CLINICAL QI AND PATIENT SAFETY IN HOSPITAL MEDICINE

Peter Kaboli, MD, MS

CENTER FOR COMPREHENSIVE ACCESS & DELIVERY RESEARCH AND EVALUATION (CADRE), IOWA CITY VA HEALTHCARE SYSTEM

Professor, Internal Medicine, University of Iowa Carver College of Medicine

Chief of Medicine, Iowa City VA Healthcare System

Iowa City, IA

Grand Rounds, Weill Cornell Medicine-Qatar

11/1/16

Objectives

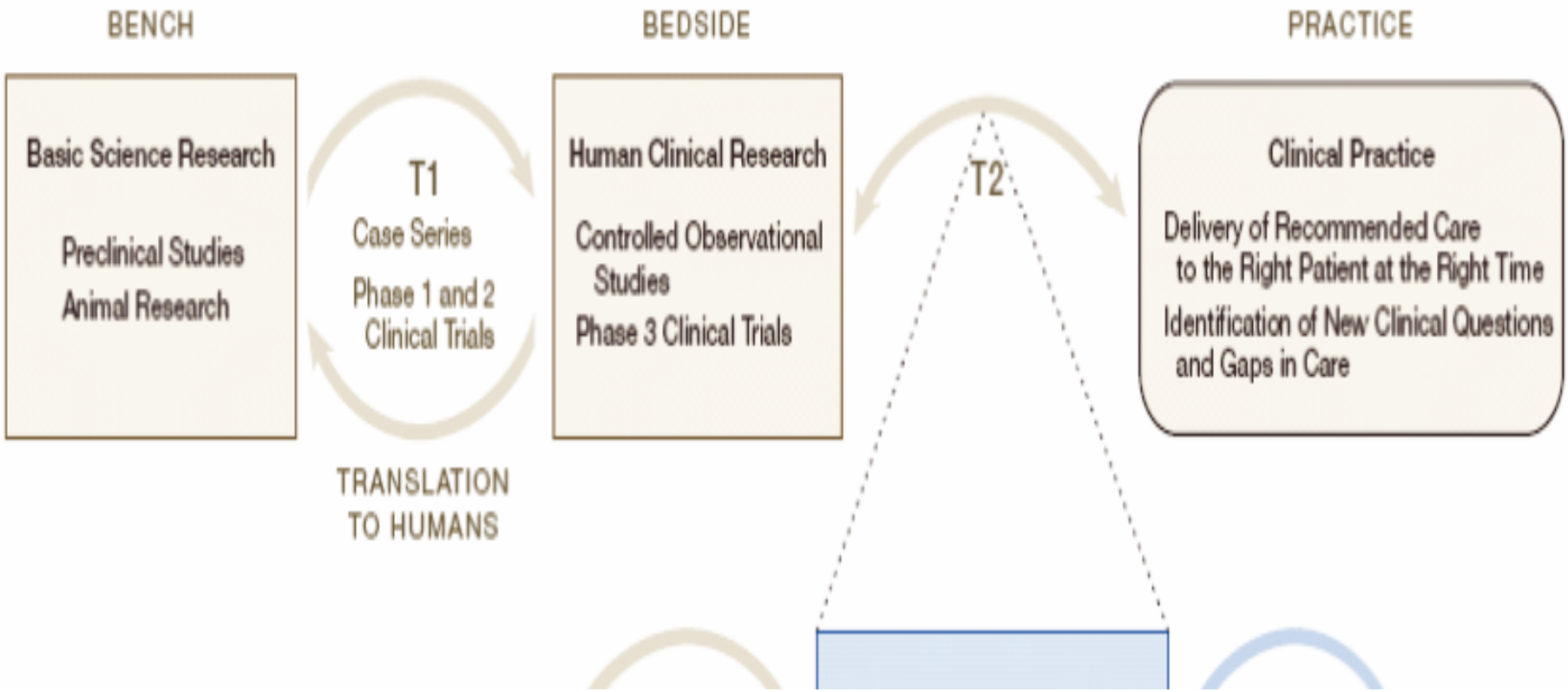
1. Gain understanding of the role of QI and patient safety in hospital medicine
2. Describe how researchers and clinicians can partner to enhance the impact of their respective work

- “essentially, all models are wrong, but some are useful”

George E.P. Box (1919-2013)

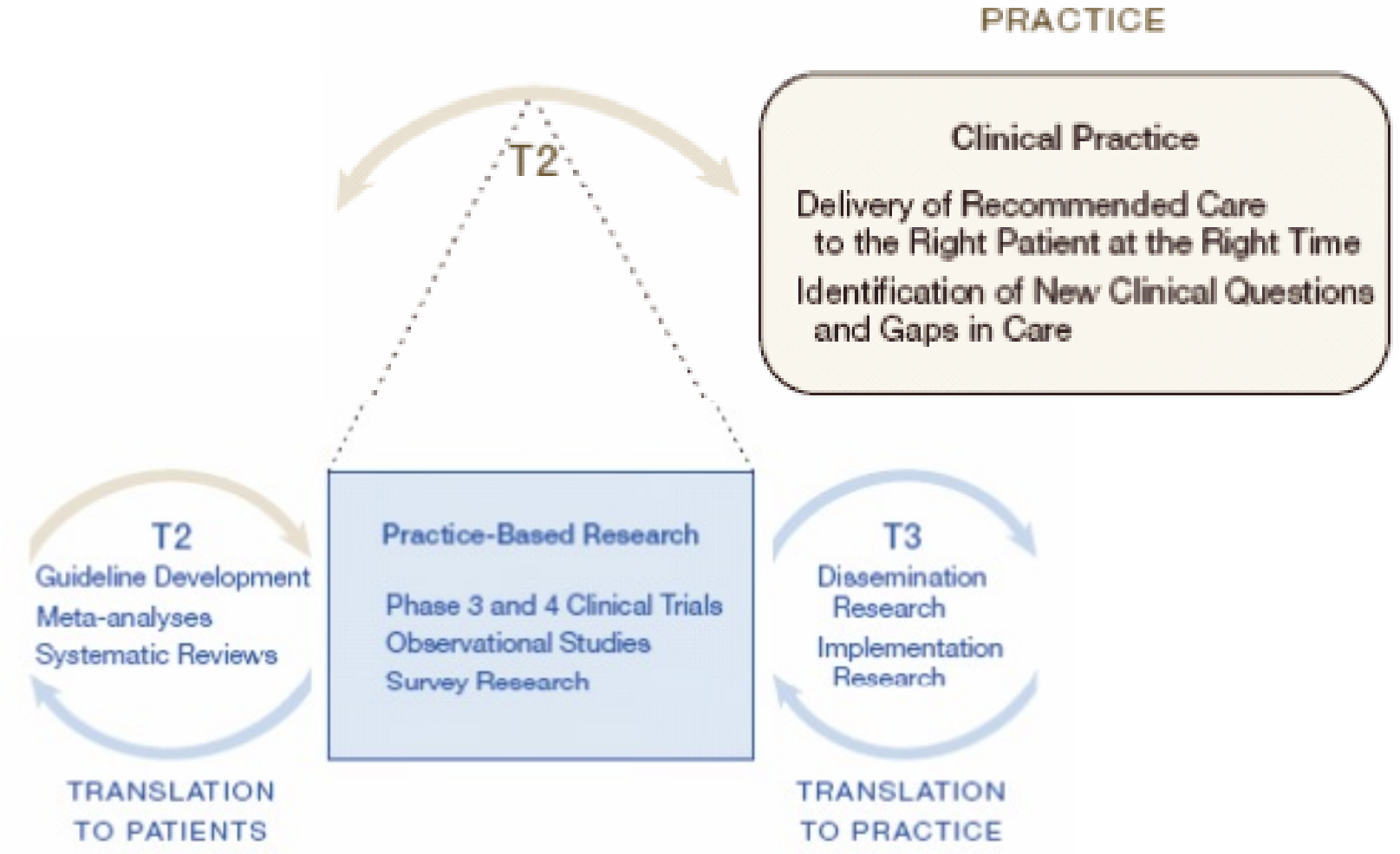
University of Wisconsin

Translational Research (3 phase model)



Trochim, et al. Clin Trans Sci 2011; V4: 153-162

Intersection: Research and QI



The Bridge Between QI and Health Services Research (HSR)

A continuum in which to work and be successful. Each end needs the other and all the support in between.

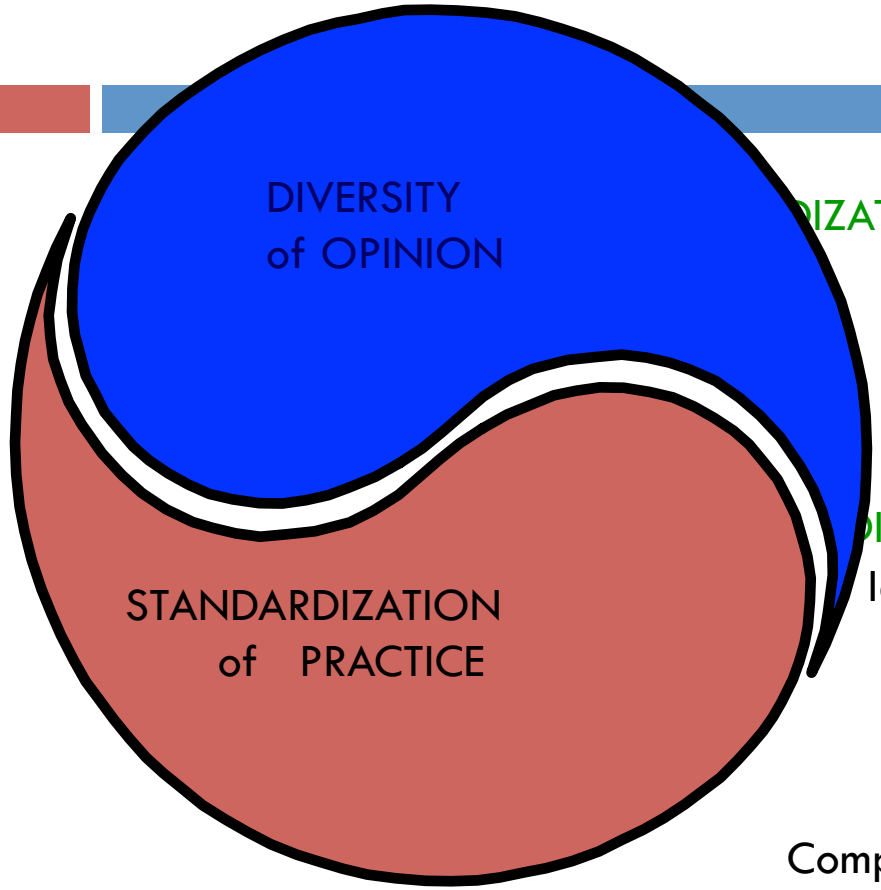
QI

"Get it done by Tuesday"

A view of King Fahd Causeway

HSR

"Write the next 5 year grant"



IZATION Enhances Our Ability To Recognize DIVERSITY.

IVERSITY Provides the Opportunity to Identify Problems with the STANDARD

STANDARDIZATION and DIVERSITY Complement and Strengthen the Other.

Indeed, They Create Each Other.

Terry Clemmer MD, LDS Hospital, Salt Lake City, 1997

- “Improving our work is our work”

  Paul Batalden

Research  QI

Tour de Topics

- Prologue:
  - Hospital Readmission Rates and Length of Stay
- Stages:
  - Technology to Improve Inpatient Communication
  - Colorectal Cancer Screening
  - Antibiotic Stewardship and *C. difficile* Infection
  - Telehealth Collaborative Care: Rural HIV Care
  - Geographic Variation in Prescribing Quality
  - QI to Improve Interdisciplinary Rounds
  - End

Hospital Readmissions

IMPROVING PATIENT CARE | ORIGINAL RESEARCH

Ann Intern Med 2012; 157:837-45

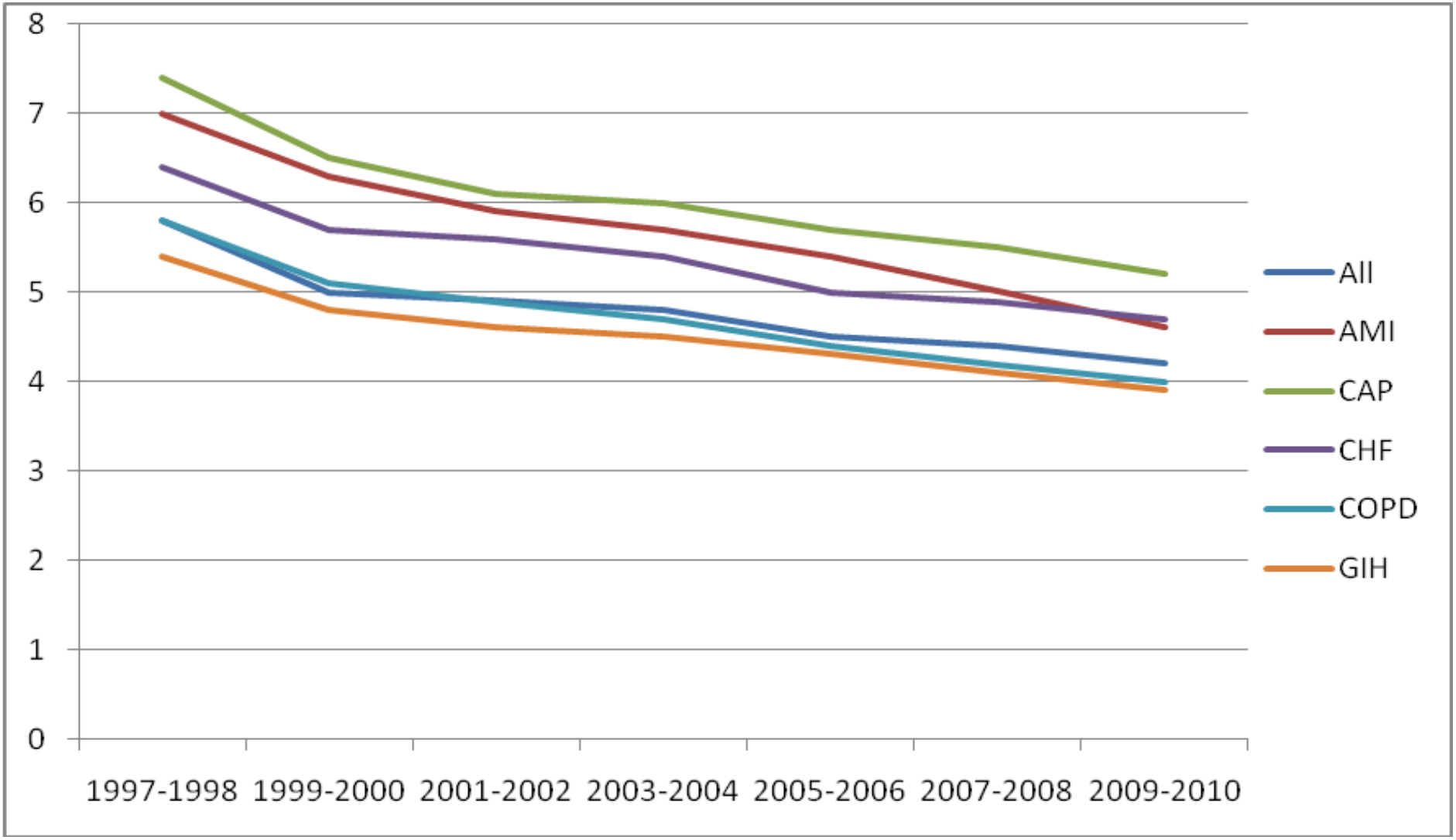
Associations Between Reduced Hospital Length of Stay and 30-Day Readmission Rate and Mortality: 14-Year Experience in 129 Veterans Affairs Hospitals

Peter J. Kaboli, MD, MS; Jorge T. Go, MD, MS; Jason Hockenberry, PhD; Justin M. Glasgow, BS, MS; Skyler R. Johnson, BS, MS; Gary E. Rosenthal, MD; Michael P. Jones, PhD; and Mary Vaughan-Sarrazin, PhD

- As LOS has goes down, do readmissions go up, down, or stay the same?
- Who is incentivized to have readmissions?
- Is it a measure of Quality?

Conclusion: Veterans Affairs hospitals demonstrated simultaneous improvements in hospital LOS and readmissions over 14 years, suggesting that as LOS improved, hospital readmission did not increase. This is important because hospital readmission is being used as a quality indicator and may result in payment incentives.

