

# Integration of Pharmacy Teams into Primary Care

**May 12<sup>th</sup>, 2015**

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**Center for Excellence in Primary Care**

**Webinar sponsored by:**

**The Center for Excellence in Primary Care and the Center for Care Innovations**

# Who are we?



blue  of california  
foundation



# Care Integration Resource Center



*Creative Thinking, Smart Resources, Healthy Communities*

 **SEARCH**

WHO  
WE ARE

PROGRAMS  
& GRANTS

INNOVATION  
SPOTLIGHT

KNOWLEDGE  
& CENTER

NEWS  
& EVENTS



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## Facilitating Care Integration

Nearly half of adults with health issues report problems with the coordination of their care in the United States. As Community Health Centers (CHCs) and other safety net settings transform into Patient-Centered Medical Homes, their role in the larger medical neighborhood will become pronounced. However, challenges with care coordination are magnified in the safety net setting and continue to be increasingly complex.

In 2014, the [UCSF Center for Excellence in Primary Care](#), with funding from the [Blue Shield of California Foundation](#), completed a comprehensive literature review outlining strategies CHCs use to integrate into the medical neighborhood in the domains of primary care-specialty care, primary care-diagnostic imaging, primary care-pharmacy, primary care-oral health and primary care-hospital care. A conceptual model which was used to classify innovations and strategies for integration can be found in the full report [here](#).



The [UCSF Center for Excellence in Primary Care](#) has partnered with the Center for Care Innovations to develop this online resource center. The purpose of this Care Integration site is to disseminate



# Improving Healthcare Quality and Safety While Reducing Costs Through Clinical Pharmacy Service Integration

***Steven W. Chen PharmD, FASHP, FCSHP, FNAP***

*Associate Professor and Chair*

*Titus Family Department of Clinical Pharmacy and Pharmacoeconomics and Policy  
William A. Heeres and Josephine A. Heeres Endowed Chair in Community Pharmacy  
Hygeia Centennial Chair in Clinical Pharmacy  
Co-Chair Emeritus, HRSA Patient Safety & Clinical Pharmacy Services Collaborative*

***Michael Hochman, MD, MPH***

*Medical Director for Innovation  
AltaMed Health Services*



# Questions to Run on...

- What are some successes your organization has had in improving medication-related quality and safety for patients at risk for cardiovascular disease?
- How can your organization adapt the approaches shared to provide optimal medication therapy outcomes for your patients?
- What barriers prevent your organization from integrating clinical pharmacy services?

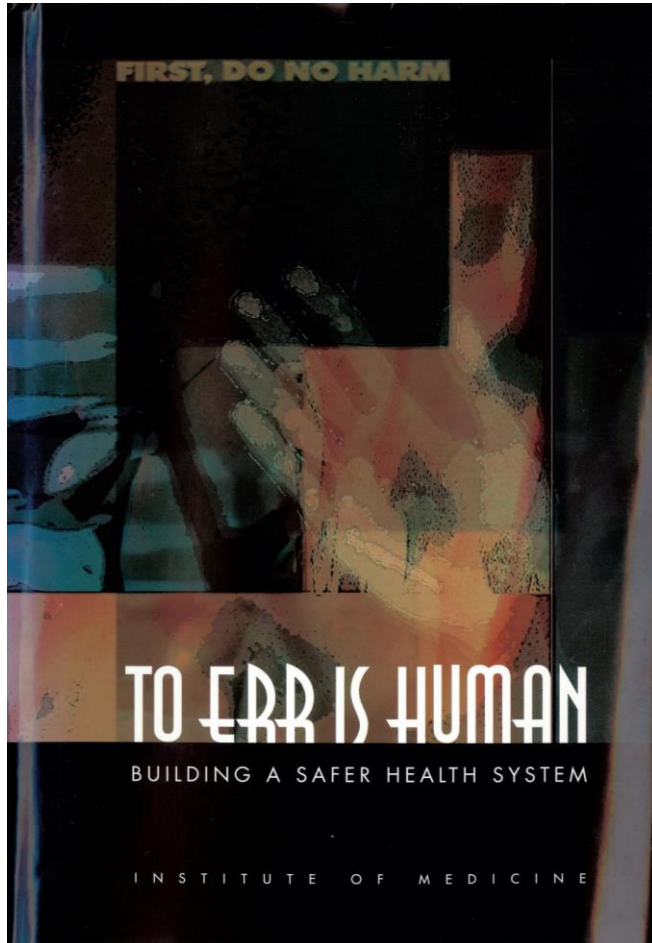


# Outline

- Overview of the USC / AltaMed Healthcare Innovation Award (HCIA) program from CMMI
- Early results from the HCIA program
- Medical leadership perspective
- Patient perspective
- Stepwise process for implementation



# Medication Safety Problems in U.S.



- 1.5 million people are injured each year due to medications
- ~25% of ambulatory patients experience adverse drug events
- 90% of chronic diseases require medications as first-line therapy
- *“...for every dollar spent on ambulatory medications, another dollar is spent to treat new health problems caused by the medication.”*

# School of Pharmacy receives \$12 million grant for safety-net project

By Kukla Vera

June 18, 2012

The Centers for Medicare & Medicaid Services (CMS) has awarded the USC School of Pharmacy a \$12,007,677 grant, the largest ever received by the school, that will bring pharmacists into safety-net clinics in Southern California as a way to improve medication adherence and safe and appropriate use of prescription drugs, with the intended result of optimizing patient health while reducing avoidable hospitalizations and emergency visits.

