

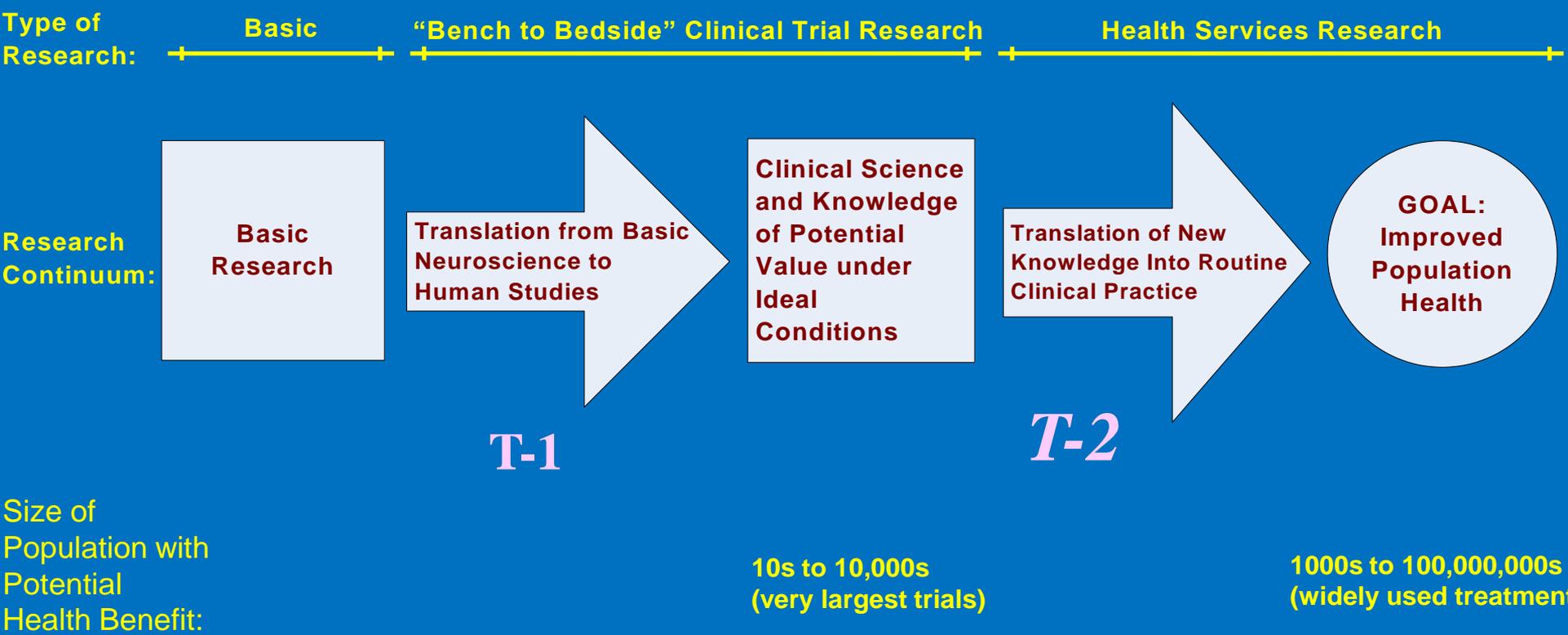


# Designing a Collaborative Care Model to Translate Evidence into Practice for Veterans with PD

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# Role of Health Services Research in Neuroscience Research Continuum



T-2

# HEALTH SERVICES RESEARCH

## Neuroscience Research Continuum

Basic Research

Translation from Basic Neuroscience to Human Studies

Clinical Science and Knowledge of Potential Value under Ideal Conditions

Diffusion

Higher use of RCT-proven treatments

Improved population health

No diffusion

Lower, delayed, or inappropriate use of RCT-proven treatments

Quality Improvement Interventions

Factors affecting

# **T-2: VA Quality Enhancement Research Initiative (QUERI)**

## *The Classic Six-Step QUERI Process*

- 1. Identify high risk/high burden conditions**
- 2. Identify evidence-based best practices and develop care indicators**
- 3. Define existing practice patterns in VA and variations from best practices**

- 4. Identify (or develop) and implement programs to promote best practices**
- 5. Document care process and system improvements**
- 6. Document improvements in health outcomes**

**Defining the Problem**

**Intervention Research**

# 1) PD as a high burden, complex chronic condition in VA

- Affects ~ 40,000 Veterans
- PD cost burden in US between \$5-20 billion/year
- Progressive and disabling
- Motor manifestations
- Wide range of non-motor health impacts including dementia in 1/3 of patients