VA 1997-2010:
LOS Reduction Significant for All Conditions

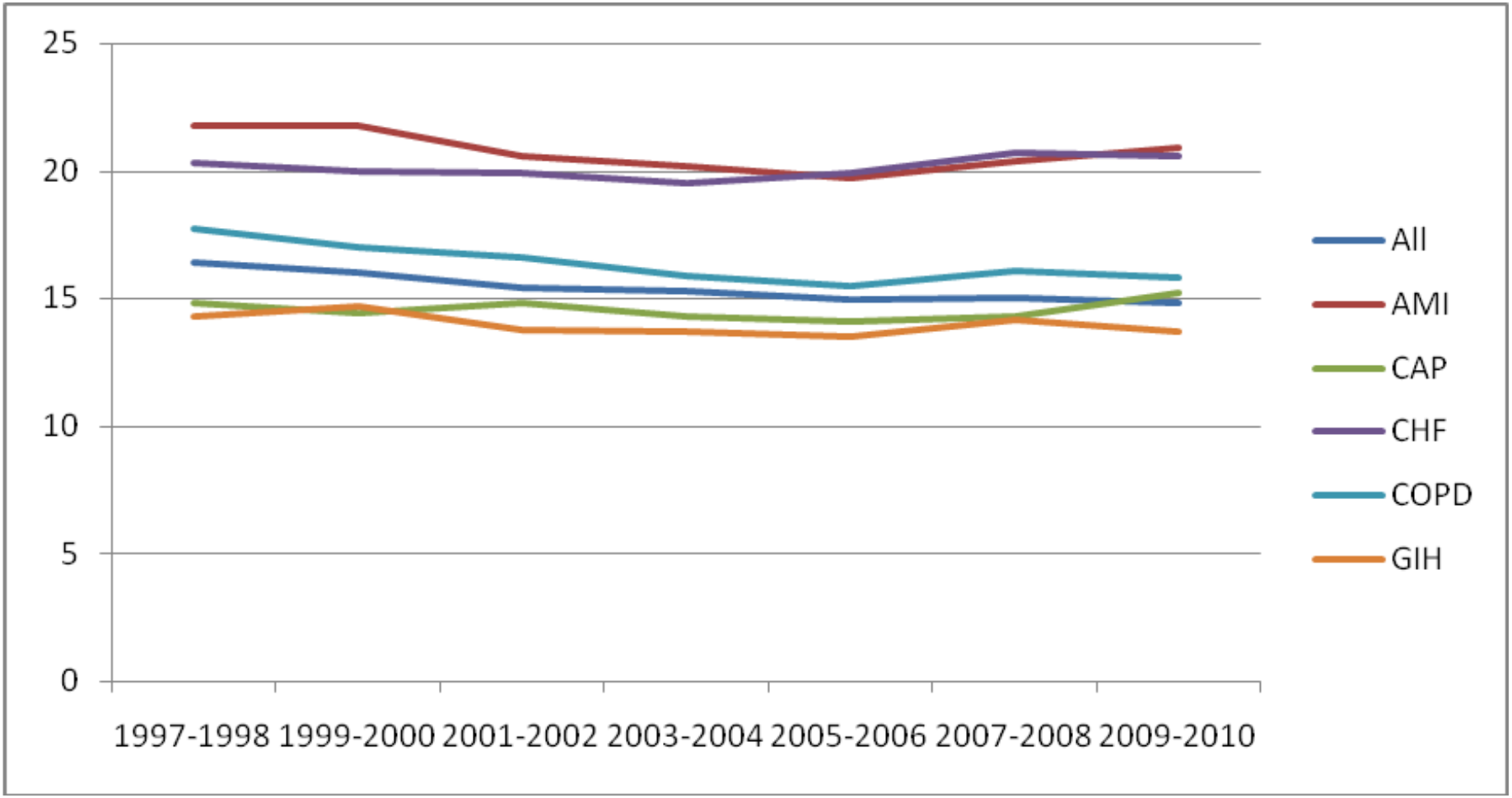


LOS Reduction Significant for All Conditions

Adjusted LOS (Mean, days)

Fiscal Year	All Med Dx	CHF	COPD	AMI	CAP	GIH
97-98	5.44	6.33	5.68	6.63	7.18	5.08
03–04	4.54	5.31	4.53	4.90	5.74	4.17
09–10	3.98	4.40	3.89	3.78	4.96	3.68
Change	*-1.46*	*-1.93*	*-1.79*	*-2.85*	*-2.22*	*-1.40*

VA 1997-2010:
30-Day Readmission Rates Reduction



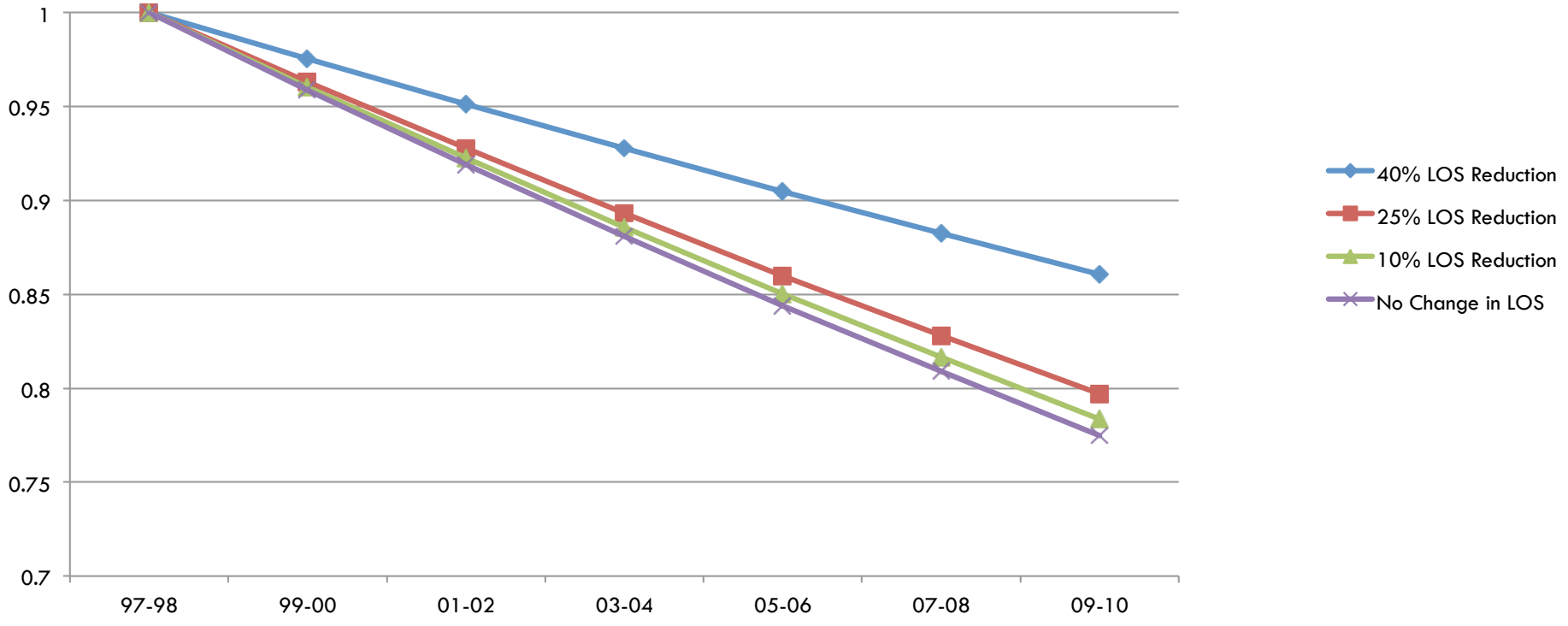
Significant Reductions in 30-Day Readmissions

Adjusted Readmission Rates

Fiscal Year	All Med Dx	CHF	COPD	AMI	CAP	GIH
97-98	16.5%	20.4%	17.9%	22.6%	14.7%	14.1%
03–04	15.0%	19.3%	15.5%	20.2%	13.7%	13.1%
09–10	13.8%	19.0%	14.6%	19.8%	13.8%	12.2%
Change	*-2.7%*	*-1.4%*	*-3.3%*	*-2.8%*	*-0.9%*	*-1.9%*

A Slight Trade-off:
Association between LOS reduction and Readmissions

Risk adjusted decrease in readmission rates for hospital with 0%, 10%, 25% and 40% reduction in LOS



Mortality Trends over 14 years

- 30-day mortality decreased by 25% (6.4% to 4.8%)
- 90-day mortality decreased by 18% (11.5 %to 9.4%)

  - Logistic regression analyses, adjusting for patient demographics and comorbidity and hospital random effects, found similar reductions ($P<0.0001$).

Research  QI

- *Translational T2:* Observational Study
- *Methods:* Secondary Administrative Data Analysis
- *Impact on QI*: Efficiency (LOS) can be improved without sacrificing quality (readmissions)
- *Impact on Research:* How many more readmission studies do we need?
- *Next thing we are doing:* determine the optimal time interval for measuring readmissions for benchmarking and local improvement

- Return

Colorectal Cancer Screening

ORIGINAL ARTICLE

Evaluation of a Home-Based Colorectal Cancer Screening Intervention in a Rural State

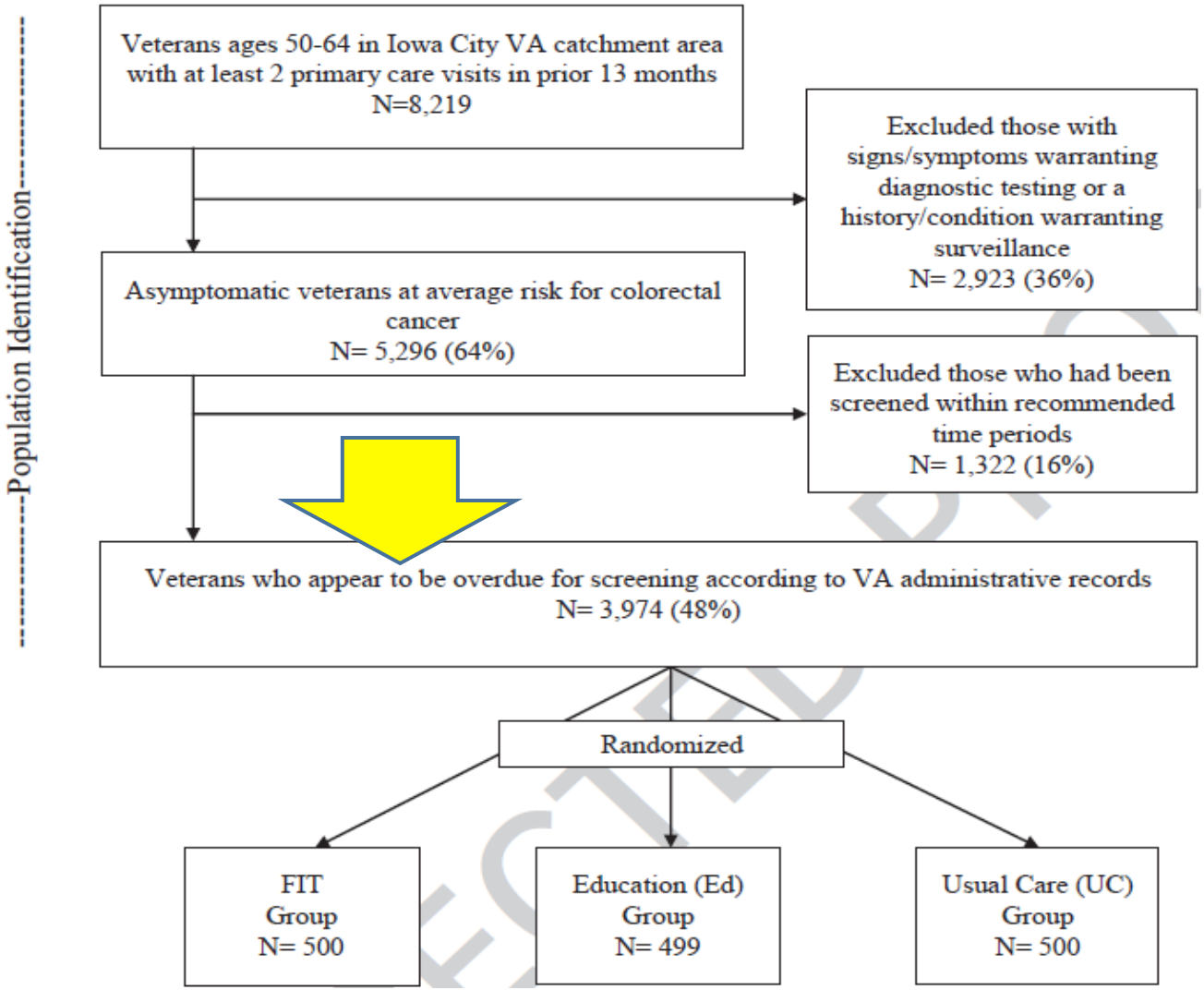
J Rural Health
2013 In press

Mary E. Charlton, RN, PhD;[1,2] Michelle A. Mengeling, PhD;[1,3] Thorvardur R. Halfdanarson, MD;[4] Nader M. Makki, MD;[3] Ashish Malhotra, MD;[1] J. Stacey Klutts, PhD, MD;[5,6] Barcey T. Levy, PhD, MD;[2,7] & Peter J. Kaboli, MD, MS[1,3]

- Objective: test whether a home FIT kit mailed to veterans accompanied by educational materials results in improved CRC screening rates in an average risk, asymptomatic population with no recent record of CRC testing compared to two other groups:
  - education materials only
  - usual care

Study Design: RCT (mail only)

Figure 1 Sampling Flowchart.



Screening Rate at 6 Months

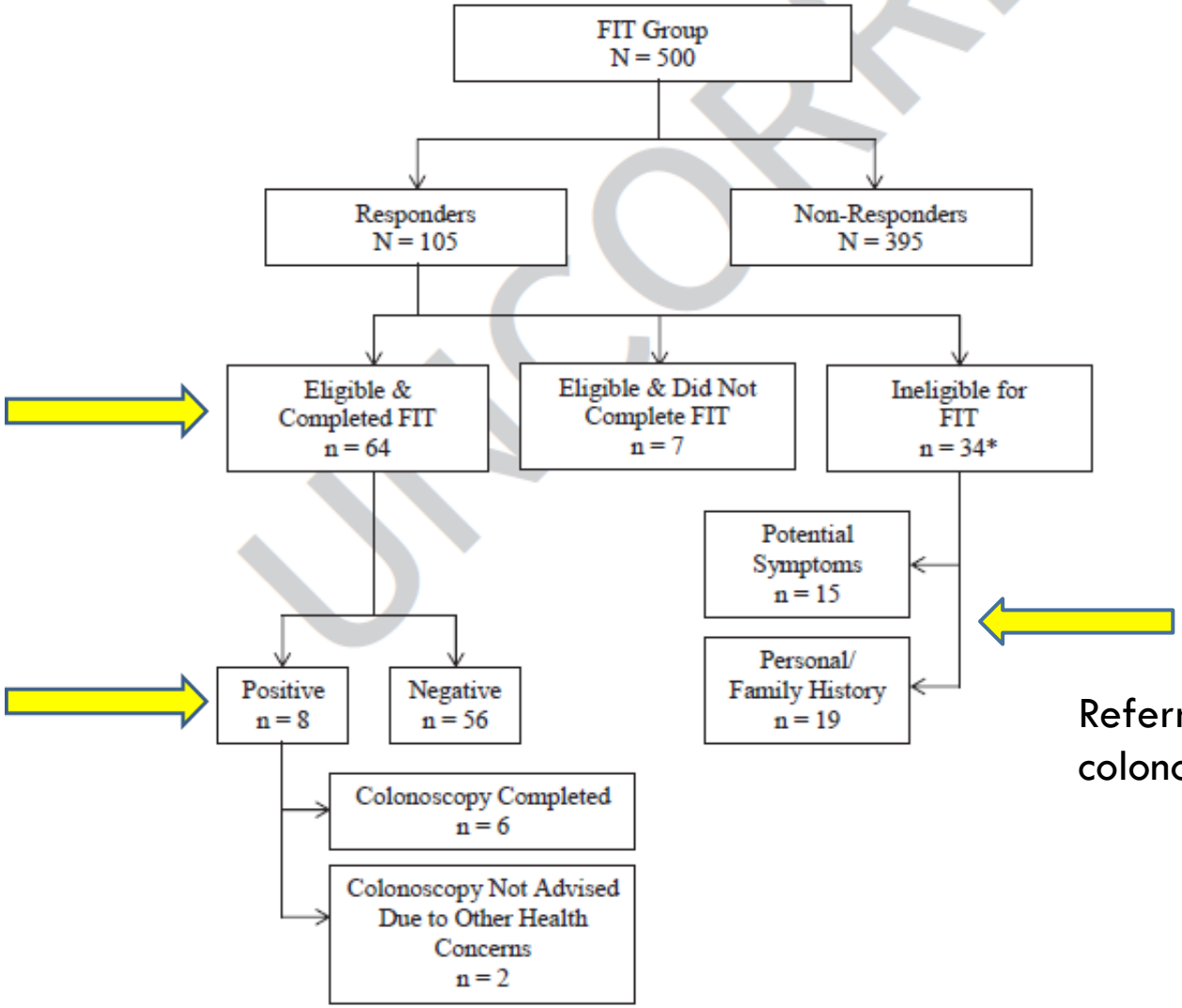
Table 2 Method of Colorectal Cancer Screening Within 6 Months of Mailing Intervention by Study Group for Full Sample and for Eligible Respondents Only

Screening Type[a]	FIT % (n)	Education % (n)	Usual Care % (n)	*P* Value
Full sample	n = 500	n = 499	n = 500	
No screening performed	79% (397)	94% (471)	94% (472)	
Fecal immunochemical test (FIT)	14% (71)	0% (0)	0% (0)	
Colonoscopy	6% (30)	5% (27)	4% (21)	
Guaiac FOBT (gFOBT)	0% (2)	0% (1)	1% (7)	
Total screened (any method)	21% (103)	6% (28)	6% (28)	< .0001
Eligible respondents only	n = 71	n = 41		
No screening performed	8% (6)	98% (40)	–	
Fecal immunochemical test (FIT)	90% (64)	0% (0)	–	
Colonoscopy	2% (1)	2% (2)	–	
Guaiac FOBT (gFOBT)	0% (0)	0% (0)	–	
Total screened (any method)	92% (65)	2% (2)	–	<.0001

[a]Screening was classified according to the first test performed in the 6-month follow-up period.

