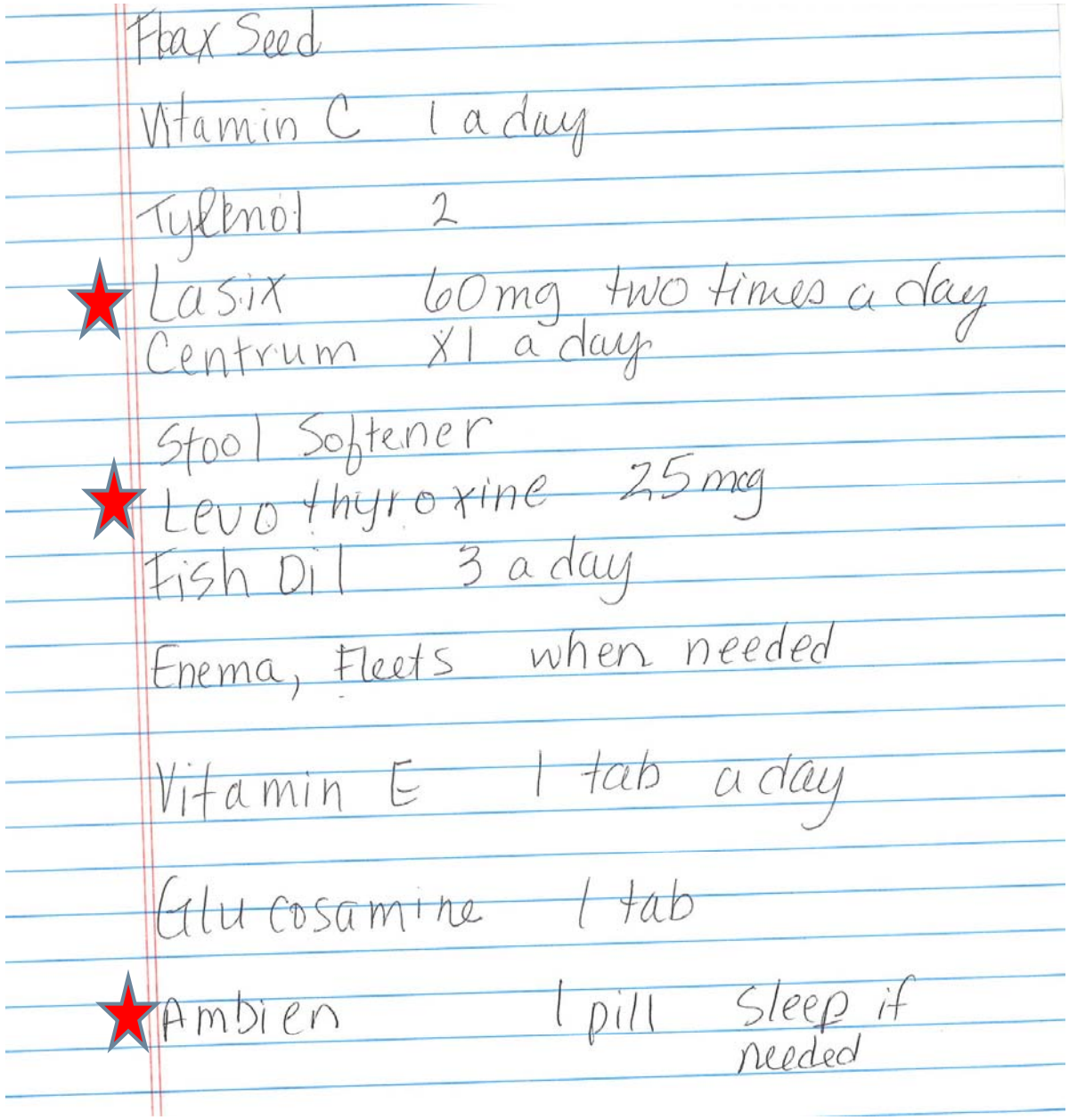
Item	Score
59 years or less	0
60-69 years	1
70-79 years	2
80-89 years	3
90-99 years	4
100+ years	5