## 2) Developed valid, evidence-based PD care indicators

### Development of Quality of Care Indicators for Parkinson's Disease

Eric M. Cheng, MD, MS,<sup>1\*</sup> Andrew Siderowf, MD, MSCE,<sup>2,3</sup> Kari Swartztrauber, MD, MPH,<sup>4,5</sup>  
Mahmood Eisa, MD,<sup>6</sup> Martin Lee, PhD,<sup>1</sup> and Barbara G. Vickrey, MD, MPH<sup>1,7</sup>

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<sup>2</sup>*PADRECC, Philadelphia Veterans Affairs Medical Center, Philadelphia, Pennsylvania, USA*

<sup>3</sup>*Department of Neurology, University of Pennsylvania, Philadelphia, Pennsylvania, USA*

<sup>4</sup>*PADRECC, Portland Veterans Affairs Medical Center, Portland, Oregon, USA*

Now exported to national efforts of American Academy of Neurology, National Quality Forum, AHRQ

*Movement Disorders*  
Vol. 19, No. 2, 2004, pp. 136-150  
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# Results: Examples of High-ranking PD Quality of Care Indicators

<b>Category of care</b>	<b>Example</b>
<b>Continuity and Coordination of Care</b>	<ul style="list-style-type: none"><li>• Identify Source of Care</li><li>• Documented Indication for Newly Prescribed Medication</li></ul>
<b>Initial Diagnosis and Treatment of PD</b>	<ul style="list-style-type: none"><li>• Assessment for Medication-Induced PD</li><li>• Initial Titration Schedule of Dopamine Agonist</li></ul>

# Results: Examples of High-ranking PD Quality of Care Indicators

Category of care	Example
Management of Motor Complications in PD	<ul style="list-style-type: none"><li>• Initial Treatment of Wearing Off</li><li>• Indications for PD Surgery</li></ul>
Management of Non-Motor Complications in PD	<ul style="list-style-type: none"><li>• Medical Treatment of Orthostatic Hypotension</li><li>• Annual Assessment of Falls</li></ul>
Management of Dementia, Depression, and Psychosis in PD	<ul style="list-style-type: none"><li>• Assessment for Depression</li><li>• Contraindicated Neuroleptics in PD patients</li></ul>