61% Completed FIT: 12.5% Positive

Figure 2 FIT Group Screening Rates



Referred for colonoscopy

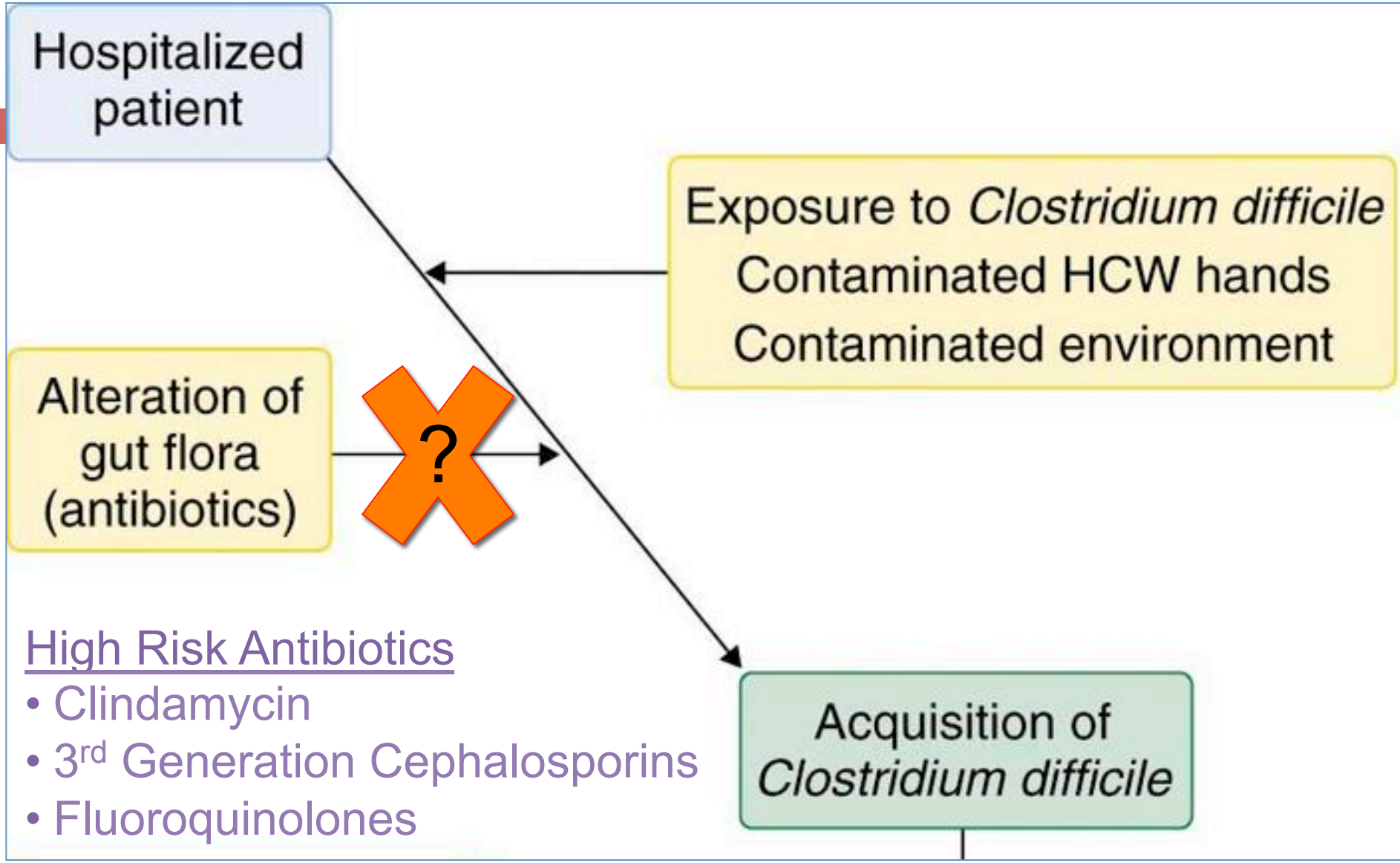
Conclusions

- *Low intensity intervention*: high screening rate compared to control groups
- *Overall response was low*:
  - Mail-only program may not be sufficiently effective
  - Low rate may be due to screening performed outside VA (>50%)
- *Top reasons for not having colonoscopy*:
  - fear of pain/discomfort
  - health care provider did not recommend it
  - preference for at-home tests
  - screening options were confusing
- *Top reason for not have FIT*:
  - health care provider did not recommend it

Research  QI

- *Translational T3:* Dissemination/Implementation
- *Methods:* RCT
- *Impact on QI*: Home-based screening is acceptable, effective, and can overcome distance barriers (rural implications)
- *Impact on Research:* Still need to know the comparative effectiveness of FIT vs. colonoscopy (VA CSP study)
- *Next thing we are doing:* flow-mapping CRC screening in primary care and determining where to "fit" the FIT into care
  - Targeted mailing during CRC Awareness Month (March)
  - Use PCMH (PACT) model
  - 2-stage process to avoid sending excess tests
  - Willingness to repeat FIT annually (currently ~80%)
- Return

Antibiotic Stewardship and C. *difficile*



http://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/infectious-disease/clostridium-difficile-infection/images/clostridium-fig1_large.jpg

Background

- Antibiotic Stewardship Programs (ASPs):
  - Policies that aim to restrict patient exposure to certain 'high-risk' antibiotics
  - Examples:
    - Persuasive Stewardship
      - Education
      - Change in Guidelines
      - Post-prescription review and recommendations
    - Restrictive Stewardship
      - Removal from pharmacy
      - Prior-approval requirement

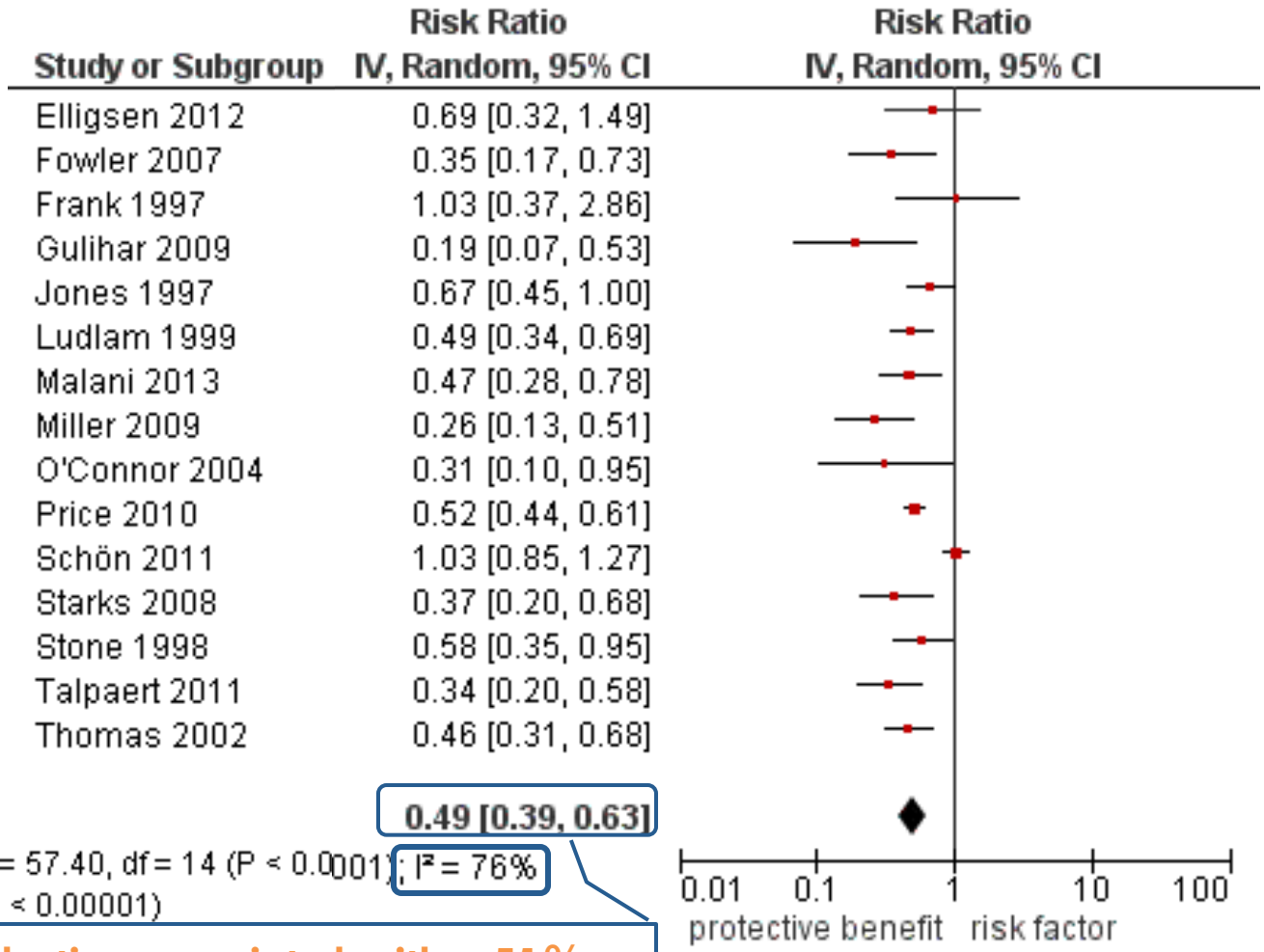
Results

Total:
442,193 patients

Author Year	Location	Study Design	Study Setting	Intervention	Total pts
Elligsen 2012	Canada	quasi-ITS	ICU/Critical care	post-prescription review and recommendation (persuasive)	4,697
Fowler 2007	UK	quasi-ITS	geriatric acute care	education and post-prescription review and recommendation (persuasive)	6,129
Frank 1997	USA	quasi-ITS	entire hospital	prior approval requirement (restrictive)	28,055
Gulihar 2009	UK	quasi-ITS, retro. case-control	geriatric surgery, hip fractures only	formulary restriction/ change in stocking (restrictive)	1,491
Jones 1997	UK	before-after	only chest infection patients included	"change in our antimicrobial guidelines to replace cephalosporins" (unclear)	826
Ludlam 1999	UK	before-after, retro. case-control	geriatric acute care	"antibiotic policy restricting the use of third-generation injectable cephalosporins" (unclear)	4,194
Malani 2013	USA	retro. cohort	entire hospital	prior approval requirement (restrictive)	716
Miller 2009	UK	before-after	ICU/Critical Care	"introduction of a restrictive antibiotic prescribing policy" (unclear)	2,132
O'Connor 2004	Ireland	before-after, retro. cohort	geriatric acute care	education and policy change (persuasive)	683
Price 2010	UK	quasi-ITS	entire hospital	formulary restriction/ change in stocking (restrictive)	104,418
Schön 2011	Sweden	before-after, point prevalence survey	entire hospital x 3	education, change in national guidelines (persuasive)	76,416
Starks 2008	UK	retro. case-control	Geriatric surgery, hip fractures only	"change in antibiotic prophylaxis" pre-operative protocol (unclear)	1,811
Stone 1998	UK	before-after	geriatric acute care	formulary restriction/ change in stocking (restrictive)	2,467
Talapaert 2011	UK	quasi-ITS	medical & surgical wards only	education, formulary restriction/ change in stocking, and post-prescription review and recommendation (restrictive)	NR
Thomas 2002	Australia	before-after	entire hospital	formulary restriction/ change in stocking and prior approval requirement (restrictive)	112,000

Results

Forest Plot



ASP introduction associated with a 51% decrease in *C. difficile* incidence

Results

Stratified Analysis- Intervention

	Subgroup	No. of Studies	Pooled RR (95% CI)	Pooled effect p- value	I^2
Overall		15	0.49 (0.39, 0.63)	<0.00001	76%
Intervention	Persuasive	4	0.59 (0.31, 1.12)	0.10	25%
	Restrictive	7	0.48 (0.40, 0.58)	<0.00001	31%
	Restrictive- entire hospitals	4	0.51 (0.44, 0.59)	<0.00001	0%
	Removal from Pharmacy	5	0.46 (0.37, 0.58)	<0.00001	33%
	Prior Approval	3	0.50 (0.36, 0.68)	<0.0001	7%
	Post-Rx Review.	3	0.41 (0.27, 0.62)	<0.0001	17%

Research  QI

- *Translational T2:* Translation to Patients
- *Methods:* Meta-analysis
- *Impact on QI*: Further supports the need for Antibiotic Stewardship Programs (ASP) in hospitals
- *Impact on Research:* What elements of ASP are most effective for success
- *Next thing we are doing:*
  - Tracking our CDI rates (currently very low)
  - Tracking our CD-testing rates (currently high)
  - Hired a VISN-wide infection control physician
  - Started an MD/PharmD Stewardship program
  - Promote probiotics to prevent CDI/antibiotic associated diarrhea
- Return

Rural Telehealth HIV Care

Mixed-Methods Evaluation of a Telehealth Collaborative Care Program for Persons with HIV Infection in a Rural Setting

JGIM 2013
28(9):1165-73

Michael Ohl, MD, MSPH[1,2,3], Dena Dillon, PharmD[1,2,3], Jane Moeckli, PhD[1,2], Sarah Ono, PhD[1,2], Nancee Waterbury, PharmD[4], Jo Sissel, RN[4], Jun Yin, MS[5], Brian Neil, MD[6], Bonnie Wakefield, RN, PhD[1,2,7], and Peter Kaboli, MD, MS[1,2,3]

- Background
  - VA largest provider of HIV care in US (~24,000)
  - 12-18% with HIV live in rural areas
  - Travel burden to drive to HIV specialty clinic when closer clinic with telehealth capability
  - Establish trusting relationships between specialty and primary clinic teams
  - Create communities of practice around specific patient populations

Telehealth Collaborative Care

CPRS
Telephone

- Shared Registry
- “True Team”: self aware as team, defined roles, responsibilities, and communication processes

Pre/Post Telehealth Collaborative Care for HIV

Table 3. Care Measure Results

	Measure	Pre-TCC (*N*=17)		Post-TCC (*N*=24)		p
		N *eligible*	N *met* (%)	N *eligible*	N *met* (%)	
HIV Quality Measures	1. Retention in care	17	13 (76)	24	24 (100)	0.13
	2. CD4 Measurement	17	14 (82)	24	24 (100)	0.25
	3. HIV viremia control	15	15 (100)	24	23 (96)	0.99
	4. Syphilis screening	17	6 (35)	24	24 (100)	0.001
	5. HCV screening	17	17 (100)	24	24 (100)	—
	6. HBV screening	17	13 (76)	24	22 (92)	0.5
	7. Influenza vaccination	17	8 (47)	24	23 (96)	0.008
	8. Pneumococcal vaccination	17	15 (88)	24	23 (96)	0.99
	9. HBV vaccination	5	2 (40)	10	9 (90)	0.25
Cardiovascular Risk Factor Measures	10. Hypertension control	10	10 (100)	14	14 (100)	—
	11. Glycemia control	4	3 (75)	5	5 (100)	0.99
	12. Lipid monitoring	17	16 (94)	24	24 (100)	0.95
	13. Tobacco cessation	17	5 (29)	24	24 (100)	0.001
Other	14. Alcohol screening	17	3(18)	24	24(100)	< 0.001
	15. Depression screening	17	0(0)	24	24(100)	< 0.001
	16. Very/completely satisfied with care	—	—	18	16(88)	—
	17. Travel time, minutes, median (IQR)	17	320 (180–594)	24	170 (39–221)	< 0.001

TCC Telehealth Collaborative Care

Qualitative Evaluation

- Stigma and privacy were not barriers to TCC implementation
- Access improved through convenience
  - Trade-off with care coordination at 2 sites
  - Still relied on telephone for questions
- High value placed on specialist care
  - Little interest in turning all care over to PCP (SCAN-ECHO model)

Research  QI

- *Translational T3:* Translation to Practice
- *Methods:* Mixed Methods (qualitative + quantitative)
- *Impact on QI*: Investigator highly engaged in clinical operation and success of intervention
- *Impact on Research:* Are other models of telehealth acceptable to patients/providers for low prevalence conditions?
- *Next thing we are doing:*
  - Testing the Specialty Care Access Network-Extension for Community Healthcare Outcomes (SCAN-ECHO)
  - Spreading model to other rural sites of care

- Return

Geographic Variation in Rx Quality

ORIGINAL ARTICLE

Regional Differences in Prescribing Quality Among Elder Veterans and the Impact of Rural Residence

Brian C. Lund, PharmD;[1,2,3] Mary E. Charlton, PhD;[1] Michael A. Steinman, MD;[4] & Peter J. Kaboli, MD[1]

J Rural Health
June 2012

- Should Rx quality have geographic variation?
  - Rural vs. urban?
  - North vs. south?
- Is Rx quality a function of patient population or driven by providers and the system?