## USC Personnel:

Geoffrey Joyce, PhD- CoPI

Steven Chen, PharmD

Kathleen Johnson, PhD, PharmD

R. Pete Vanderveen, Ph.D.





Kathleen Johnson, PharmD, MPH, PhD, Vice Dean of Clinical Affairs and Outcomes Sciences and Chair of the Titus Family Department at the University of Southern California (USC) School of Pharmacy, died on July 24 in France after sustaining a head injury in a fall. With her passing, pharmacy lost a tremendous leader who had devoted her career to expanding the role of the pharmacist in clinical care, especially in meeting the needs of underserved patients.

Johnson joined the USC faculty in 1994 and received numerous honors and awards for her achievements and leadership in pharmacy care, particularly in establishing clinical pharmacy practices in safety net clinics throughout Southern California. Recently, she was among 12 professionals elected to the National Academies of Practice and was a coinvestigator on a project that was awarded a CMS Innovation grant of \$12 million for a project that aims to use pharmacists to improve health outcomes and reduce costs among patients in safety net clinics. She was a dedicated professor and author of more than 50 papers and book chapters. Johnson served as one of APhA's scientific experts for all issues of the APhA MTM Digest and was currently working on the 2012 edition.

Johnson's enthusiasm and passion for pharmacy touched many lives, from students to patients to colleagues across the country. "We will never stop missing her," said R. Pete Vanderveen, PhD, BScPharm, Dean of the USC School of Pharmacy, in a statement. "We can only be grateful that we were privileged with the opportunity to know her and to work with her."

PHOTO CREDIT: KIRILAVERA

50 PHARMACY TODAY • SEPTEMBER 2012

## Kathy Johnson: Innovative leader who championed for underserved patients

### Tributes from colleagues of Kathy Johnson

The University of Southern California School of Pharmacy is a model for success achieved through community engagement, and Kathy was the unassuming leader who brought vision and partnerships together to create this success. I admired how she balanced the unique needs of underserved communities and the resource limitations of safety net organizations with the scholarship expectations of an academic institution.

A key to Kathy's success was that she realized that pharmacy practice needed to adapt to the needs of the patients and the organizations served, not the other way around. With that philosophy, she was able to build a strong base of support that spanned local and federal government agencies, private foundations, commercial payers, health systems, and the pharmacy practice community. While it is true that our profession is better because of Kathy's work, more importantly, underserved patients of Los Angeles are healthier because of her leadership.

**Todd D. Sorenson, PharmD**  
Professor and Associate Head, Department of Pharmaceutical Care and Health Systems  
University of Minnesota College of Pharmacy

One thing about Kathy Johnson was her infectious enthusiasm and compassion for her work. No matter what we were doing, it didn't take long to get excited about the potential to do something innovative that would help others. Maybe it was studying the evolution of MTM services in the United States, or maybe we were discussing her work with pharmacists providing services to needy patients in the Los Angeles area. Kathy would focus on the benefits of completing the work, as if no obstacles were present. She was able to bring energy to projects to pull them together, obtain support, and then conduct them effectively. In addition to being a skilled scientist, Kathy Johnson was committed to advancing the profession of pharmacy by addressing the needs of vulnerable patients. She serves as a role model for us all.

**William R. Doucette, PhD**  
Professor and Head, Health Services Research Division  
University of Iowa College of Pharmacy

There are so many positive words I could use to describe Kathy Johnson. Enthusiastic. Leader. Advocate. Collaborator. Role model. Researcher. Devotee. The pharmacy community has lost a positive force.

I knew Kathy professionally and had the privilege of working with her on several initiatives. Her success and leadership in the practice-based pharmacy research community are remarkable, and her impact will be felt among us for decades to come.

Her bright soul was an indisputable influence on those with whom she interacted. I extend my heartfelt sympathy to her family, friends, and USC colleagues. Kathy Johnson was a tremendous individual, and I am so very glad that I knew her.

**Karen B. Farris, PhD**  
Charles R. Walgreen III Professor of Pharmacy Administration  
University of Michigan College of Pharmacy

# USC / AltaMed CMMI Project: Specific Aims



10 teams

Pharmacist + Resident +  
Clinical Pharmacy Technician

# USC / AltaMed CMMI Project: Specific Aims



10 teams

Pharmacist + Resident +  
Clinical Pharmacy Technician



Telehealth clinical  
pharmacy

# USC / AltaMed CMMI Project: Specific Aims

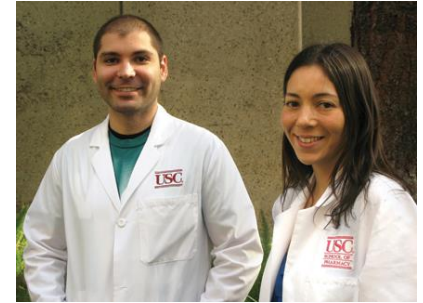


10 teams

Pharmacist + Resident +  
Clinical Pharmacy Technician



Telehealth clinical  
pharmacy



Resident and  
technician training  
for expansion

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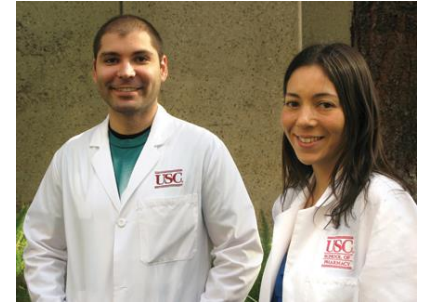