# 3) Defined Practice Patterns and Identified Gaps in Care

Measured levels of and factors associated with PD care quality in VA

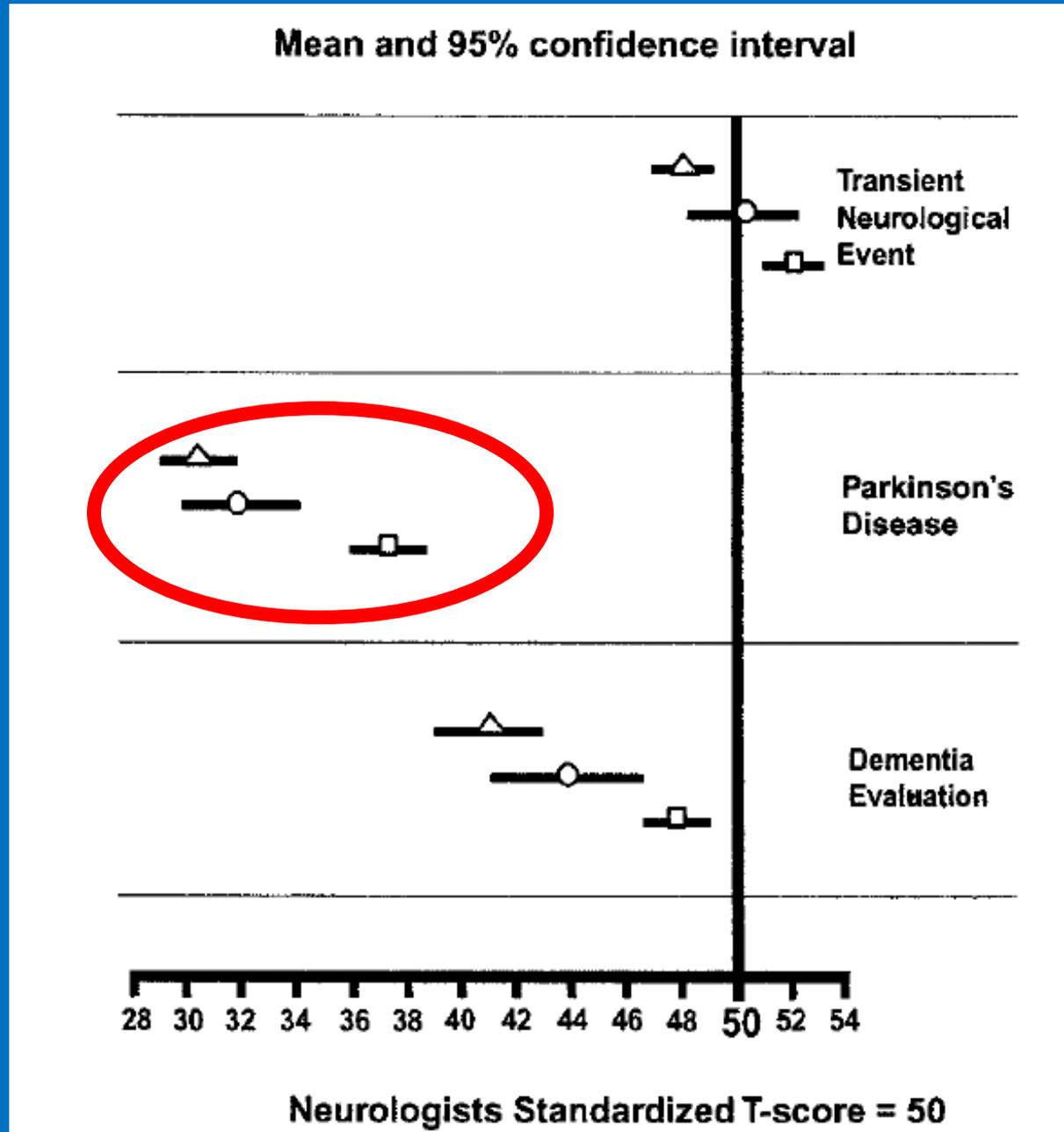
- Vignettes on PD, AD, and stroke were distributed to 608 family medicine MDs, 624 internists, and 492 neurologists in 4 states
- Measured and compared knowledge about these diseases and about referral preferences

Swarztrauber, et al. *Medical Care*, 2002Dec;40(12):1196-209

# Knowledge of PD care among PCPs (Swarztrauber, 2002)

	# (%) of PCPs that are incorrect or unsure	# (%) of incorrect or unsure PCPs who manage PD without referring to a neurologist
Adding an early morning levodopa dose helps reduce early morning akinesia in Parkinson's disease patients. N=654	297 (45.4%)	71 (24.1%)
Dyskinesias are a side effect of Sinemet when managing patients with Parkinson's disease. N=654	152 (23.2%)	35 (23%)
Hypotension is a side effect of Sinemet when managing patients with Parkinson's disease. N=657	221 (33.6%)	70 (31.7%)

Knowledge of PCPs about PD care relative to knowledge of neurologists is much worse than for knowledge about dementia and TIA



# 3) Defined Practice Patterns and Identified Gaps in Care in VA

Medical record review using the PD quality of care indicators

**Aim 1: Quantify the level of the quality of PD care.**

**Aim 2: Identify factors associated with the level of quality of PD care.**

*For example: Is the level of specialist involvement associated with higher quality?*

Cheng EM, et al, *Movement Disorders* 2007; 22:515-522

# **Aim #1: Measuring PD care quality**

- **Ten measures of PD care quality were triggered 2227 times during the study period, and the 401 Veterans with PD received recommended care 1541 times (69%).**
- **But there was a wide variation in adherence across the indicators:**
  - Highest: Documenting response to newly prescribed medication (98%)**
  - Median: Initial treatment for PD (71%)**
  - Lowest: Assessment for orthostatic hypotension (35%)**