What is Rx Quality?

Table 1 Most Common Violations for Each Prescribing Quality Indicator

Zhan Criteria, Drugs to Avoid	%	Therapeutic Duplication	%
1. Oxybutynin	3.4%	1. Antidepressants	2.0%
2. Cyclobenzaprine	2.2%	2. Antiulcer medications	1.1%
3. Dipyridamole	2.2%	3. Short-acting beta-agonists	0.8%
4. Amitriptyline	2.0%	4. Opioid analgesics	0.6%
5. Propoxyphene	1.9%	5. Sedative-hypnotics	0.4%

Fick Criteria, Drugs to Avoid[a]	%	Drug Interaction	%
1. Doxazosin	3.8%	1. Simvastatin-verapamil	0.9%
2. Ferrous sulfate >325 mg/d	2.9%	2. Simvastatin-amiodarone	0.7%
3. Short-acting benzodiazepines[b]	2.7%	3. Aspirin-warfarin	0.4%
4. Clonidine	2.1%	4. Atenolol-valsartan	0.4%
5. Daily fluoxetine	2.0%	5. Aspirin-ibuprofen	0.4%

Rx Quality: Compared to the NE

Table 2 Variation in Prescribing Quality Among Older Adult Veterans By Geographic Region

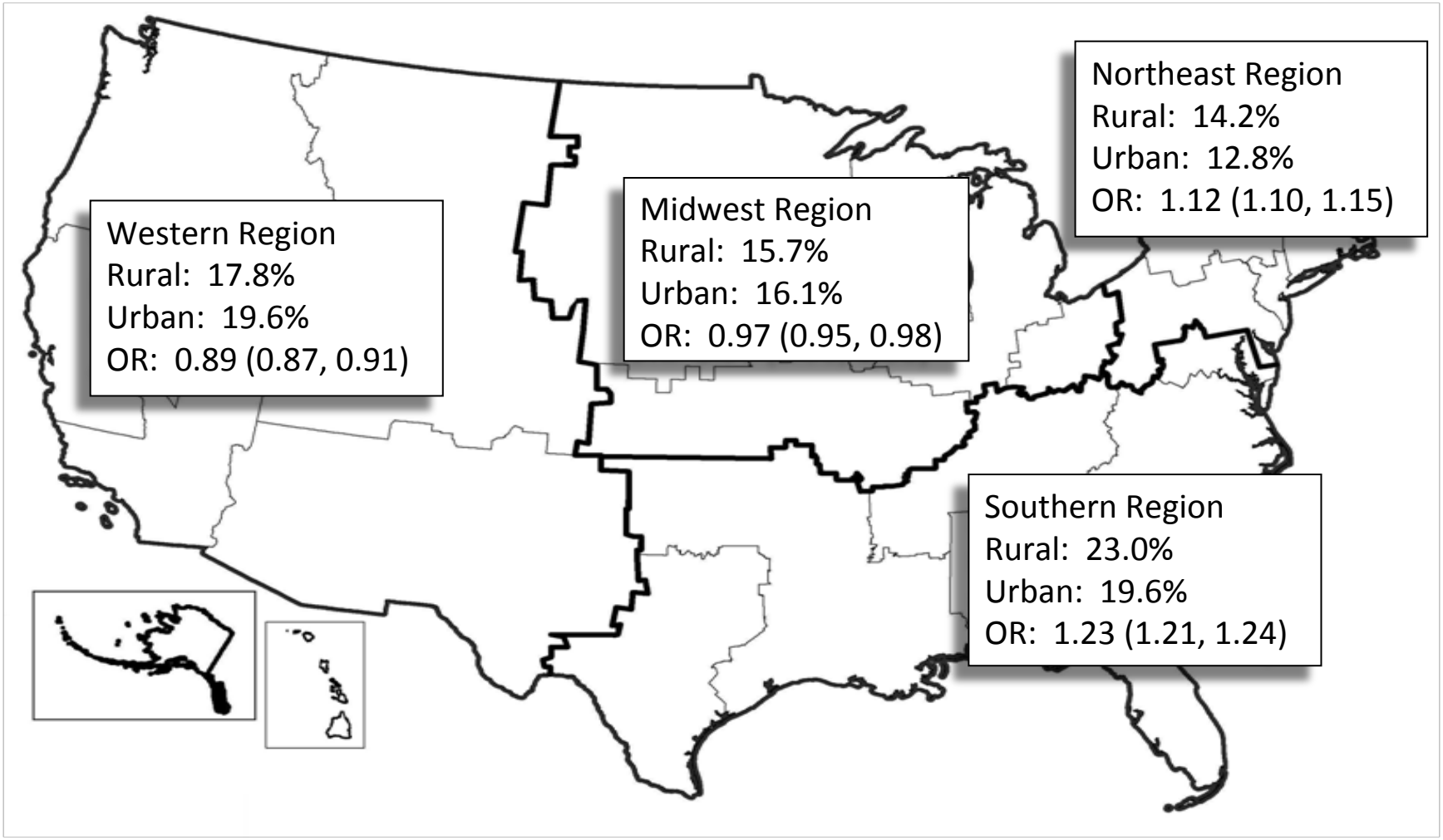
		Regional Differences			
Indicator	National N = 1,549,824 N (%)	Northeast N = 297,651 N (%)	Midwest N = 406,152 N (%) **OR** (95% CI)[a]	West N = 261,539 N (%) **OR** (95% CI)[a]	South N = 584,482 N (%) **OR** (95% CI)[a]
Zhan criteria	277,148 (17.9%)	39,383 (13.2%)	64,478 (15.9%)	49,438 (18.9%)	123,849 (21.2%)
		Reference	**1.23** (1.22, 1.25)	**1.51** (1.49, 1.53)	**1.75** (1.73, 1.77)
Fick criteria[b]	256,180 (16.5%)	39,479 (13.3%)	58,541 (14.4%)	47,582 (18.2%)	110,578 (18.9%)
		Reference	**1.11** (1.09, 1.12)	**1.47** (1.44, 1.49)	**1.54** (1.52, 1.56)
Therapeutic Duplication	99,672 (6.4%)	14,741 (5.0%)	22,498 (5.5%)	19,531 (7.5%)	42,902 (7.3%)
		Reference	**1.11** (1.09, 1.13)	**1.49** (1.46, 1.53)	**1.47** (1.44, 1.50)
Drug-drug Interaction	58,144 (3.75%)	11,049 (3.71%)	15,151 (3.73%)	8,806 (3.37%)	23,138 (3.96%)
		Reference	**1.00** (0.98, 1.03)	**0.90** (0.87, 0.92)	**1.06** (1.04, 1.08)

Rural vs. Urban

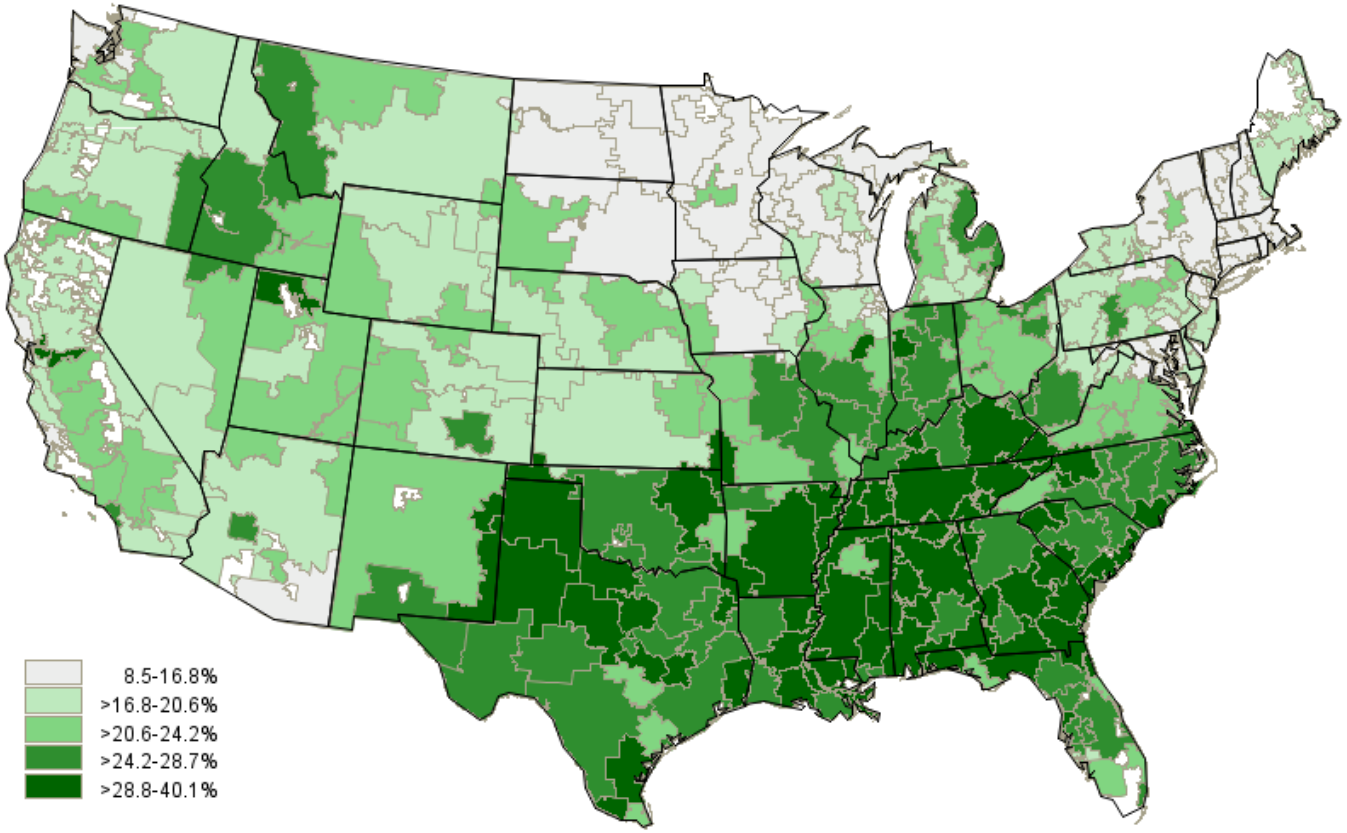
Table 4 Regional Variation in Associations of Rural Residence and Prescribing Quality

	[a]Odds-ratios (95% CI) for Rural versus Urban Residence			
Indicator	Northeast	Midwest	West	South
Zhan criteria	**1.11** (1.09, 1.14)	**0.97** (0.95, 0.99)	**0.89** (0.87, 0.91)	**1.22** (1.20, 1.23)
Fick criteria[b]	**1.02** (1.00, 1.04)	**0.99** (0.97, 1.01)	**0.96** (0.94, 0.98)	**1.09** (1.07, 1.10)
Therapeutic Duplication	**1.07** (1.03, 1.11)	**0.99** (0.96, 1.01)	**0.88** (0.86, 0.91)	**1.15** (1.12, 1.17)
Drug-drug Interaction	**0.97** (0.93, 1.01)	**0.97** (0.94, 1.00)	**0.90** (0.86, 0.94)	**1.11** (1.08, 1.14)

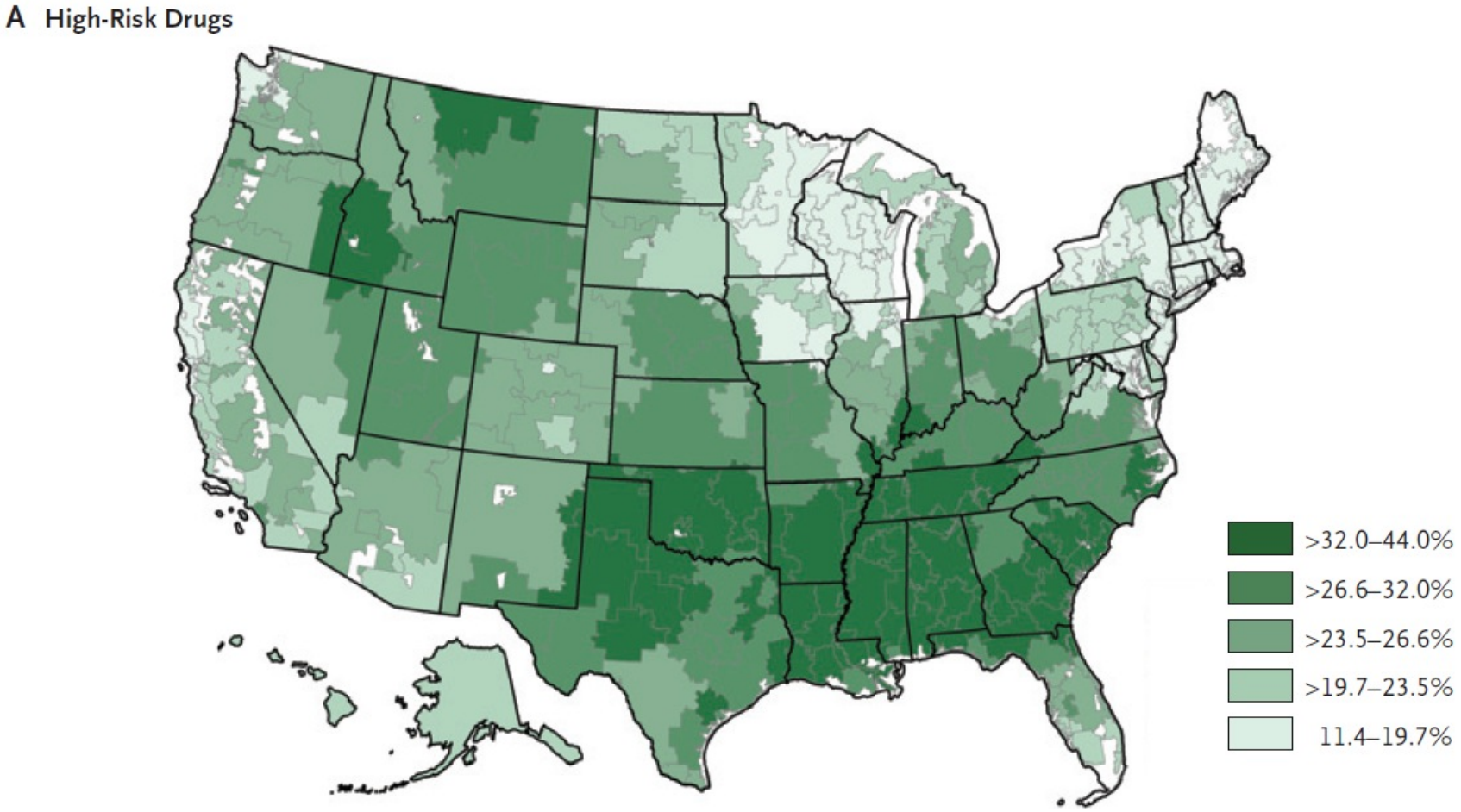
Potentially Inappropriate Prescribing in Elderly Rural Veterans: Regional Variation of Zhan Criteria



Potentially Inappropriate Prescribing by HRR (Lund)