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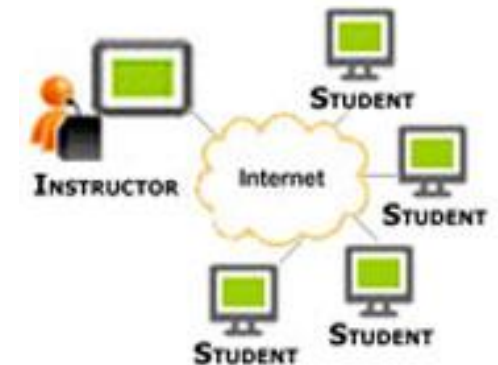
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Resident and  
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Web-based pharmacist training  
and credentialing



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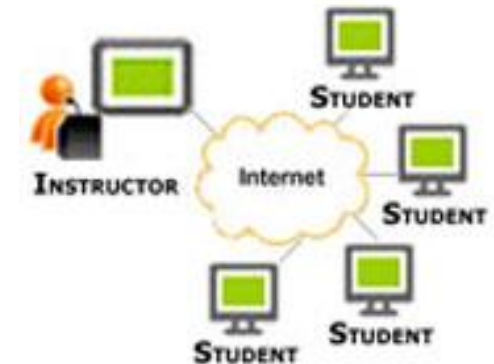
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## OUTCOME MEASURES

- ✓ Healthcare Quality
- ✓ Safety
- ✓ Total Cost / ROI
- ✓ Patient & provider satisfaction
- ✓ Patient access



Web-based pharmacist training  
and credentialing

# USC / AltaMed CMMI Project: Specific Aims

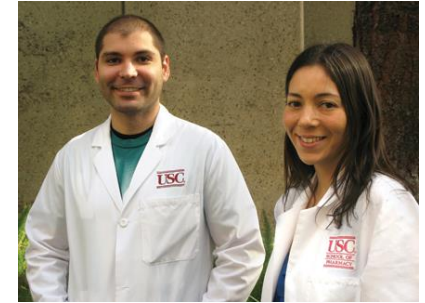


10 teams

Pharmacist + Resident +  
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Telehealth clinical  
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Resident and  
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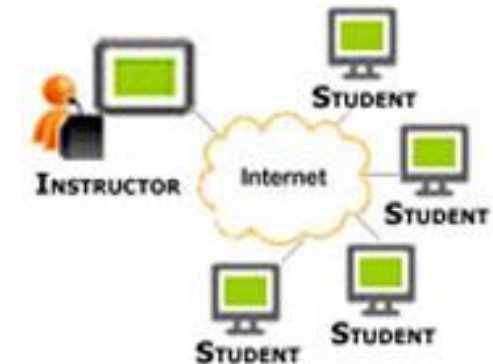
**UNIVERSITY OF  
SOUTHERN CALIFORNIA**

**National Conference on Best  
Practices and Collaborations to  
Improve Medication Safety and  
Healthcare Quality**

**Feb 20-21, 2014**

## OUTCOME MEASURES

- ✓ Healthcare Quality
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Web-based pharmacist training  
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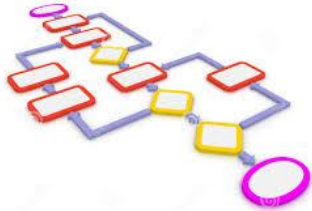
# USC Patient Targeting and Management Strategy



High cost patients



Frequent and recent  
acute care utilizers



48 EHR-embedded triggers  
to detect high risk patients



MD referrals

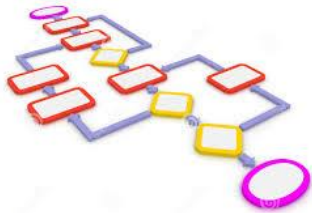
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MD referrals

**Comprehensive  
Medication  
Management**

Clinical Pharmacy  
**USC School  
of Pharmacy**

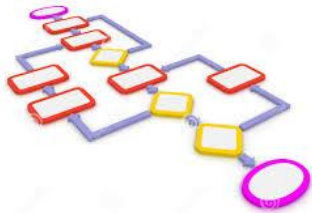
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MD referrals



**Comprehensive Medication Management**

Treatment Goal Reached?

No





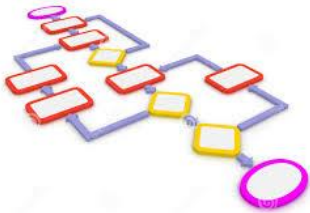
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High cost patients



Frequent and recent acute care utilizers



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MD referrals



**Comprehensive Medication Management**

Treatment Goal Reached?

No

Yes

**Clinical pharmacy tech “check-ins” every 2 months**

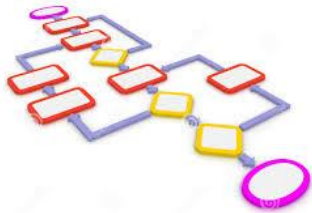
# USC Patient Targeting and Management Strategy



High cost patients



Frequent and recent acute care utilizers



48 EHR-embedded triggers to detect high risk patients



MD referrals



**Comprehensive Medication Management**

Treatment Goal Reached?