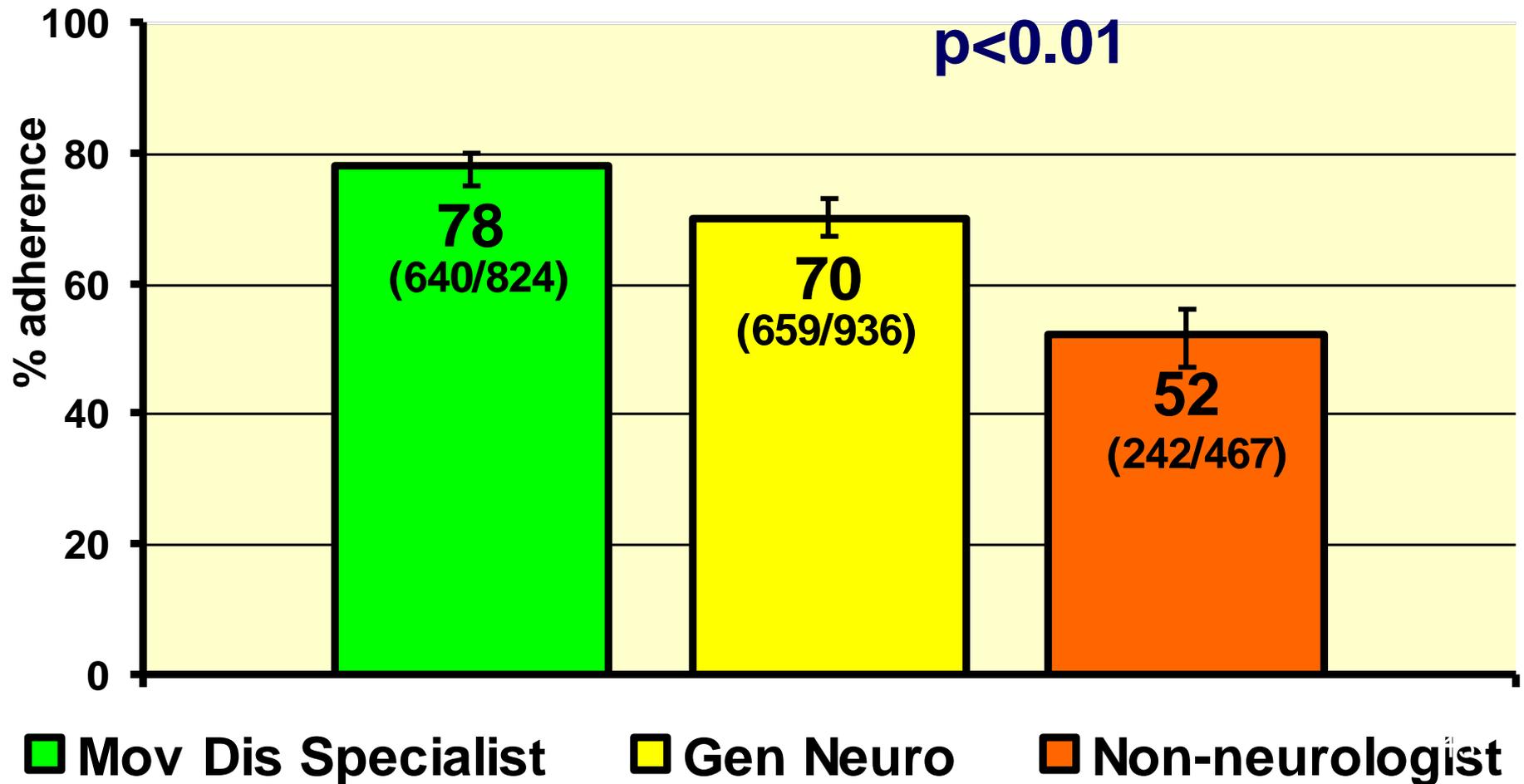
## **Aim #2: Is level of specialist involvement associated with higher quality?**