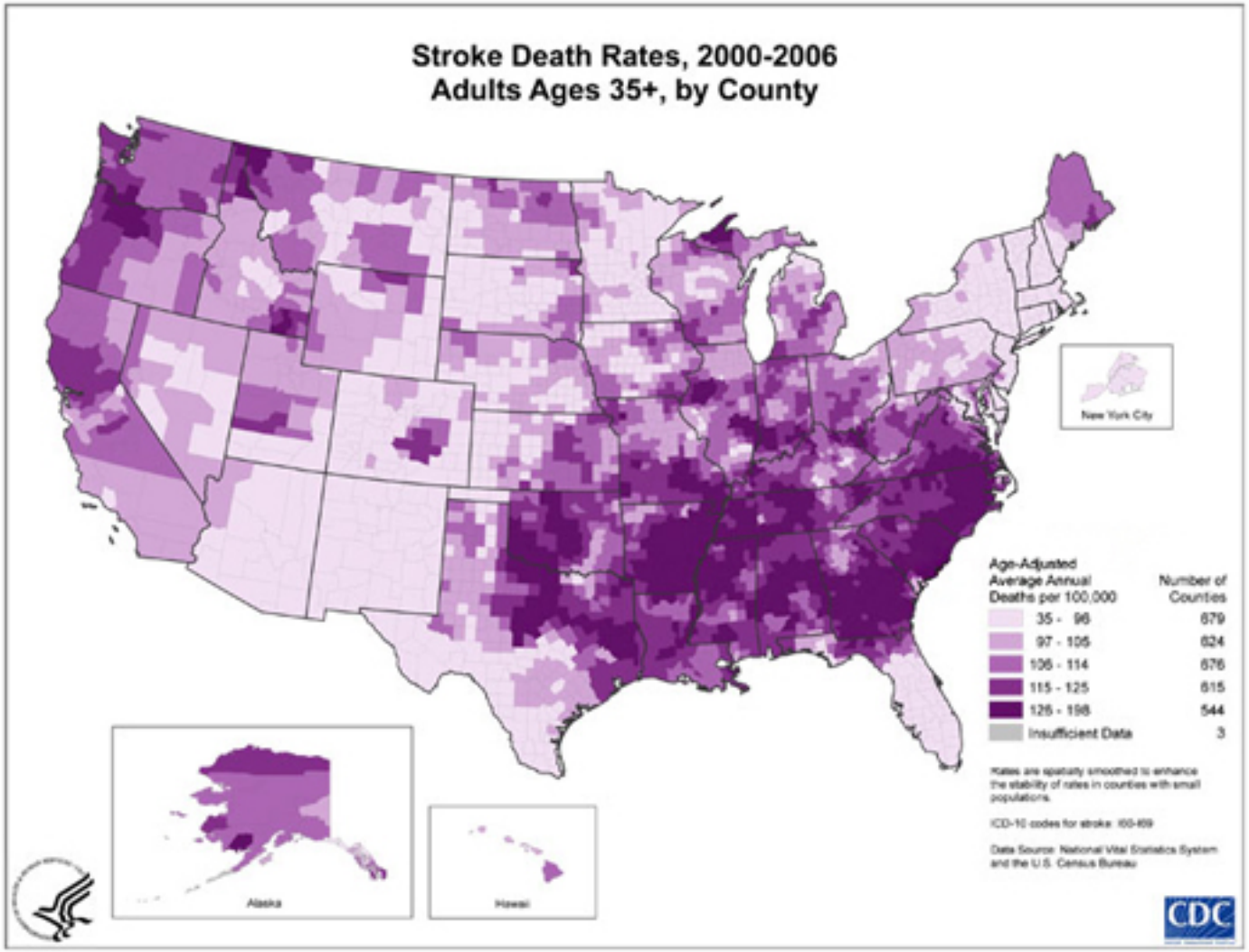


High-risk Drugs in Medicare

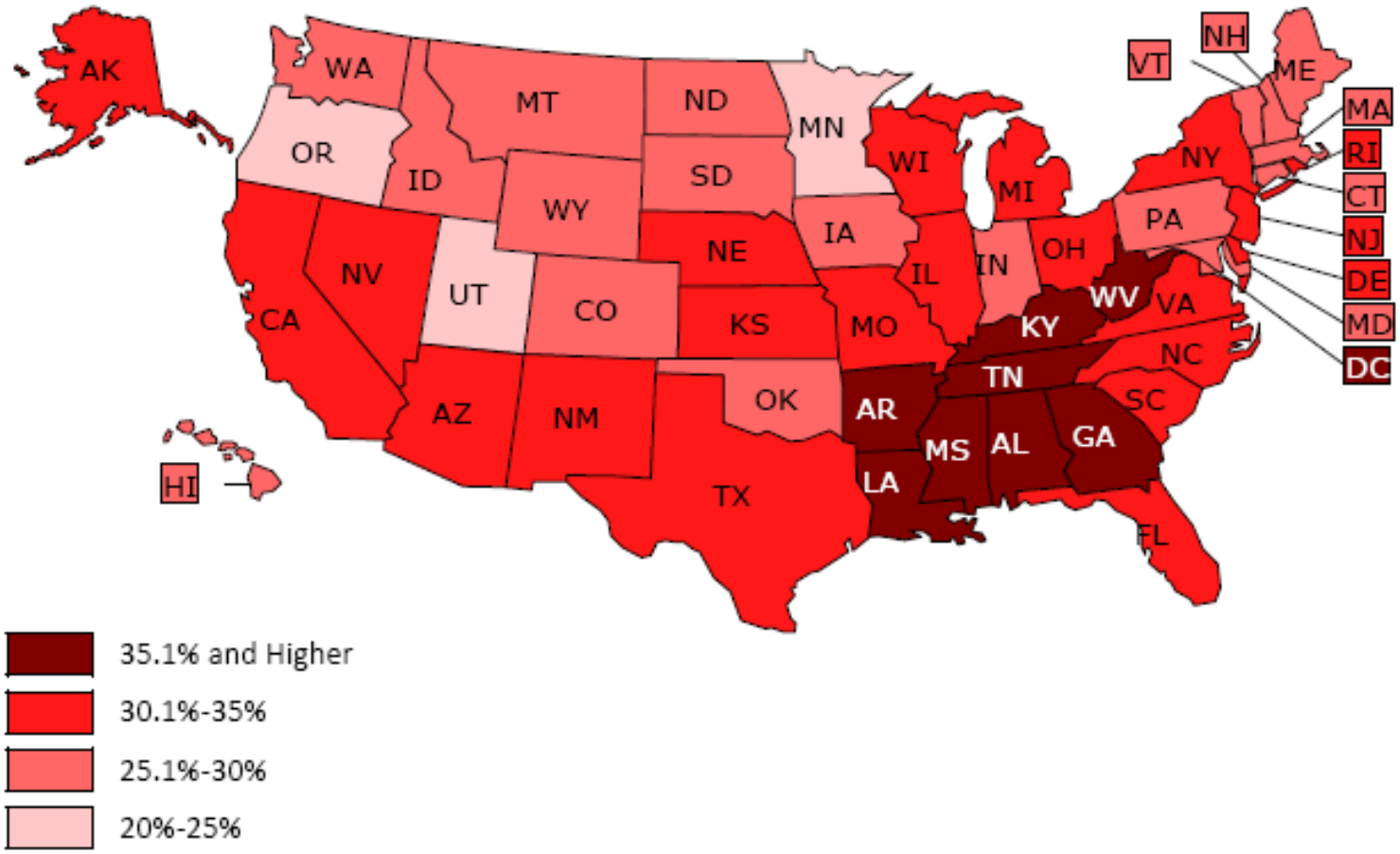


Zhang, Baicker, Newhouse. *NEJM*. 363:21. Nov 18, 2010

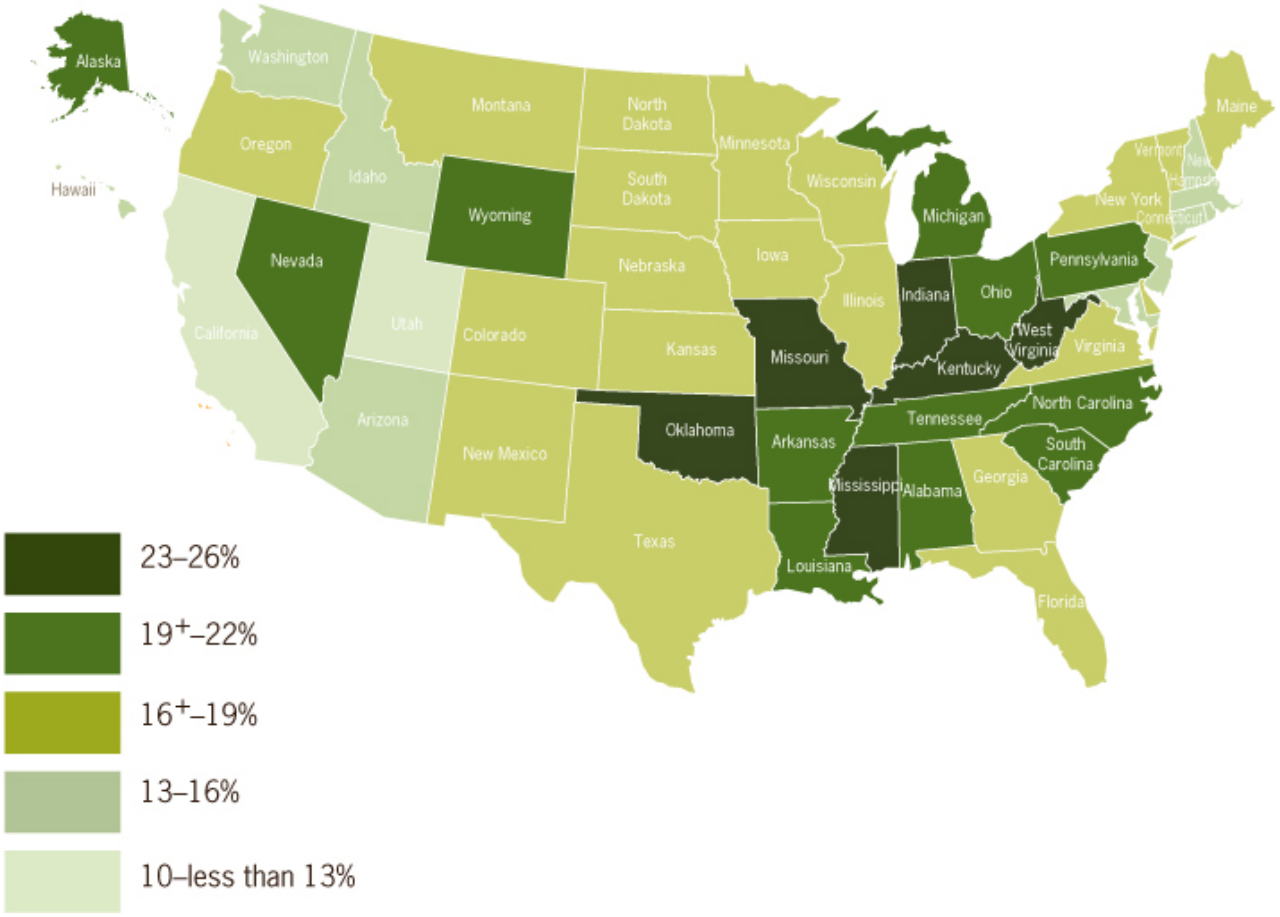
Stroke Belt


Stroke Death Rates, 2000-2006
Adults Ages 35+, by County
New York City
Age-Adjusted Average Annual Deaths per 100,000
Number of Counties
35 - 96 679
97 - 105 624
106 - 114 676
115 - 125 615
126 - 198 544
Insufficient Data 3
Rates are spatially smoothed to enhance the stability of rates in counties with small populations.
ICD-10 codes for stroke: I60-I69
Data Source: National Vital Statistics System and the U.S. Census Bureau
Alaska
Hawaii
CDC