No

Yes

Unstable

**Clinical pharmacy tech “check-ins” every 2 months**



# Outline

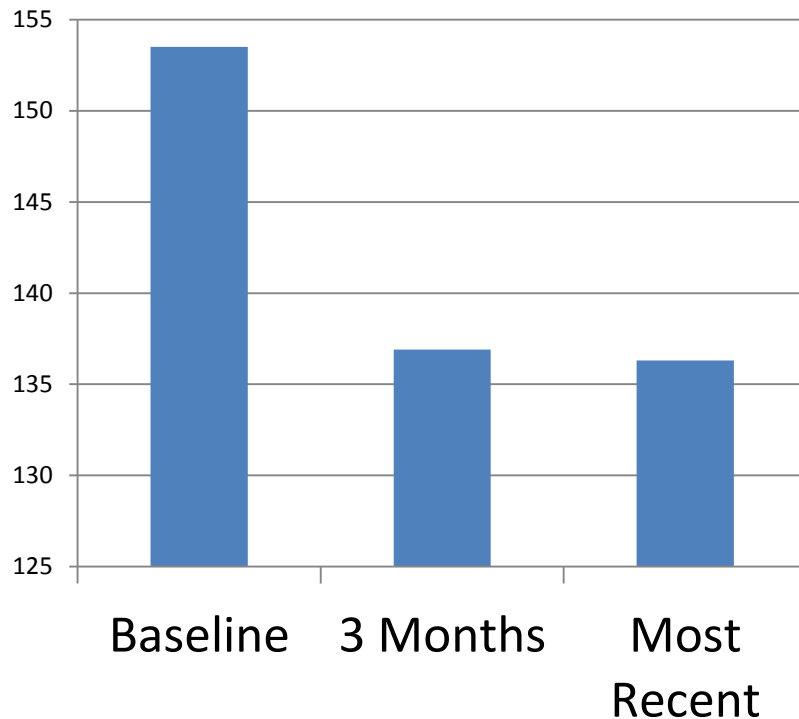
- Overview of the USC / AltaMed Healthcare Innovation Award (HCIA) program from CMMI
- Early results from the HCIA program

## Outcome: Recruit high risk patients

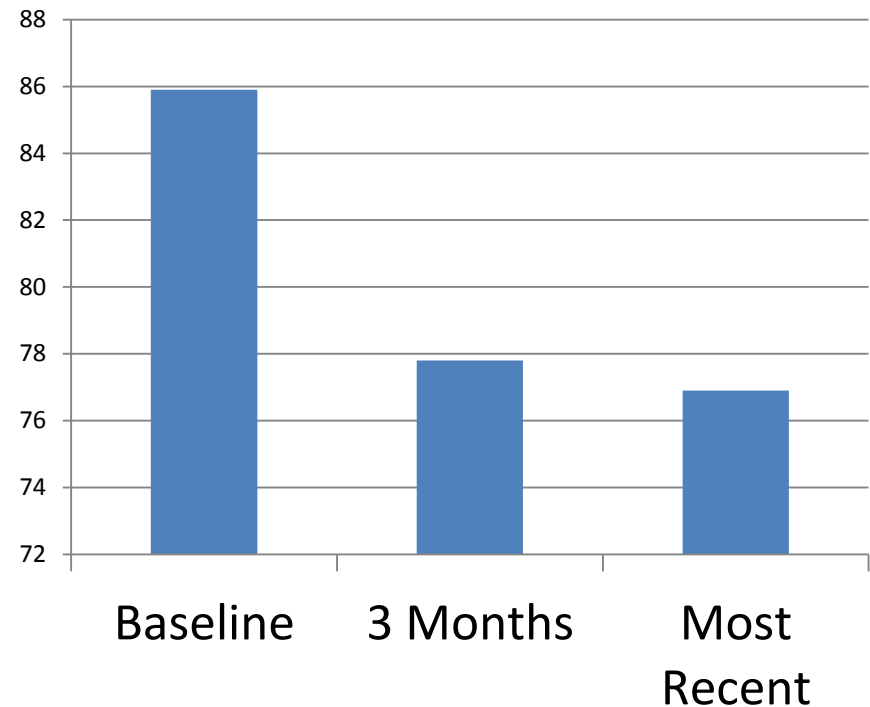
- Enrolled 6,000 patients since Oct 2012
  - Predominantly Hispanic, non-elderly women
- 3/4<sup>ths</sup> have hypertension, 36% uncontrolled
- 2/3<sup>rds</sup> have diabetes, 60% uncontrolled
- High rates of hospitalizations