**“Movement disorder specialist”: care over the time period after the first visit to a movement disorder specialist**

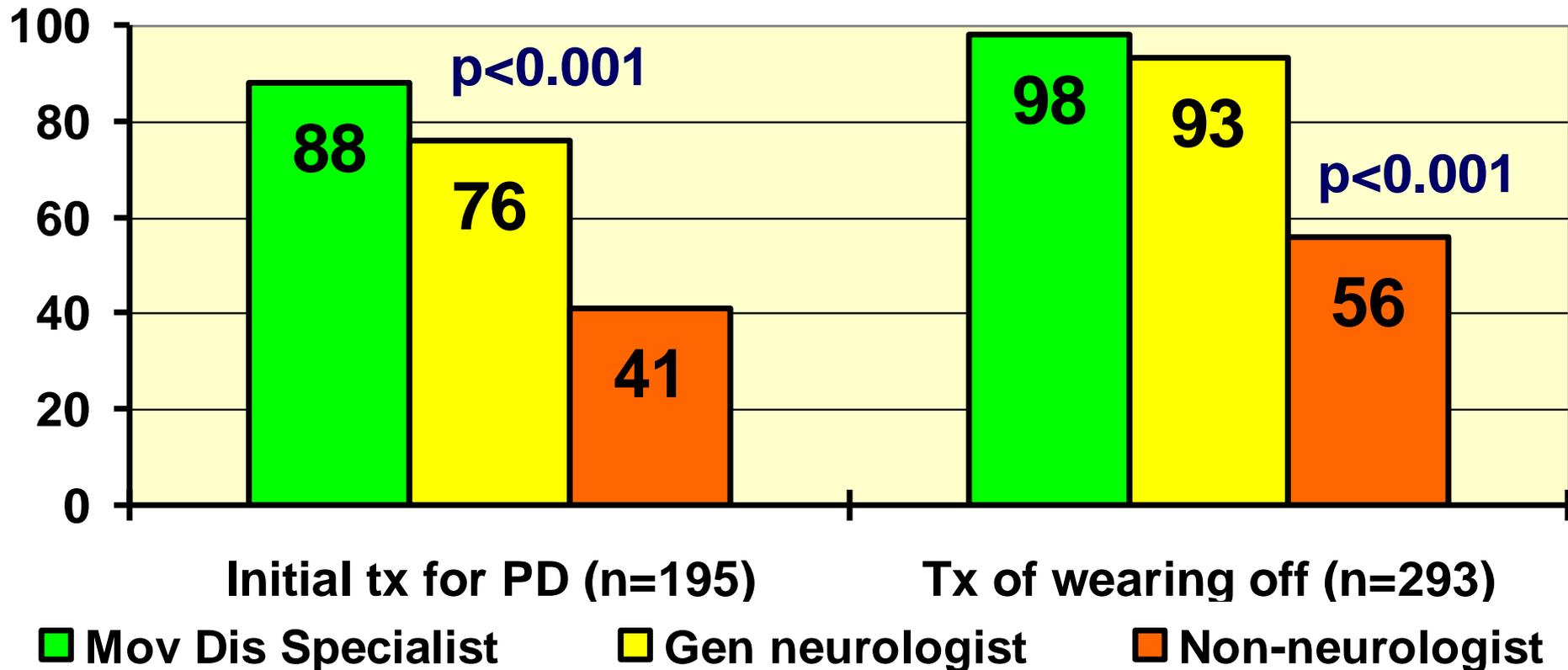
**“General neurologist”: care over the time period after the first visit to a general neurologist, unless also seen by a movement disorder specialist**

**“Non-neurologist”: care over the time period from the first mention of PD in the interval of chart abstraction to the first (if any) general neurologist or a movement disorder specialist visit**