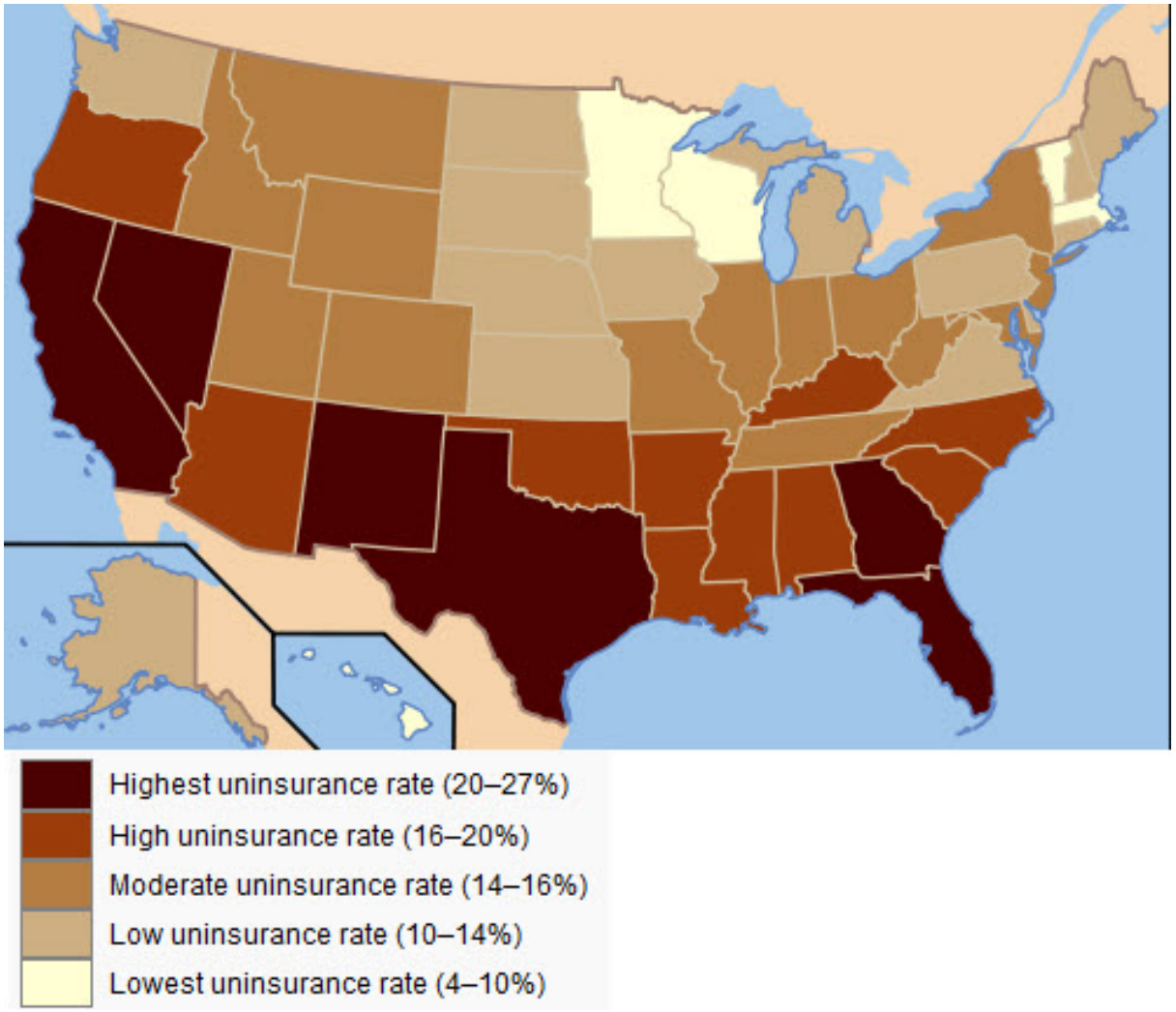
Obesity by State



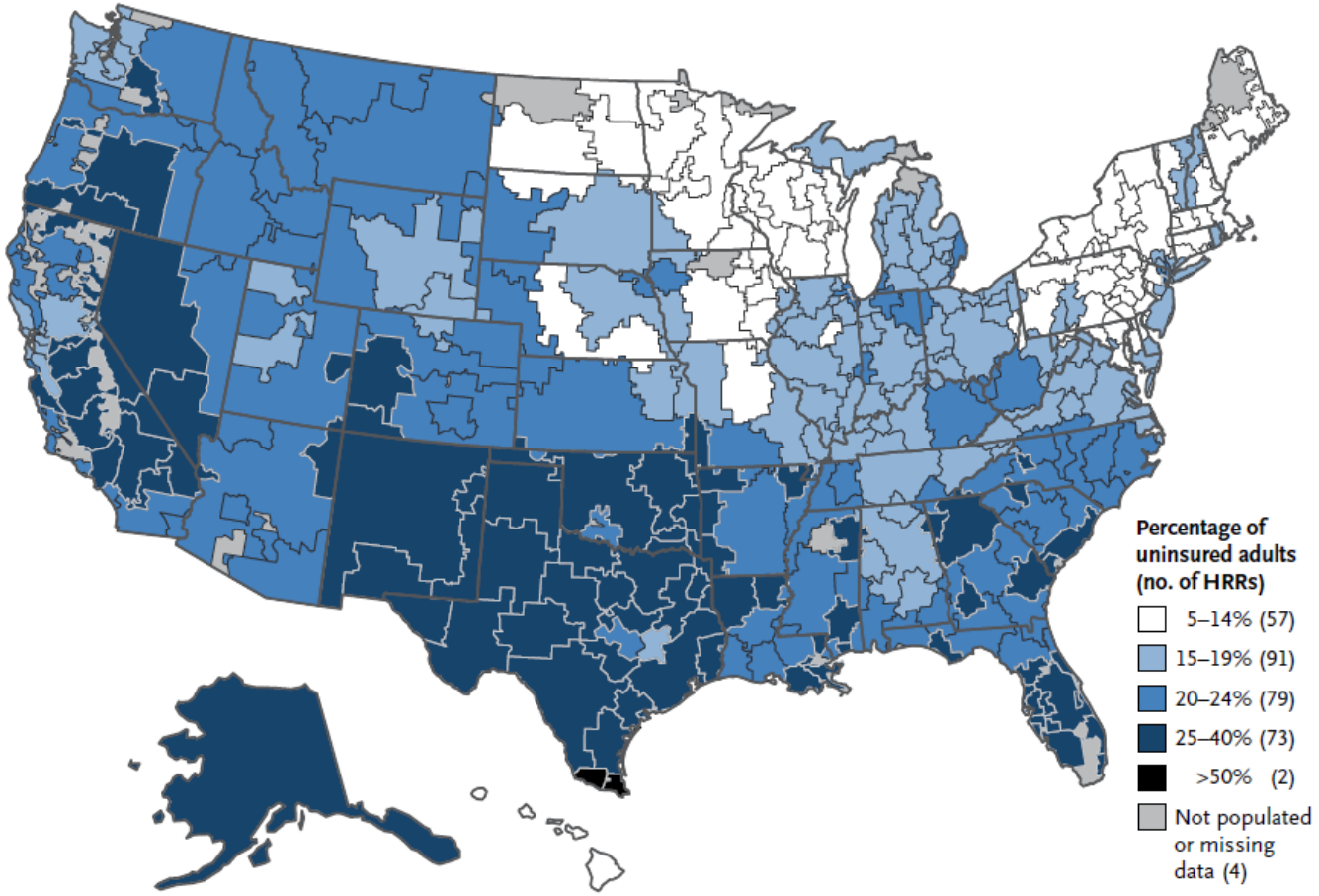
Smoking Rates by State



Percent Uninsured by State

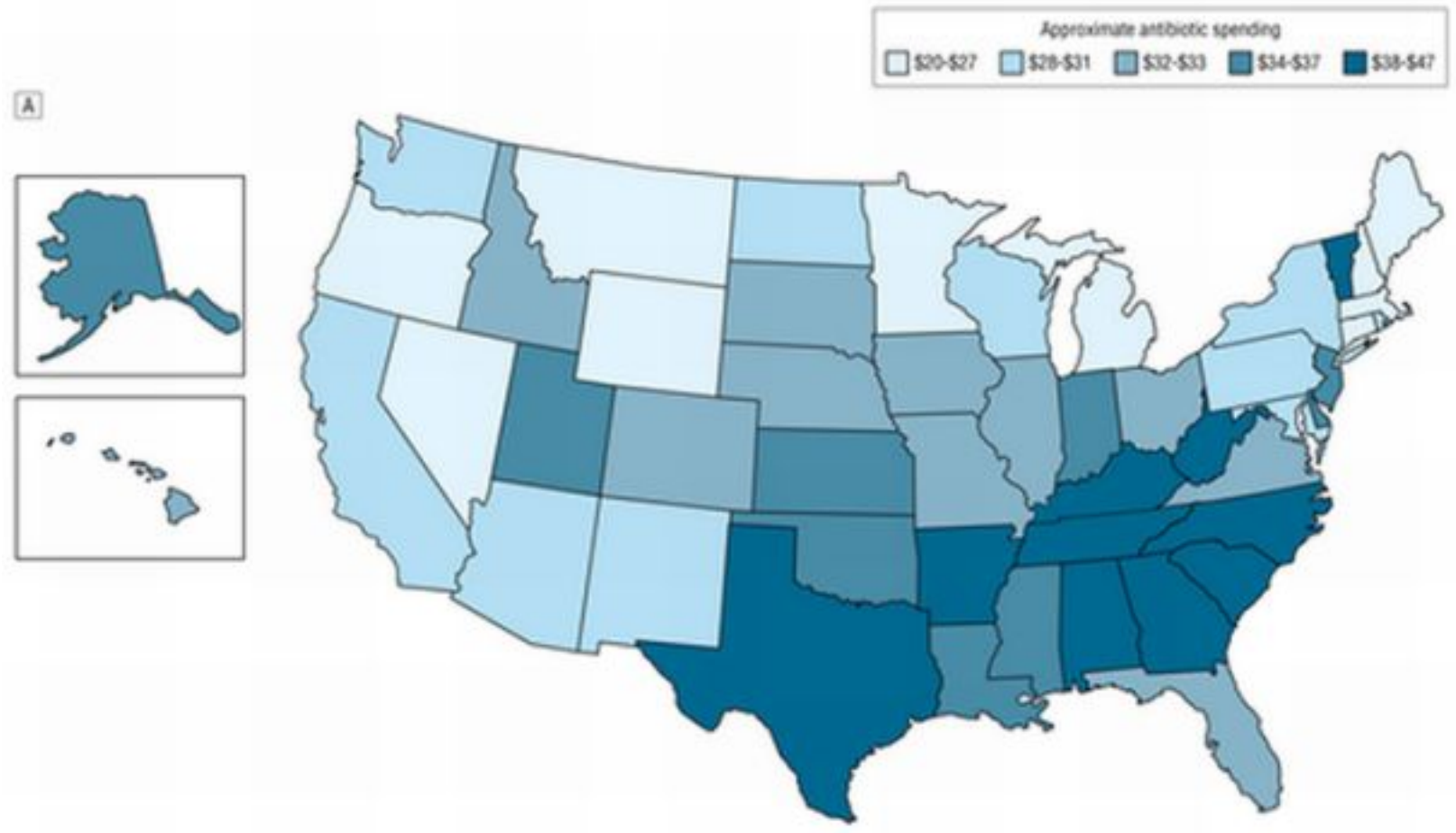


Percent Uninsured by HRR



Radley and Schoen. NEJM 367:1, July 5, 2012

Antibiotic Spending by State



- What is going on in the South?
- What can we learn from Minnesota and Iowa?

Research  QI

- *Translational T2:* Translation to Patients
- *Methods:* Secondary Analysis of Administrative Data
- *Impact on QI*: Influence how prescribing quality can be measured and reported to front-line providers
- *Impact on Research:* Understand the limitations of administrative data and need for more granular investigation
- *Next thing we are doing:*
  - Cluster-randomized trial of providing prescribing quality data directly to pharmacists to impact patient selection in the Primary Care Medical Home (VA PACT)

- Return

Access to Care

Access to VA Services

- 313M pop→~21M Veterans→8.2M Enrolled→5.5M Patients
  - 21% live >60 min from 1° care
  - 42% live >90 min from acute care
- 9.5M ≥65 eligible for Medicare and VA
  - ~50% of Medicare eligible Veterans are "dual-users"
- "Dual-Eligible": using both VA and non-VA healthcare.
  - 79% with other source of "insurance"
    - 55% Medicare Part A and 40% Medicare Part D
    - 26% Medigap
    - 12% Tricare for Life (DoD)
    - 10% Medicaid
    - 28% Private Insurance

Access: Definition

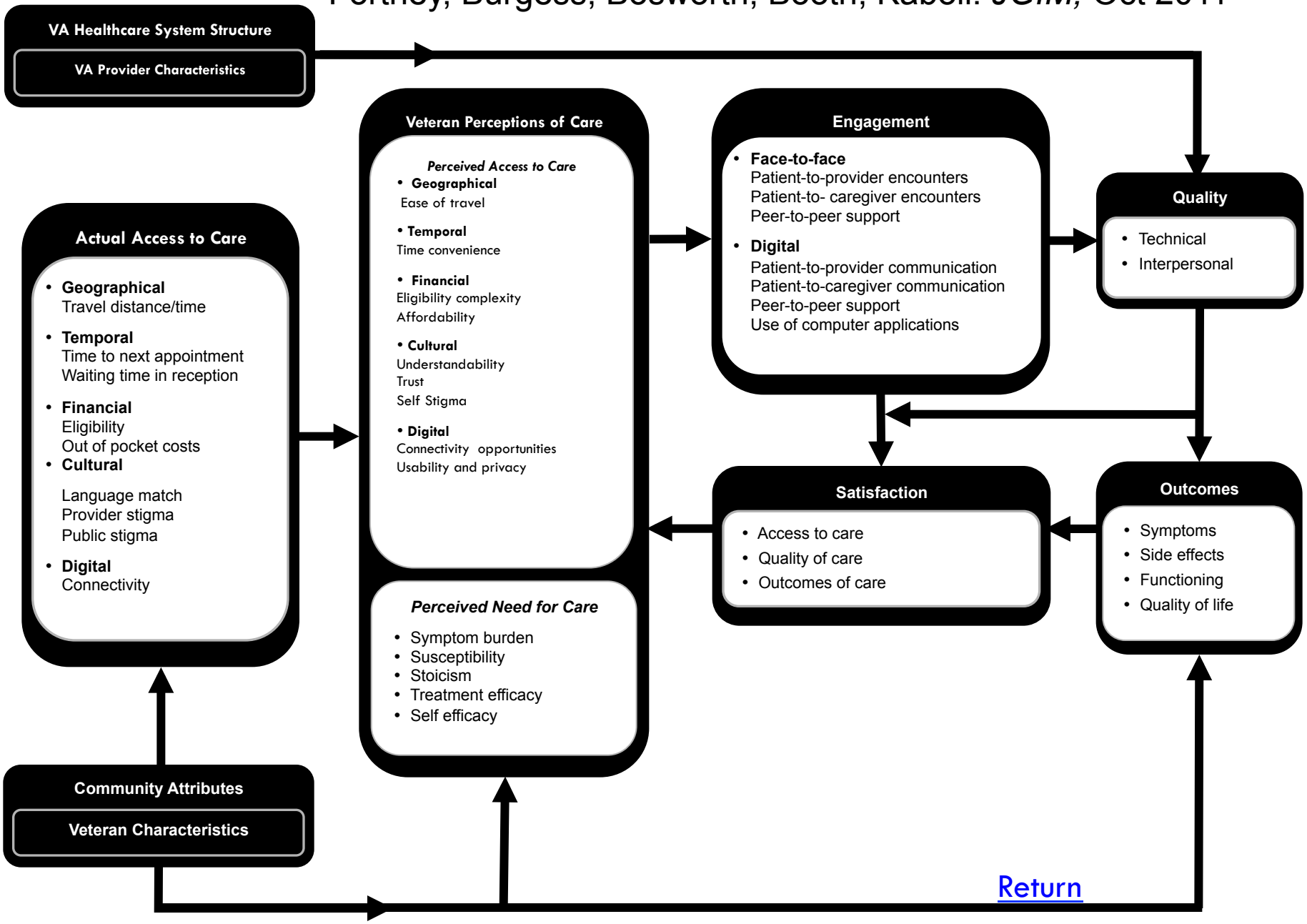
- IOM:"the timely use of *personal health services* to achieve the best possible health outcomes." Millman M. *Access to health care in America*. National Academy Press; 1993.

- *New* 21st Century Definition (Fortney, *et al. JGIM*)
- **Access to Care** represents the potential ease of having virtual or face-to-face interactions with a broad array of healthcare providers including clinicians, caregivers, peers, and computer applications.
  - **Actual:** represents those directly-observable and objectively measurable dimensions of access.
  - **Perceived:** represents those self-reported and subjective dimensions of access.

New Framework/Model for Access

- Set of specific dimensions that characterize the fit between the patient and the healthcare system.
- Perceived and Actual Access
- Dimensions of access:
  - Geographical
  - Temporal
  - Financial
  - Cultural
  - Digital

Fortney, Burgess, Bosworth, Booth, Kaboli. *JGIM,* Oct 2011



Technology to Improve Inpatient Communication

Forbes Top 10 Healthcare Quotes of 2015

"The simple narrative of our age – that computers improve the performance of every industry they touch – turns out to have been magical thinking when it comes to healthcare. In our sliver of the world, we're learning, computers make some things better, some things worse, and they change everything." **Robert Wachter, MD –** The Digital Doctor (04/2015)

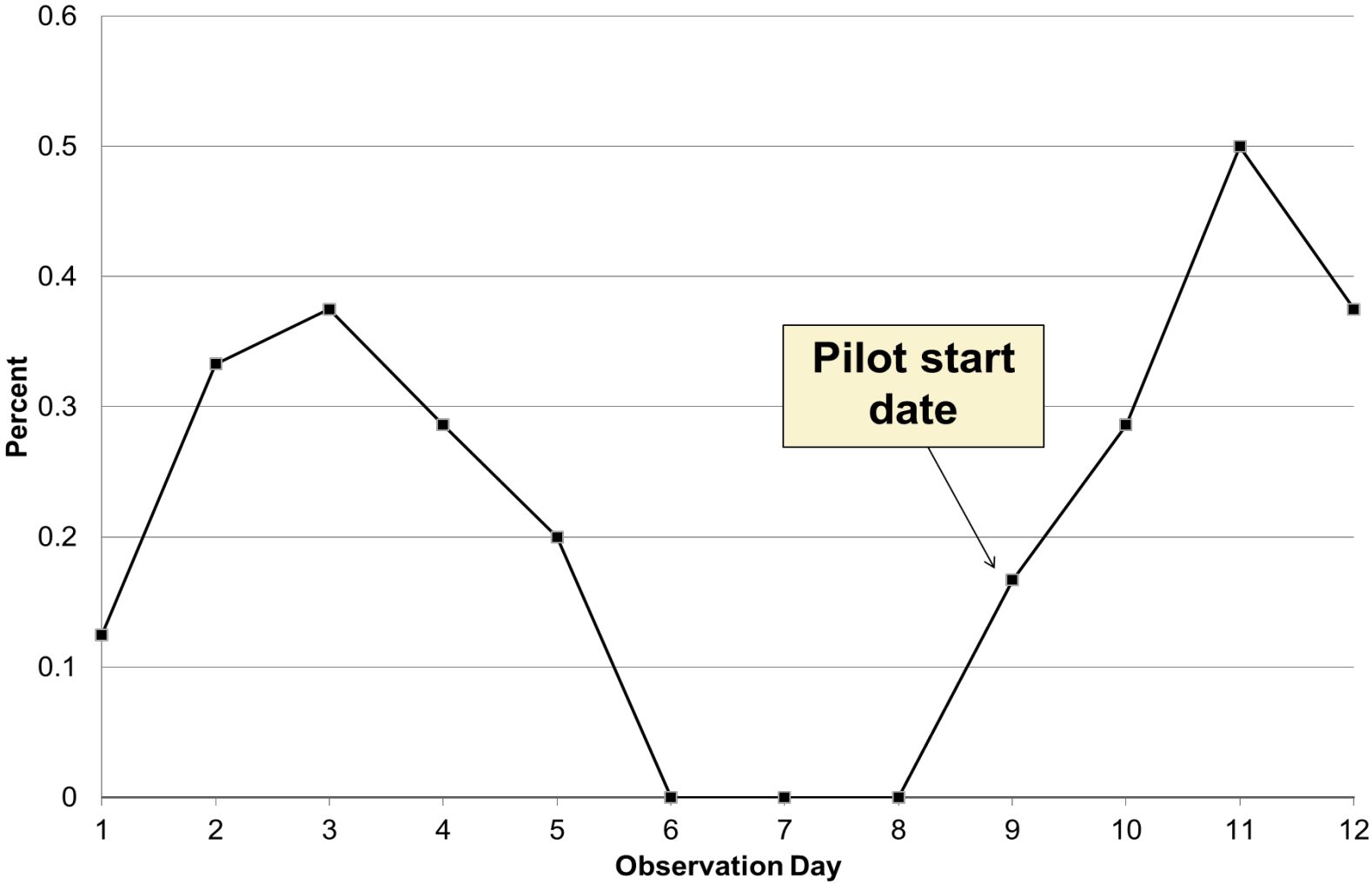
QI Study Aim

- To improve nurse-physician communication by implementing a quality improvement (QI) project

Significant Survey Results

- MDs were more likely to agree that communication with RNs prior to, during and after rounds was occurring
  - 50% of MDs believed they alert an RN when rounds are occurring, compared to only 3% of RNs
  - 65% of MDs believed that communication between team members is adequate; only 16% of RNs agree
- MDs (100%) and RNs (92%) agreed that bedside RN-MD rounds are not a part of hospital's culture
- 68% of MDs believed RNs were hard to locate compared to 26% of RNs

Rate of MD-RN Rounding Observed



Observations

- Tech limitations (e.g., availability, battery, voice recognition) were inconvenient
- Rates of RN-MD bedside rounds increased marginally, but perceptions improved substantially
- Technology didn't solve a basic problem with communication and culture

- Return

Mosher et al. BMC Health Services Research (2015) 15:265
DOI 10.1186/s12913-015-0932-y

BMC Health Services Research

RESEARCH ARTICLE Open Access

Aligning complex processes and electronic health record templates: a quality improvement intervention on inpatient interdisciplinary rounds

Hilary J. Mosher[1,2,5*], Daniel T. Lose[1,3], Russell Leslie[1], Priyadarshini Pennathur[4] and Peter J. Kaboli[1,2]