# Outcome: Improvement in Clinical Markers

## Systolic Blood Pressure



## Diastolic Blood Pressure

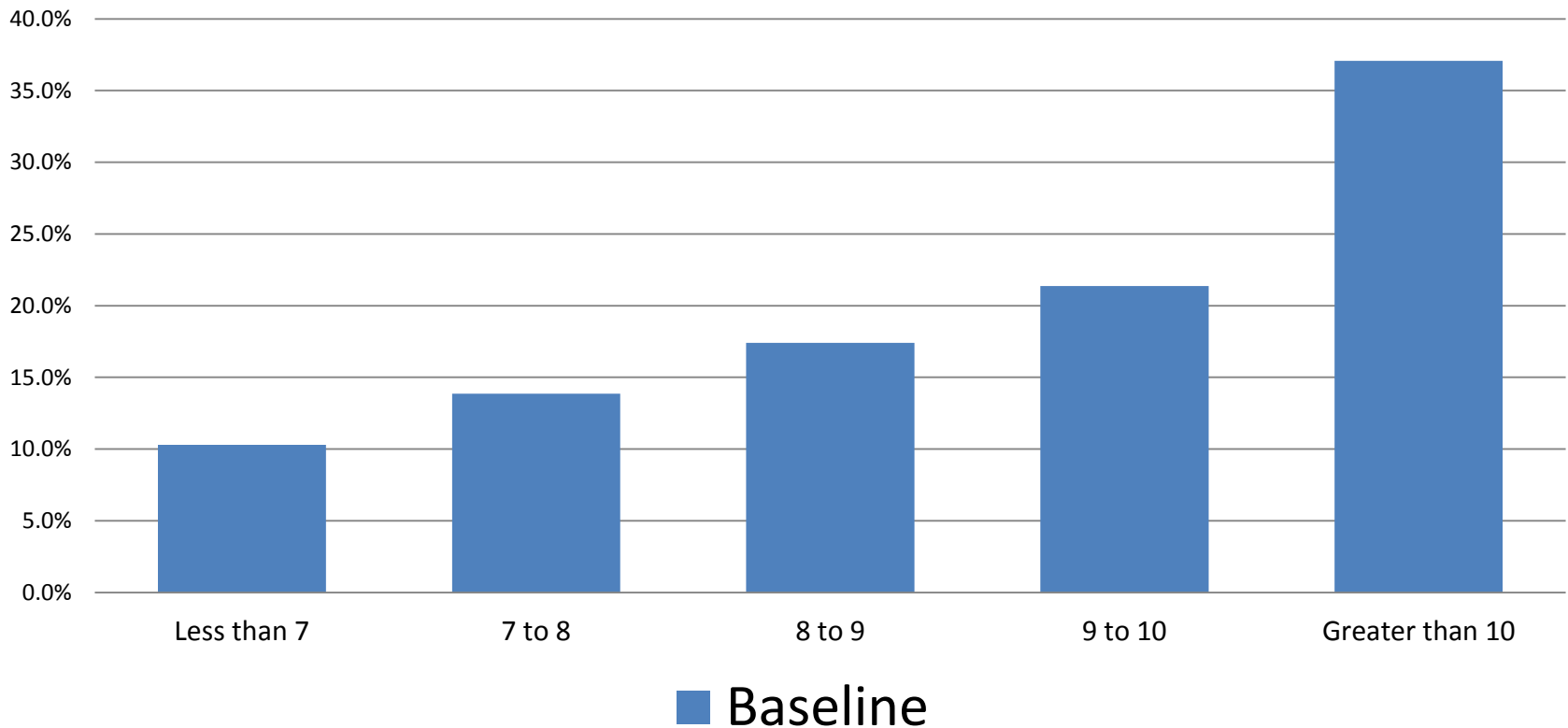


\* Among those with uncontrolled hypertension at baseline



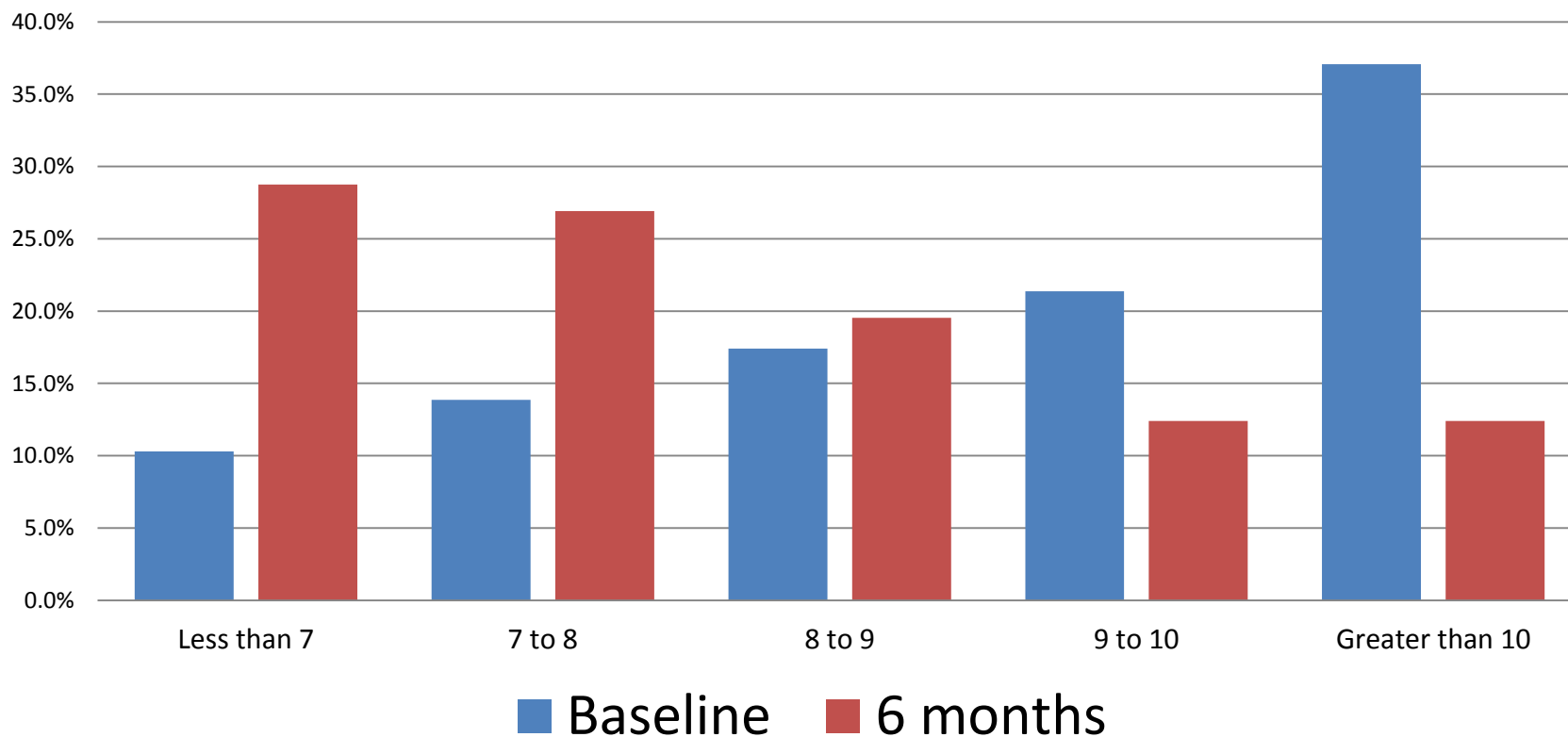
# Outcome: Improvement in Clinical Markers