# Results: Overall quality of PD care varies by level of specialty involvement

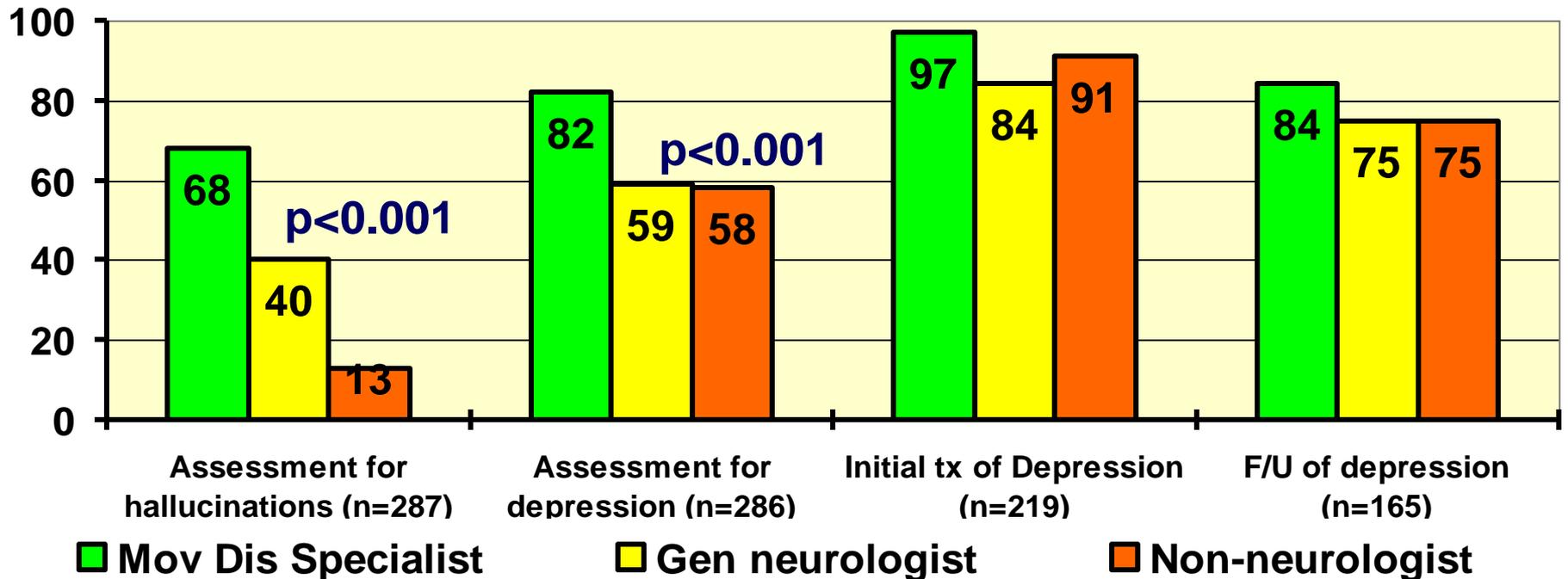


# Large variations in management of PD motor manifestations



# Large variations in assessment of PD psychiatric manifestations

# No differences in management of PD psychiatric manifestations

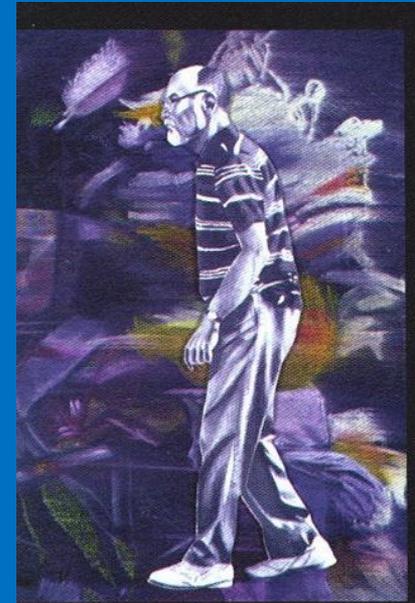


# 3) Defined Practice Patterns and Identified Gaps in Care

## Survey of 76 Veterans with PD at 3 So. California VA Healthcare Systems

– 49% reported receiving education and counseling on a key care indicators, for example:

- 70% were counseled about understanding their PD meds
  - 34% had been counseled on driving safety
- Of those with a care need in the prior 6 months, 46% reported this need was unmet.



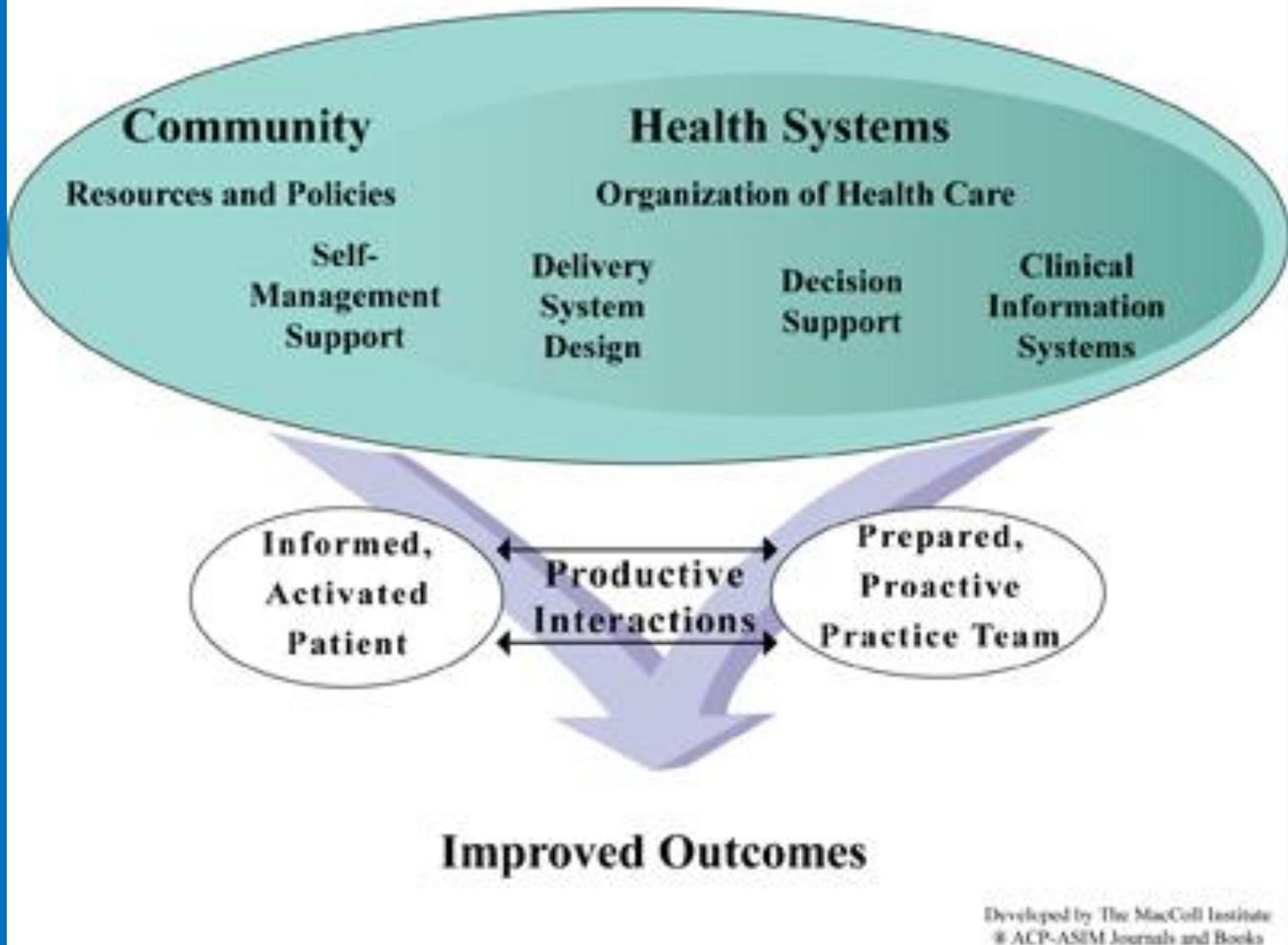
# 3) Measuring PD Care Quality: Conclusions