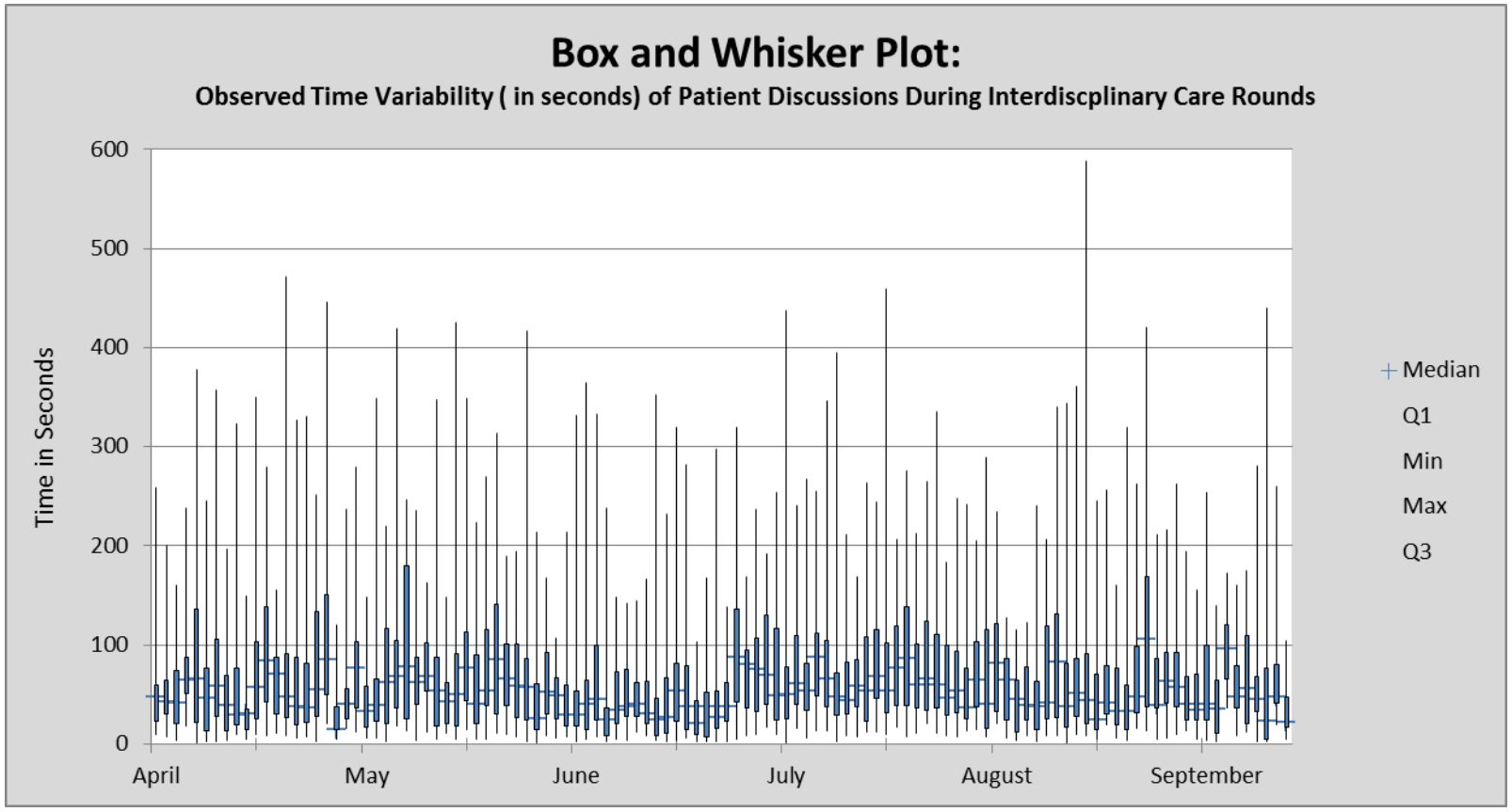
Interdisciplinary Rounding context

- Transient multidisciplinary teams (i.e. AAMC)
- Conflicting schedules/ workload
  - Peak time demands vary across discipline
- Heterogeneous patient populations
  - Medically complex patients
  - Post hospitalization placement/rehabilitation
  - Social needs

Care Coordination Strategies

- Inpatient Care Navigators
- Structured Interdisciplinary Round Checklists (SIDR)
- Structured Interdisciplinary Bedside Rounding (SIBR)
- Asynchronous communication
  - White boards, EMR tools

Our observations



What is the best way to structure and document IDR to support consistent high quality?

Structured Inter-Disciplinary Rounds (SIDR)
Communication Tool
OVERALL PLAN OF CARE
- Diagnosis?
- Patient's chief concern?
- Tests today?
- Procedures today?
- Medication changes today?
- Medication Issues?
- Consulting services?
- Expected Discharge date?

DISCHARGE PLANS
- Telemetry needed?
- Discharge needs?
    - o Placement?
    - o Home health needs?
    - o Transportation?

PATIENT SAFETY
- On VTE prophylaxis?
- Can central lines be discontinued (including PICCs)?
- Can Foley catheter bed is continued?
- Can we reduce fall risk?
- Can we reduce pressure ulcer risk?

O'Leary *et al.* 2010. J Gen Intern Med 25(8):826–32

For complicated processes involving teams, algorithmic or heuristic checklists?

Heuristics provide general instructions for how to arrive at a stated goal, but do not prescribe sequential or contingent steps, as algorithmic scripts or checklists do.

Heuristic scripts provide greater space for cognitive processing, whereas an algorithmic script is followed in stepwise fashion for each patient, by each practitioner, each time.

The decision to use an algorithmic or heuristic approaches depends on the process, context, and desired outcome

Algorithmic

-any operator

-exact instructions

-single fixed outcome

Example:
Central line placed in aseptic manner in the correct vessel in the correct patient

Heuristic

-assume skilled operator

-general instructions

-multiple and variable (subjective) acceptable outcomes

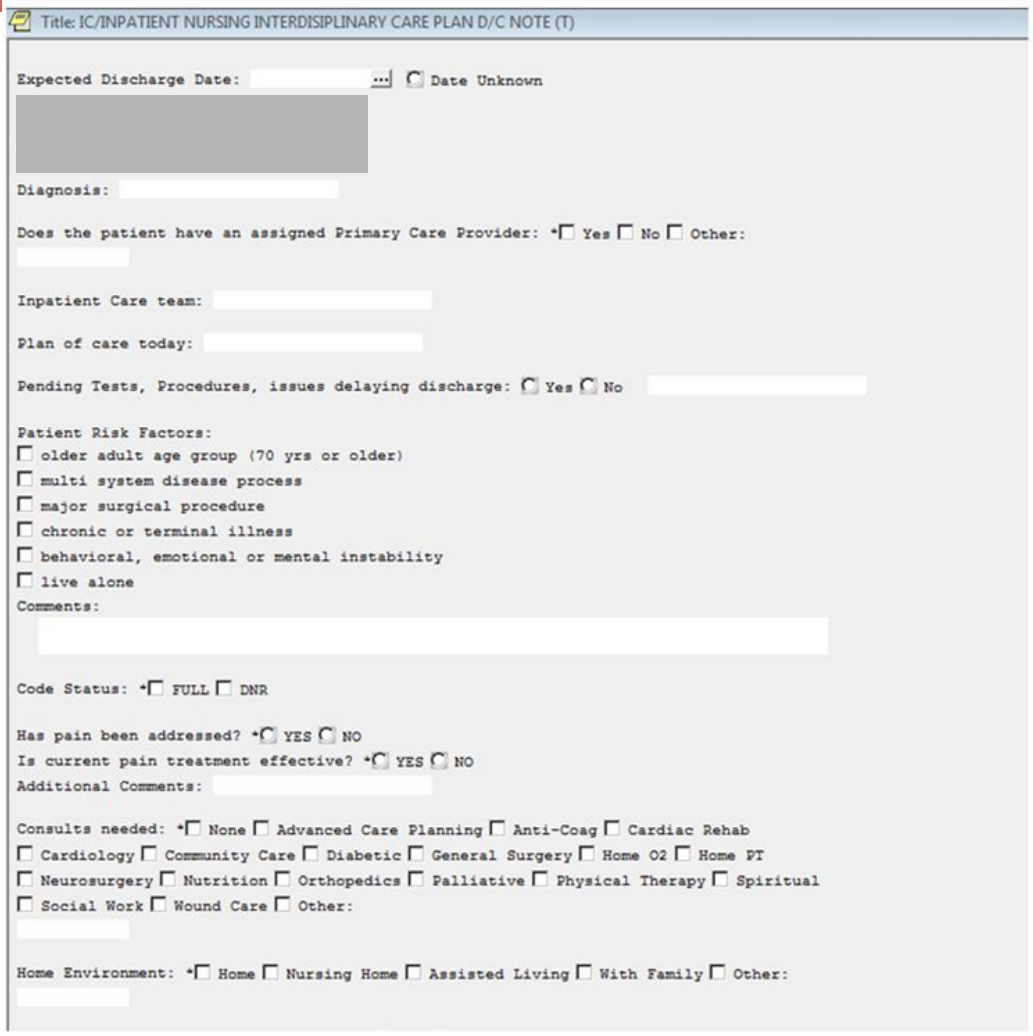
Example:
Patient is discharged in timely fashion to an appropriate location with optimal support and follow-up

ISDA Framework

The ISDA format is similar to a SOAP presentation for medical rounds.

1. **Identify** the patient's name, primary care provider, hospital day, main diagnosis or medical issue, anticipated discharge date and discharge disposition.
2. **Summarize** the goals of care and treatment plan.
3. **Discuss** the main interdisciplinary issues in daily care and discharge planning
4. **Ask** what was missed? And if are there orders to place?

How many checkboxes does it take to document interdisciplinary care?



Title: IC/INPATIENT NURSING INTERDISIPLINARY CARE PLAN D/C NOTE (T)

Expected Discharge Date: ☐ Date Unknown

Diagnosis:

Does the patient have an assigned Primary Care Provider: *☐ Yes ☐ No ☐ Other:

Inpatient Care team:

Plan of care today:

Pending Tests, Procedures, issues delaying discharge: ☐ Yes ☐ No

Patient Risk Factors:
☐ older adult age group (70 yrs or older)
☐ multi system disease process
☐ major surgical procedure
☐ chronic or terminal illness
☐ behavioral, emotional or mental instability
☐ live alone

Comments:

Code Status: *☐ FULL ☐ DNR

Has pain been addressed? *☐ YES ☐ NO
Is current pain treatment effective? *☐ YES ☐ NO
Additional Comments:

Consults needed: *☐ None ☐ Advanced Care Planning ☐ Anti-Coag ☐ Cardiac Rehab
☐ Cardiology ☐ Community Care ☐ Diabetic ☐ General Surgery ☐ Home O2 ☐ Home PT
☐ Neurosurgery ☐ Nutrition ☐ Orthopedics ☐ Palliative ☐ Physical Therapy ☐ Spiritual
☐ Social Work ☐ Wound Care ☐ Other:

Home Environment: *☐ Home ☐ Nursing Home ☐ Assisted Living ☐ With Family ☐ Other:

Will patient require placement/rehab: ☐ Yes ☐ No

Mode of Transportation: *☐ Self ☐ Family ☐ DAV ☐ W/C Van ☐ Ambulance ☐ Other:

Tele Health Care needs: ☐ Not Applicable ☐ Chronic Heart Failure ☐ Diabetes
☐ Hypertension

Community Care required (24 Hour Notice):☐ None ☐ Bath Aid ☐ Home Infusion ☐ Home Maker
☐ Home Oxygen ☐ Lab Draw ☐ Meal on Wheels ☐ Medication Setup ☐ Oxygen Studies Done
☐ PICC Line Management ☐ Prosthetics Request ☐ Safety Issues at Home ☐ Skilled Nursing
☐ Physical Therapy ☐ TPN/CVN Feedings ☐ Wound Care/Dressings

Discontinue prior to DC: *☐ Tele ☐ Dobhoff ☐ Foley Catheters ☐ Central Lines
☐ Peripheral IV ☐ Restraints/one-to-one

Supplies needed for discharge: *☐ None ☐ Dressing Supplies ☐ Catheter Supplies
☐ Urostomy Supplies ☐ Colostomy Supplies ☐ PEG Tube/J-Tube Feeding Supplies
☐ Tracheostomy Supplies ☐ Diabetic Equipment and Supplies ☐ Wound Vac Supplies ☐ Other:

Patient teaching/Education needs: *☐ Prevention of Infection ☐ Diet ☐ COPD ☐ CHF
☐ Oxygen/Concentrator ☐ Fall Prevention ☐ Anti-Coagulation Therapy
☐ Surgery/Procedure Specific Info ☐ Physical Therapy ☐ Diabetes ☐ Foley Catheter Care
☐ Drain Care ☐ Incentive Spirometer ☐ Wound Care/Packing ☐ PEG Tube/J-Tube ☐ Trachostomy
☐ Suction Machine ☐ Wound Vac ☐ Wound Care ☐ Cast Care ☐ Ostomy Care
☐ Post Cath Procedures ☐ Smoking Cessation ☐ MyHealtheVet ☐ Other:

Skin Integrity: High Risk for Decubiti: ☐ Yes ☐ No

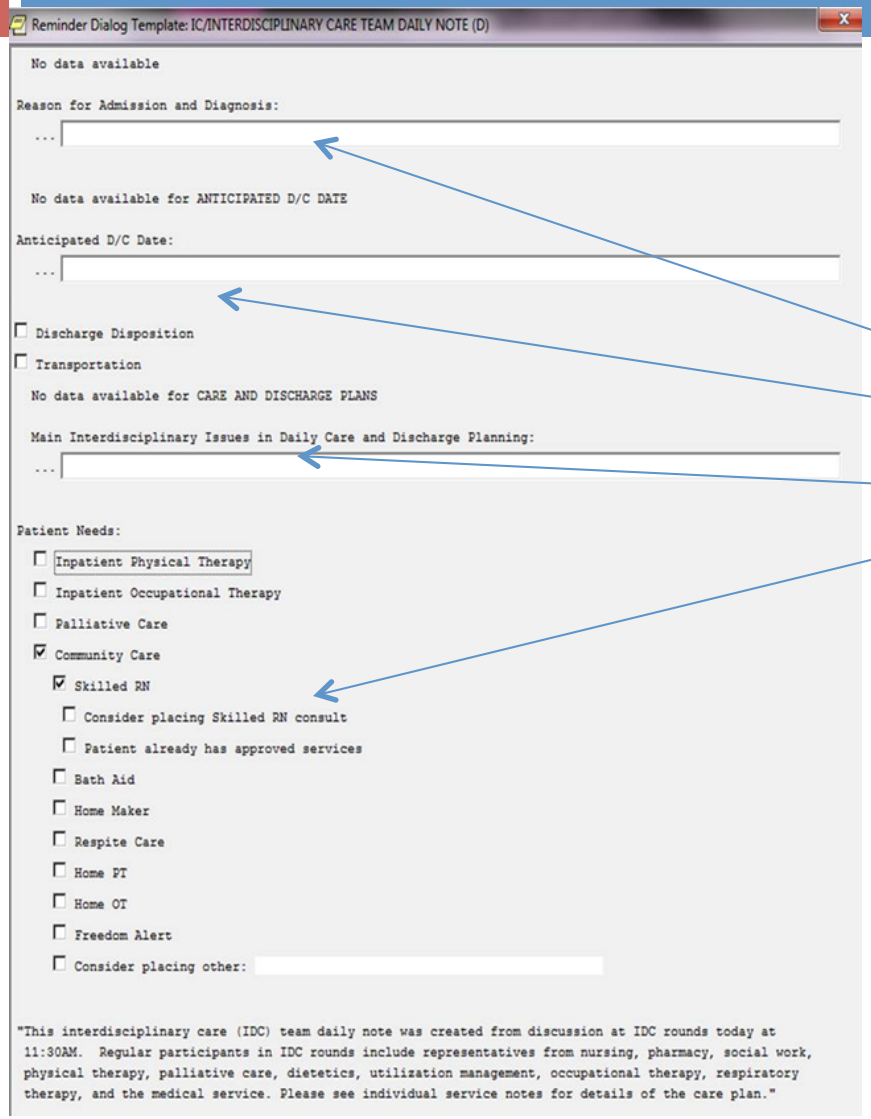
Wounds: ☐ Yes ☐ No

Dressings: ☐ Yes ☐ No

Discharging with Tubes/Drains/Stomas: *☐ PICC/Infusaport ☐ Foley Catheter ☐ Dobhoff
☐ PEG Tube ☐ J Tube ☐ JP Drain ☐ Heimlich Valve ☐ New Tracheostomy ☐ New Ileo-conduit
☐ New Colostomy ☐ New Ileostomy ☐ Wound Vac ☐ Continuous IV meds ☐ None ☐ Other:

Additional Comments:

Short, heuristic instructions aligned with note template to encourage shared process



VA HEALTH CARE Defining EXCELLENCE in the 21st Century — Iowa City VA Health Care System

VAQS VA Quality Scholars Fellowship — Advancing the Scholarship of Improving Health Care

Interdisciplinary Rounds

"Working together can make this time the most valuable 15 minutes of your day"

Team Schedule: Monday -Friday

Blue	Red	White
11:30 am	11:45 am	12:00 pm

1. **Identify:**
   a. Patient's name, PCP, and hospital day
   b. Main diagnosis or medical issue
   c. Anticipated discharge date
   d. Anticipated discharge disposition
2. **Summarize:** goals of care and treatment plan
3. **Discuss:** interdisciplinary issues in daily care and discharge planning
4. **Ask:** what was missed and orders to place?