## A1C Levels



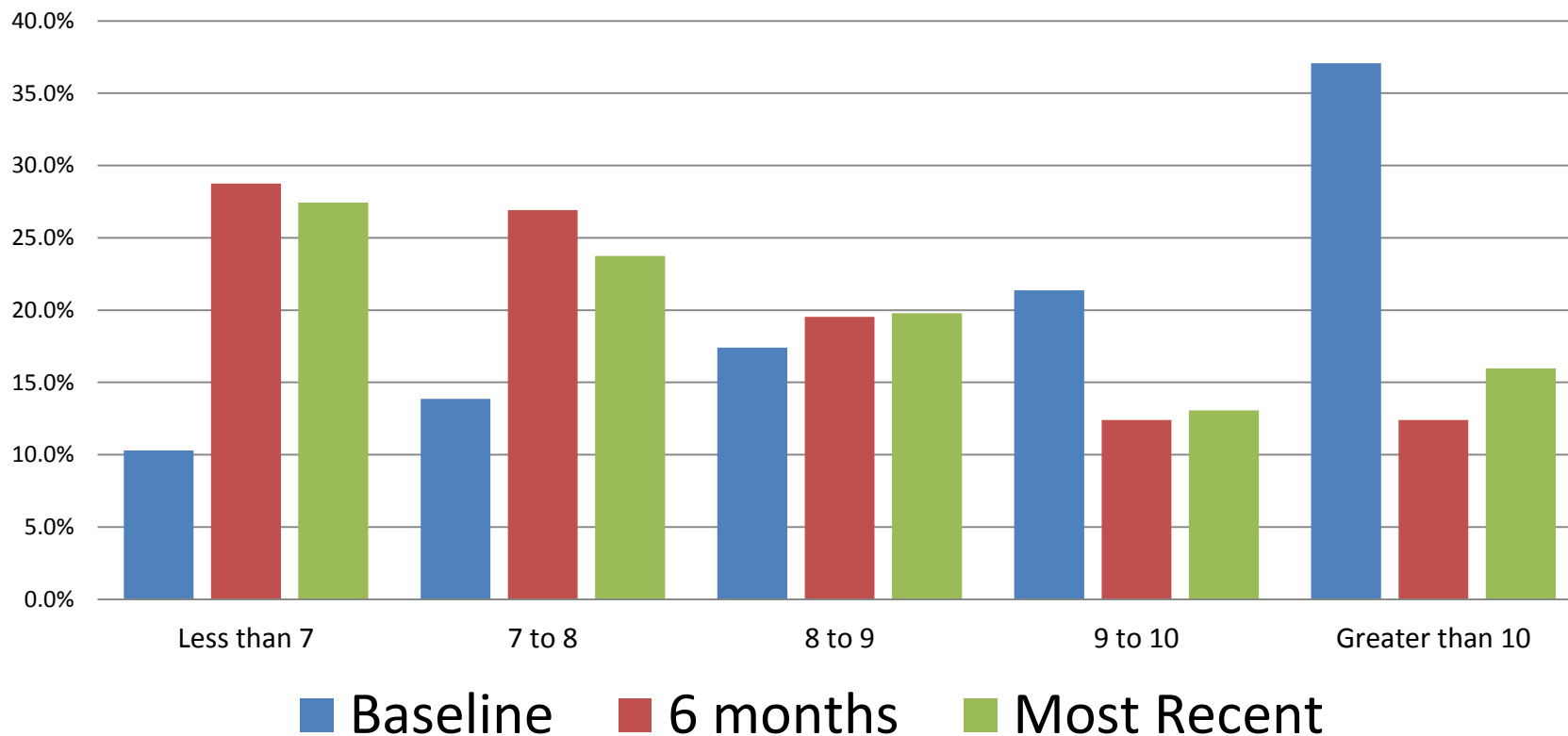
# Outcome: Improvement in Clinical Markers