- Better care is provided by specialists, however there are not enough specialists across the VA
- Low rates of assessment for non-motor manifestations were found, even though there are detection tools available
- Evidence-based (i.e., high quality) PD care was delivered about 2/3 of the time, but there is still room for improvement.
- Lack of RCT evidence about models to improve PD care

## **4) Currently Developing a New Model for Higher Quality PD Care**

- VA HSR&D NRI funding to develop and pilot a novel PD care intervention in VA**
- Care intervention based on Chronic Care Model and prior work in dementia care**
- Plan is to put model in place then test in a subsequent RCT**

# The Chronic Care Model



Wagner EH, et al, Improving chronic illness care: translating evidence into action. Health Aff (Millwood). 2001;20:64-78.

# Designing a PD Care Management Intervention

## Model with Nurse Care Manager to carry out:

- Care protocols that include standardized assessment of PD manifestations, and computerized system to track and prompt actions
- Collaboration with Veteran in unmet need problem prioritization
- Care coordination with subspecialists for management of motor manifestations
- More active surveillance of unmet needs, closer follow-up of non-motor treatment
- More education and counseling and links to community and VA resources

[-----NRI Pilot Project 10/09 – 3/10-----]

**4a) Assembled Task Force Panel from VA & Community Organizations**

**4b) Task Force Panel evaluated 106 PD QI indicators on validity and room for improvement (at the local level) and achieved consensus on subset of 38 PD care indicators**

**4c) Developed patient-centered PD care tools and protocols**

**4d) Pilot test and refine tools**

**5) Subsequent Randomized Controlled Trial to evaluate impact on quality of PD care**

*Proposal under development to submit to VA HSR&D*

# 4a) Research Team/Task Force

## VA Partners

- VA GLA: Karen Connor, Eric Cheng, Jeff Bronstein, Indu Subramanian, Ed Farag, Virginia Janovsky, Arleen Brown, Denson Fujikawa, David Ganz, Martin Lee, Brian Mittman, Janelle Taylor, Jessica Needham, Stefanie Vassar, and Barbara Vickrey
- VA Las Vegas: Selina Parveen
- VA Loma Linda: Dorothee Cole
- VA Long Beach: Steven Schreiber

## Community Partners

- American Parkinson Disease Assoc.: John Amber
- Caregiver Resource Center: Donna Benton
- National Parkinson Foundation
- Parkinsons Resource Organization: Jo Rosen
- UCLA SON Collaborator: Donna McNeese-Smith