Living Situation

Item	Score
Lives only with spouse/partner	0
Lives with family	1
Lives alone, some family support	2
Lives with spouse/partner, limited ability to assist	3
Lives alone, no support	4
Cultural Differences that could contribute	5
Nursing home/residential care	6
Homeless; uninsured	7

Medications: Admission and Discharge

	Item	Score
Number of medications on Admission	Fewer than 3 medications on admission	0
	4 to 6 medications on admission	1
	7 or more medications on admission	2
Number of new medications at discharge	Adding 0-1 new medications at discharge	0
	Adding 2-3 new medications at discharge	1
	Adding more than 4 new medications at discharge	2


Flax Seed
Vitamin C 1 a day
Tylenol 2
Lasix 60mg two times a day
Centrum X1 a day
Stool Softener
Levothyroxine 25mcg
Fish Oil 3 a day
Enema, Fleets when needed
Vitamin E 1 tab a day
Glucosamine 1 tab
Ambien 1 pill Sleep if needed

Sensory deficit

Item	Score
None	0
Visual or hearing deficits	1
Visual **and** hearing deficits	2

Cognitive Status

Item	Score
Oriented	0
Disoriented to some spheres (person, place, self, time) some of the time	1
Disoriented to some spheres (person, place, self, time) **all** of the time	2
Disoriented to ALL spheres (person, place, self, time) some of the time	3
Disoriented to ALL spheres (person, place, self, time) **all** of the time	4
Comatose	5

Pilot Results

Area	Sample Size	
Admission		701
Discharge		363
Matched Admission by two disciplines	**83%**	**294**
Readmission		**38**
Physician Office Screening		**206**

Patients who were readmitted

Item	Overall	Hospital A	Hospital B	Hospital C
Subset sample size	38	25	1	12
Females	74% (28)	64% (16)	100% (1)	92% (11)
Males	26% (10)	36% (9)		8% (1)
Average Age	77.5 years	70.5 years	55 years	75.2 years
Age Range	42-97 years	42-97 years		62-93 years
Average Calculated Score	17	18.4	10	15.4
Calculated Score Range	5-29	5-29		7-26

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Comments:	

Patients who were screened

Item	Overall
Subset sample size	206
Females	54% (110)
Males	47% (96)
Average Age	74.7 years
Age Range	32-97 years
Average Calculated Score	9.96
Calculated Score Range	0-30

Inter-rater reliability

- When two binary variables are attempts by two individuals to measure the same thing, you can use Cohen's Kappa (often simply called Kappa) as a measure of agreement between the two individuals.
- Kappa is always less than or equal to 1. A value of 1 implies perfect agreement and values less than 1 imply less than perfect agreement.

Inter-rater reliability

Kappa Value Interpretation

- <0 = Poor agreement
- 0.0 – 0.20 = Slight agreement
- 0.21 – 0.40 = Fair agreement
- 0.41 – 0.60 = Moderate agreement
- 0.61 – 0.80 = Substantial agreement
- 0.81 – 1.00 = Almost perfect agreement

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Results

K Value	Interpretation
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0.21 – 0.40	Fair agreement
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0.81 – 1.00	Almost perfect agreement

	Age	Living	Previous Admits	Active Medical Problems	Mental Health Issues	# of Meds
Kappa Value	**0.9922**	**0.7680**	0.6059	0.4214	0.4725	**0.7615**
	Cognition	Behavior Pattern	Functional Status	Sensory Deficit	Mobility	Language
Kappa Value	0.4942	0.5725	0.6972	0.3031	0.6606	0.4880

What did we learn

- Definitions are important
- Took on too much
- Learned that what others had documented in the literature was correct

By three methods we may learn wisdom:
First, by reflection, which is noblest;
Second, by imitation, which is easiest;
Third by experience, which is the bitterest.

Confucius

Questions

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Resources

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2. Oxford University Press (2011). Bryman & Bell 3e: Research Project Guide. Retrieved on February 14, 2012 from: http://www.oup.com/uk/orc/bin/9780199583409/01student/project_guide/page_01.htm