Common Interdisciplinary Issues

Early Hospitalization

- Physical Function
- Mental Function
- Nutrition and Swallowing
- Palliative Care/ Advanced Care Planning

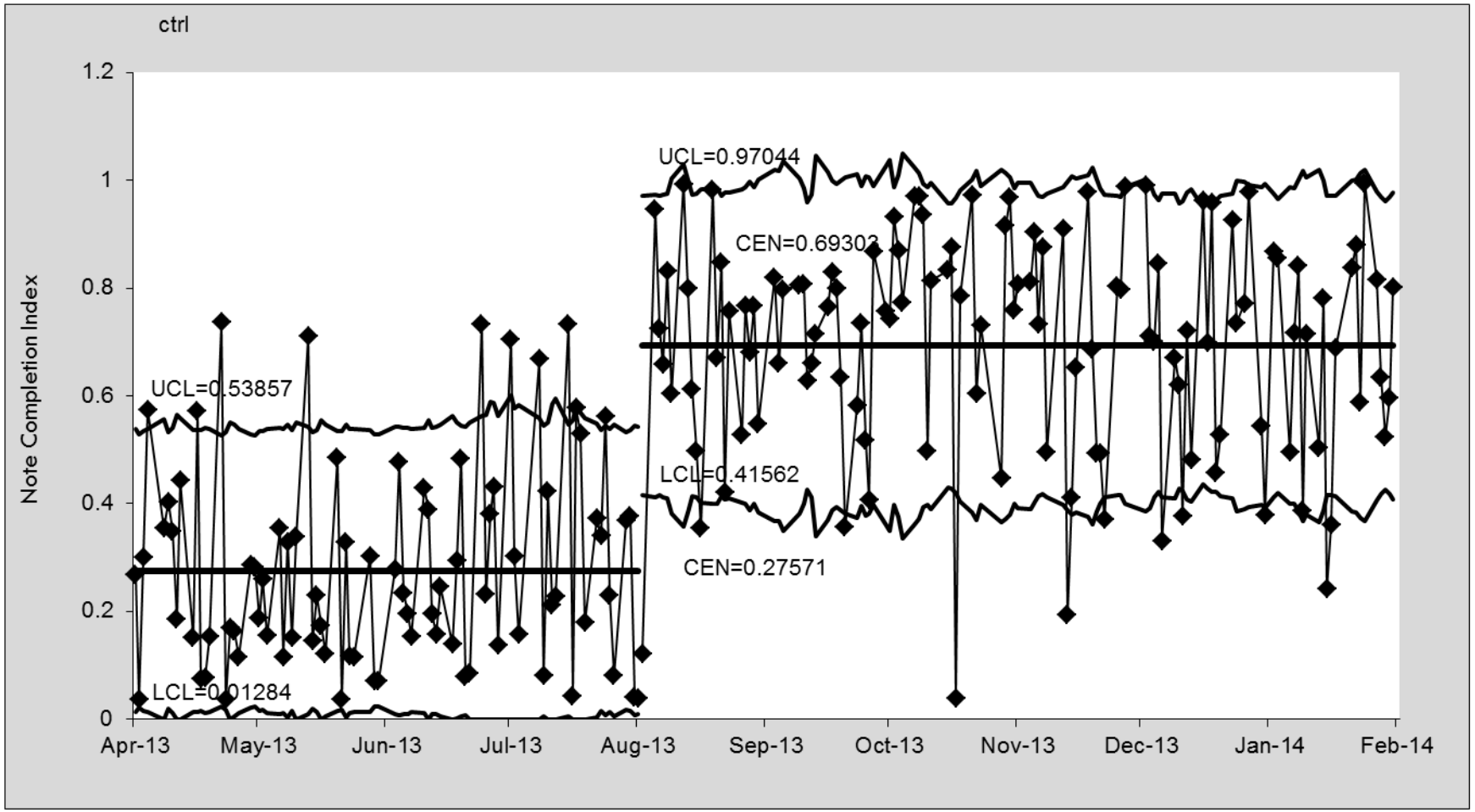
Daily Care & Preparing for Discharge

- Lines and Tubes
- Medication reconciliation
- Poly-Pharmacy
- Non-Formulary Medications

Planning for On Time Departure

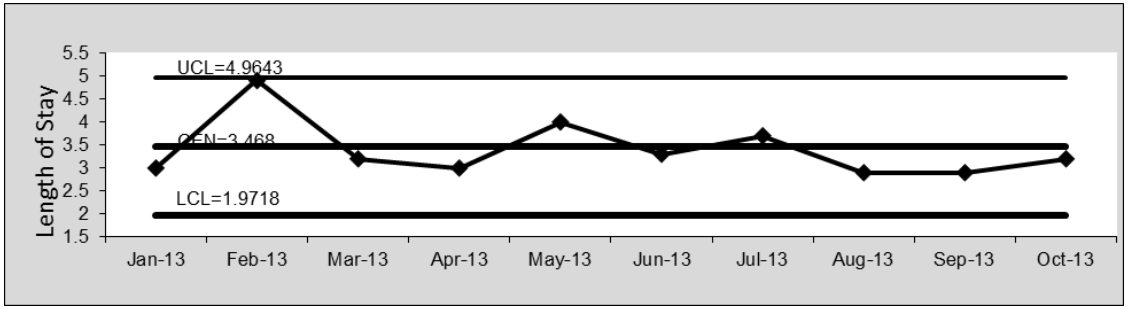
- Transportation (DAV, ambulance, etc)
- Placement
- Medical Supplies
- Home Infusion (e.g. antibiotics)
- Home Support (homemaker, skilled nursing)
- Home Oxygen
- Outpatient Appointments

The intervention sustainably increased the proportion of IDR notes completed daily

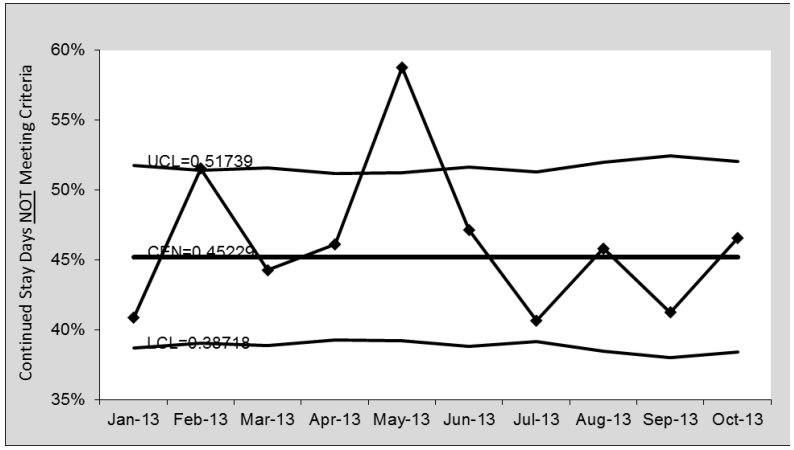


Balancing measures were unchanged by the intervention

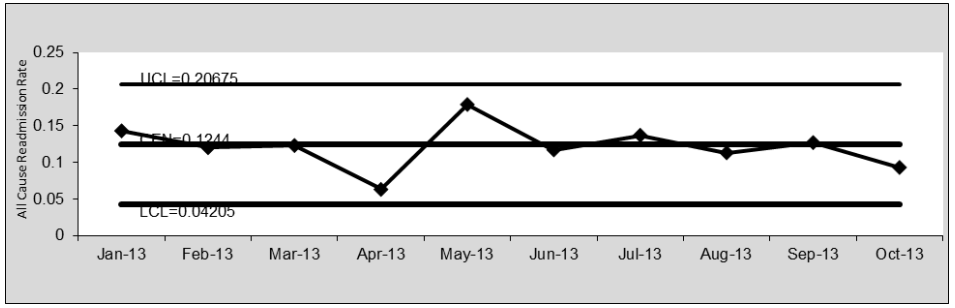
Hospital Length of Stay



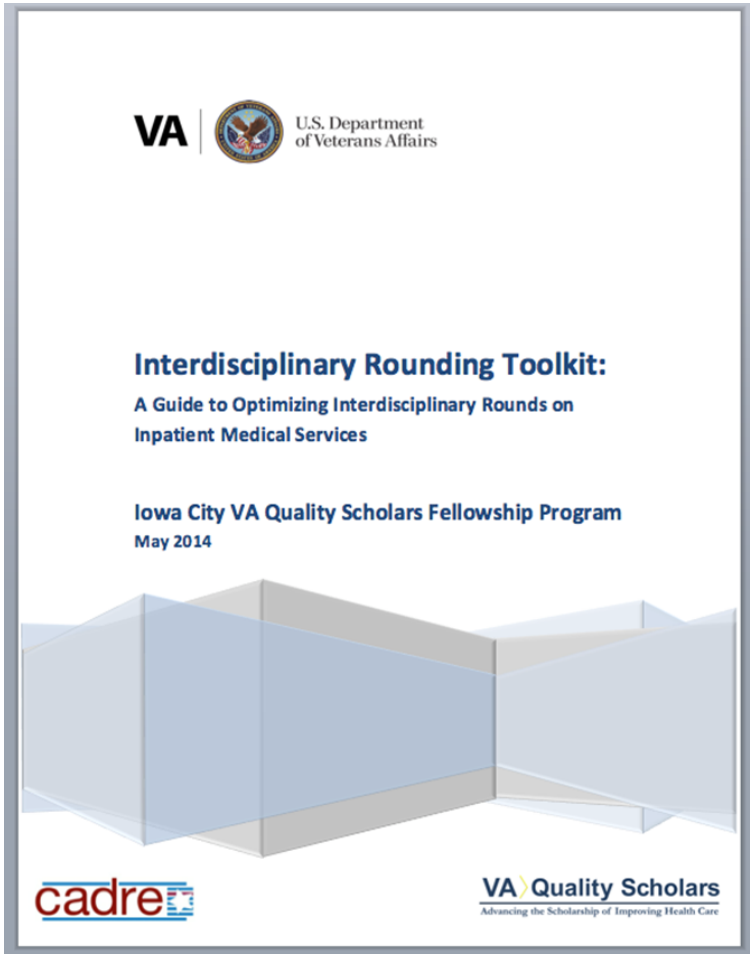
Excess Bed Days of Care Measured by Acute Continued Stay Reviews NOT Meeting Criteria



30 Day Hospital Readmission Rate

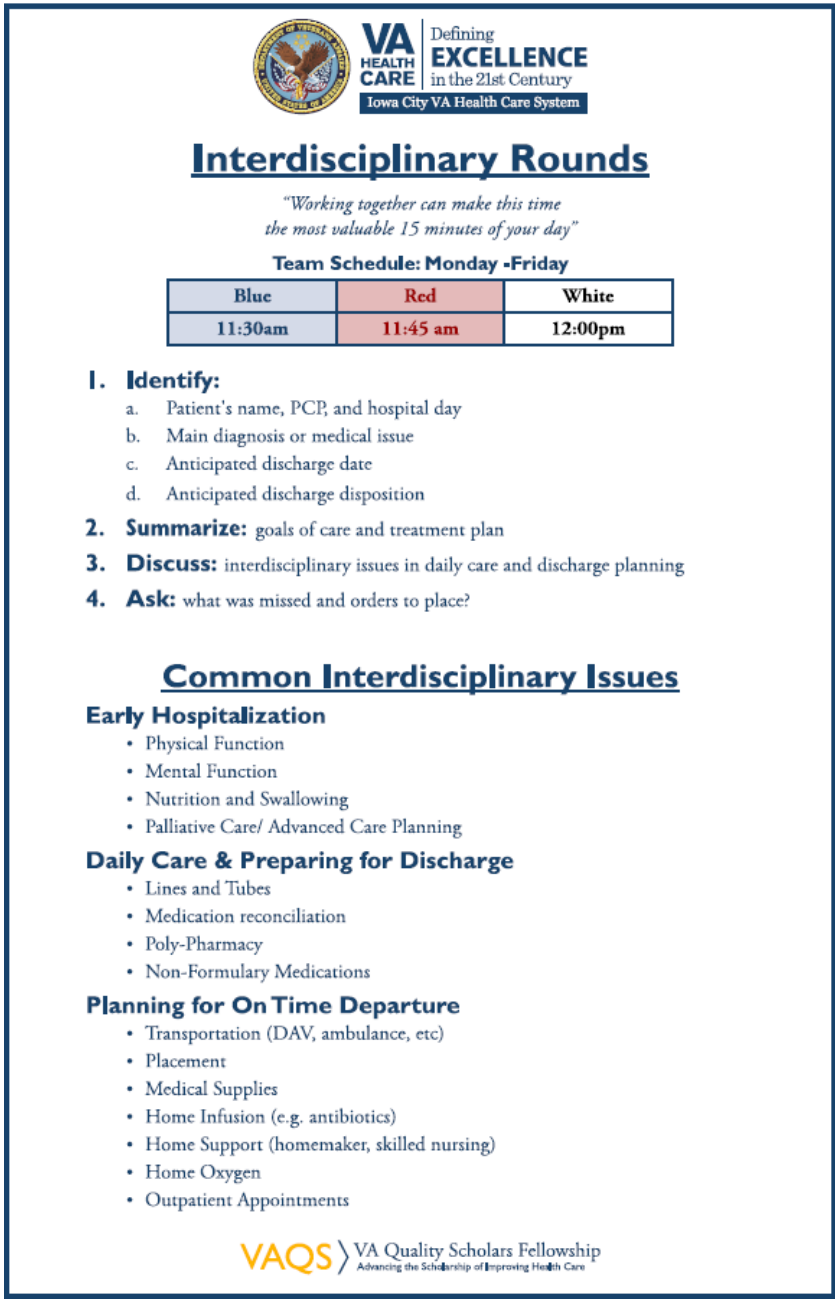


We packaged our work into a Toolkit



- Description of intervention
- Physician Pocket Card
- Information Sheet
- Inpatient Team Poster
- 6 minute Video
- Screenshots

POSTER



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VAQS VA Quality Scholars Fellowship
Advancing the Scholarship of Improving Health Care

Video

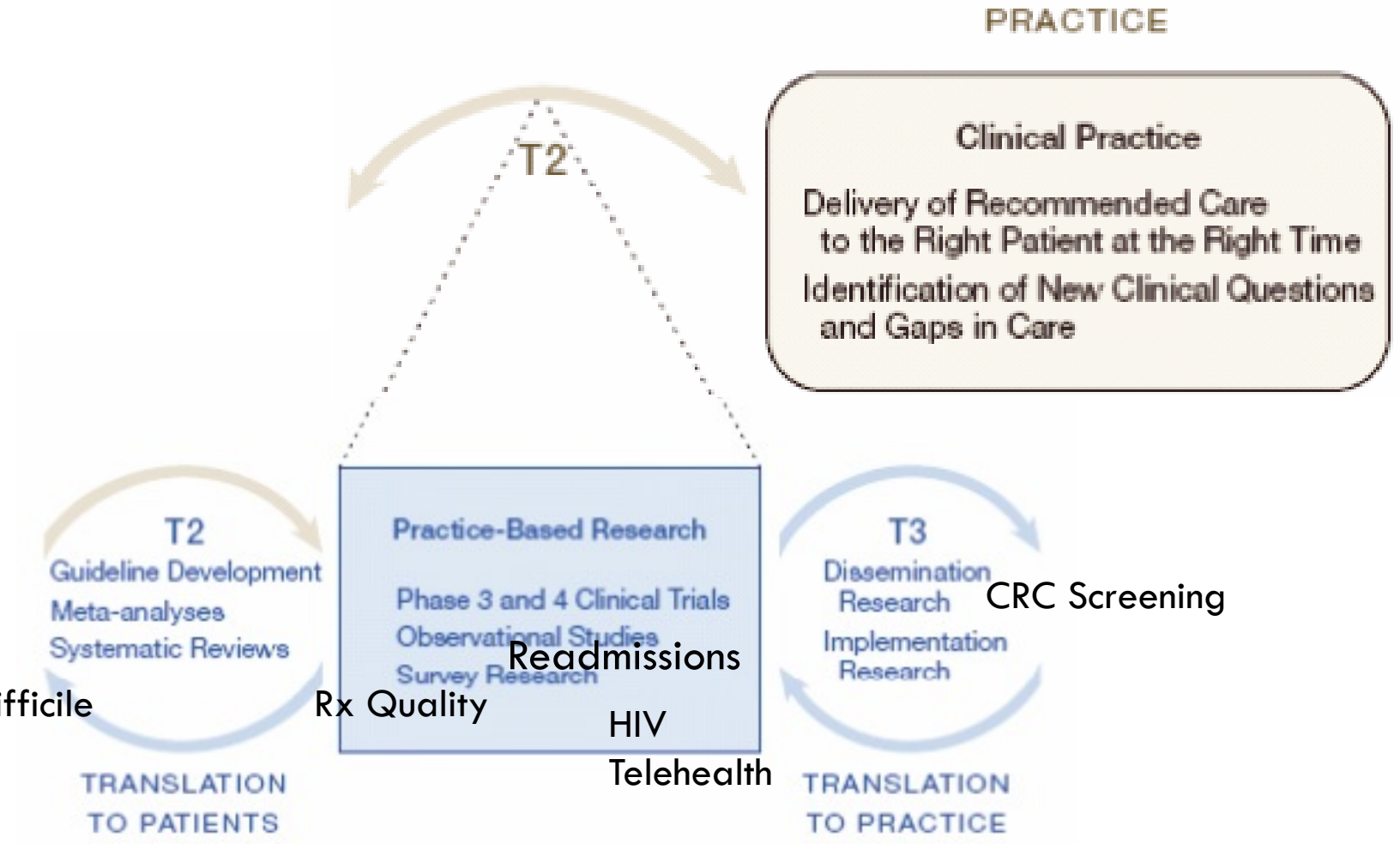
If this video still will not play, click the download below.

Download Video: "MP4"

http://www.cadre.research.va.gov/Quality_Scholars.asp

Return

Intersection: Research and QI



CRC Screening

Readmissions

C. difficile

Rx Quality

HIV

Telehealth

Summary

- Researchers, front-line clinicians, and QI leaders need to work in teams to inform the work of each other
- Researchers benefit from being involved in QI and vice-versa
- Inter-professional and team-based approaches to research and QI can be more successful and rewarding

Thank you