# 4b) Summary of Final 38 Care Goals

Communication, Education and Continuity	(N=6)
Reporting (Abuse, Driving Issues)	(N=3)
Diagnosing Parkinson's Disease	(N=1)
Medication Use	(N=6)
Assessment (with 13 Components)	(N=1)
Management of Motor Symptoms, Dystonias	(N=2)
Management of Non-Motor Complications of PD	(N=11)
Non-pharmacologic Approaches/Therapies in PD Mgmt	(N=3)
Palliative Care	(N=1)
Health Maintenance	(N=4)

# Example from final set of 38 PD Quality Goals

**Timing of levodopa and dietary amino acids:**

**“If a patient has PD and has motor fluctuations, and is prescribed levodopa, then he or she should be educated about timing of intake of dietary amino acids and its impact on response to levodopa.”**

# **4c) PD Care Tool: Structured Assessment**

## **Nurse**

- Cognitive impairment
- Medication use and compliance
- Motor manifestations
- Safety
- Non-motor complications
- Palliative care
- Informal caregiver issues (depression, strain)

## **Non-clinician**

- Demographics
- Community & VA resource awareness
- Social Assessment
- Immunization History

## **4d) Pilot Test and Evaluate**

- **Pilot test PD tools and protocols with 15-30 Veterans and/or their caregivers at VA Greater Los Angeles, VA Long Beach and VA Loma Linda**
- **Evaluate and revise tools and protocols by interviewing 15-30 Veterans and/or their caregivers, including medical providers, and community partners**
- **These tools will be used in the Chronic Care Model–intervention to be tested.**

# PD Veteran Vignette

- **72 year-old Veteran (Col Mustard) with PD for 7 years**
- **Lives alone 100 miles from urban southern California, with nearest relative a daughter who lives 50 miles away**
- **Is driving**
- **Recently begun on dopamine agonist by PCP at CBOC**
- **Misses appointments frequently**

# Usual Care: Outcomes

- Col Mustard has a fender bender and is hospitalized for observation and x-rays
- Develops a delirium during hospitalization, which lasts over a week
- Goes home and has a fall, leading to a hip fracture
- Has extended hospitalization for recovery and ends up in SNF within 4 months
- Develops influenza and dies 2 months later

# “Re-engineered” PD Care

- Patient contacted by nurse care manager, based on identification from VA admin data
- Telephone assessment conducted: problems identified included daytime sleepiness, symptoms of orthostasis, recent fall, no recent influenza vaccination
- Daytime sleepiness, driving capacity, and fall risk flagged, as well as need for flu vaccine.
- Nurse care manager uses CPRS to send PCP at CBOC results of assessment and also calls.
- Schedules visit to PCP for influenza vaccination; recommends (1) referral to neurologist to adjust agonist dose, (2) referral to home health services in his area to do home safety eval, and (3) contacts daughter to help organize/ensure attendance at doctor visits.

# **“Re-engineered” PD Care: Outcomes**

- **PCP calls neurologist/specialist and decreases agonist dose and sends patient for driving evaluation, with advice to pt and daughter that patient should not drive in the interim**
- **PCP reduces anti-hypertensive medication dose**
- **Symptoms of sleepiness and orthostasis resolve**
- **No falls; home health/OT able to work with pt and daughter to remove loose rugs and cover sharp edges on furniture**
- **Patient receives influenza vaccine and does not contract influenza**
- **Pt able to live at home with in-home supportive services and ongoing phone PD care management<sup>32</sup>**

**Community:**  
APDA, LA-CRC, NPF, PRO  
Resources and Policies

+ **Health System:** GLA, Las Vegas,  
Long Beach, Loma Linda VAs  
+ **Veteran Resource Group:** PERC

**SELF-MANAGEMENT**  
(coaching by Nurse  
Care Manager in goal  
setting, coping,  
problem-solving)

**DELIVERY SYSTEM**  
**REDESIGN** (Nurse  
Care Manager)

**DECISION SUPPORT**  
(PD Specialists,  
Evidence-based  
protocols)

**CLINICAL INFORMATION**  
**SYSTEMS** (Care  
management  
registry/tracking tool)

*Informed activated  
PD veteran and  
caregiver*

**Productive, Veteran-  
Centered Interactions**

*Prepared Proactive  
Care Management  
Team*

**BETTER FUNCTIONAL AND CLINICAL OUTCOMES**

**Components of the Chronic Care Model**

# Future Plans/Next Steps

**Study findings/products will guide a proposal for a subsequent randomized-controlled trial of a Chronic Care Model-based PD care management intervention.**

**Apply for VA HSR&D funding**

**Implement and test in the Southwest PADRECC**