## A1C Levels

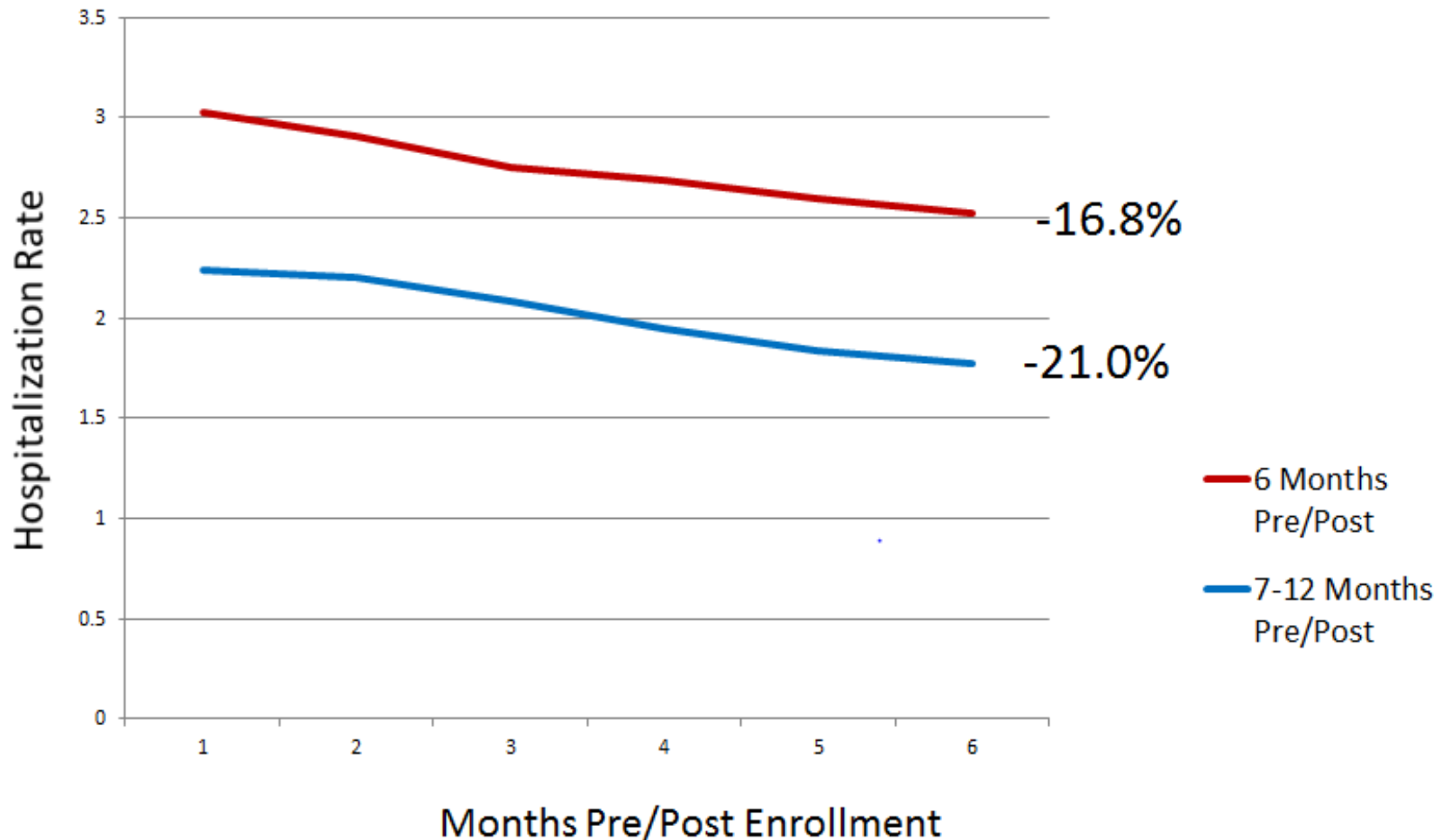


# Outcome: Improvement in Clinical Markers

## A1C Levels



# Outcome: Hospitalizations are declining



# Control Group Selection



Propensity scoring to match CPS enrollees (treatments) to similar patients receiving care at non-treatment clinics (controls) in three steps:

- Wave 1 treatment patients
- PACE treatment patients from Wave 2
- Non-PACE treatment patients from Wave 2

Covariates used to model the propensity score:

- Demographics
- Health status
- Utilization
- Other



# Summary of Difference-in-Differences Results (Treatment – Control)

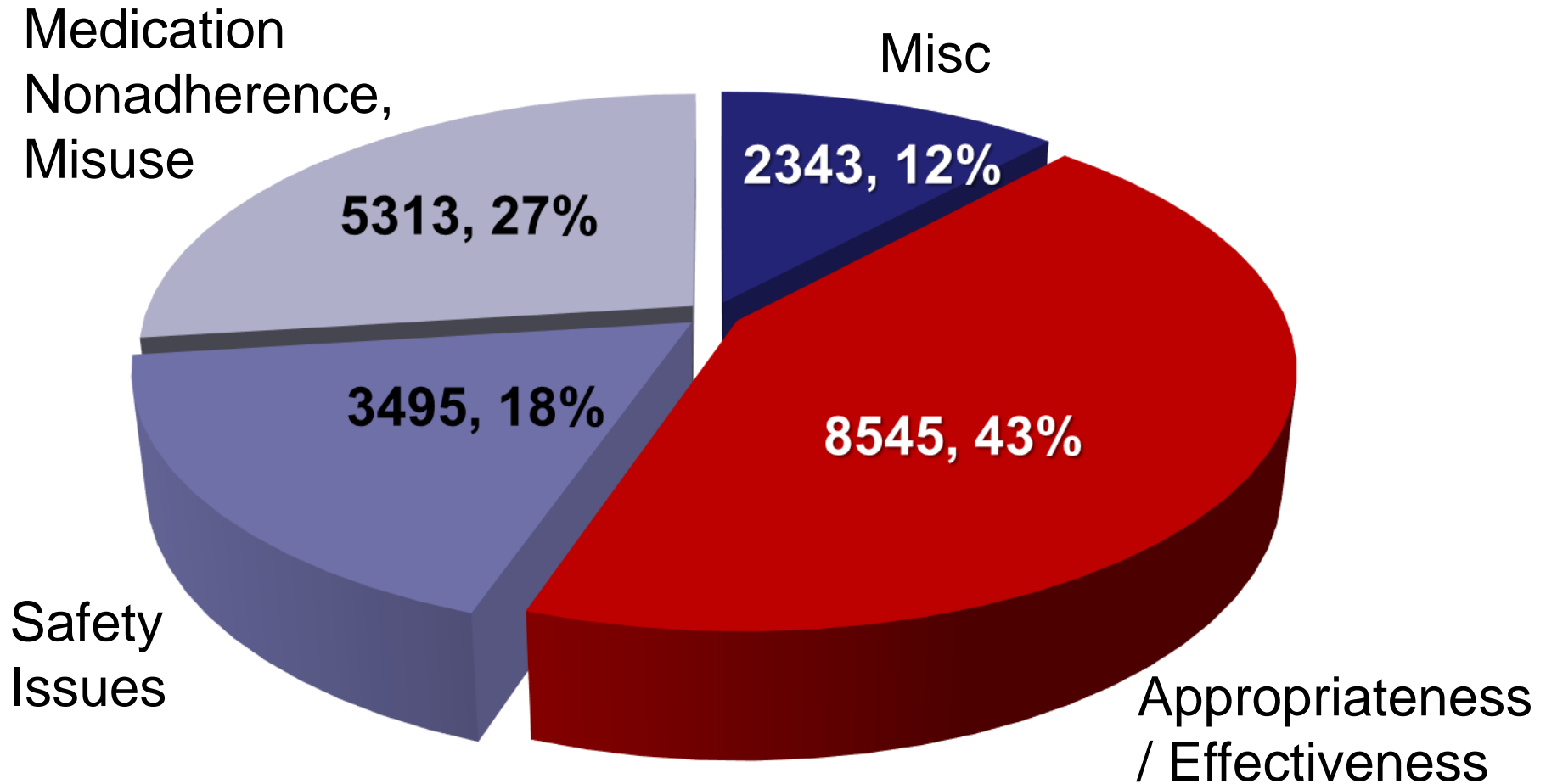
## Clinical results

HbA1C average change in 6 months, uncontrolled at baseline	<b>-11%</b>
BP % under control in 6 months, uncontrolled at baseline	<b>-9.3%</b>

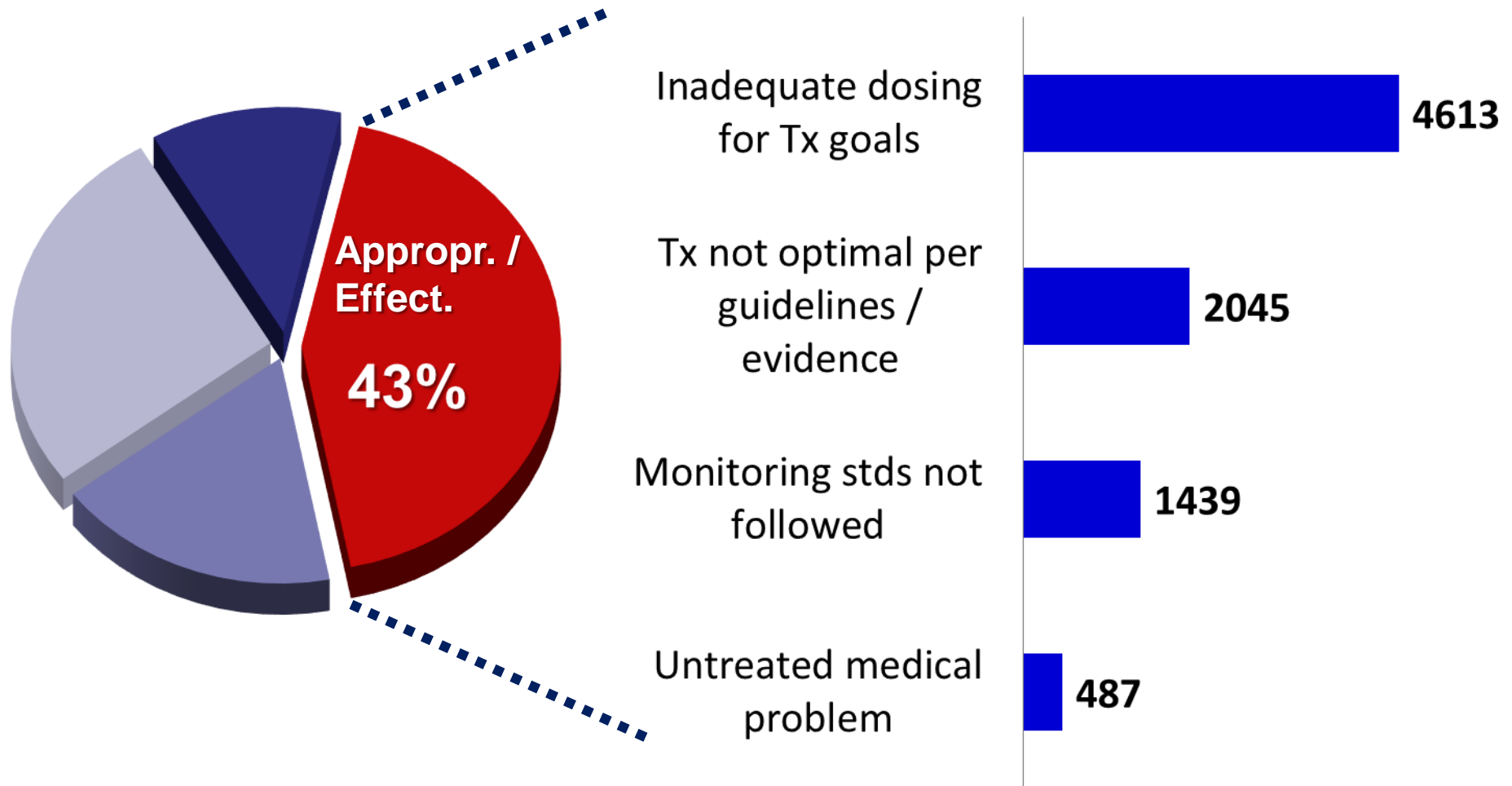
## Utilization results

Inpatient hospital visits per year per patient (12 month panel)	<b>-10%</b>
Emergency room visits per year per patient (12 month panel)	<b>-10%</b>

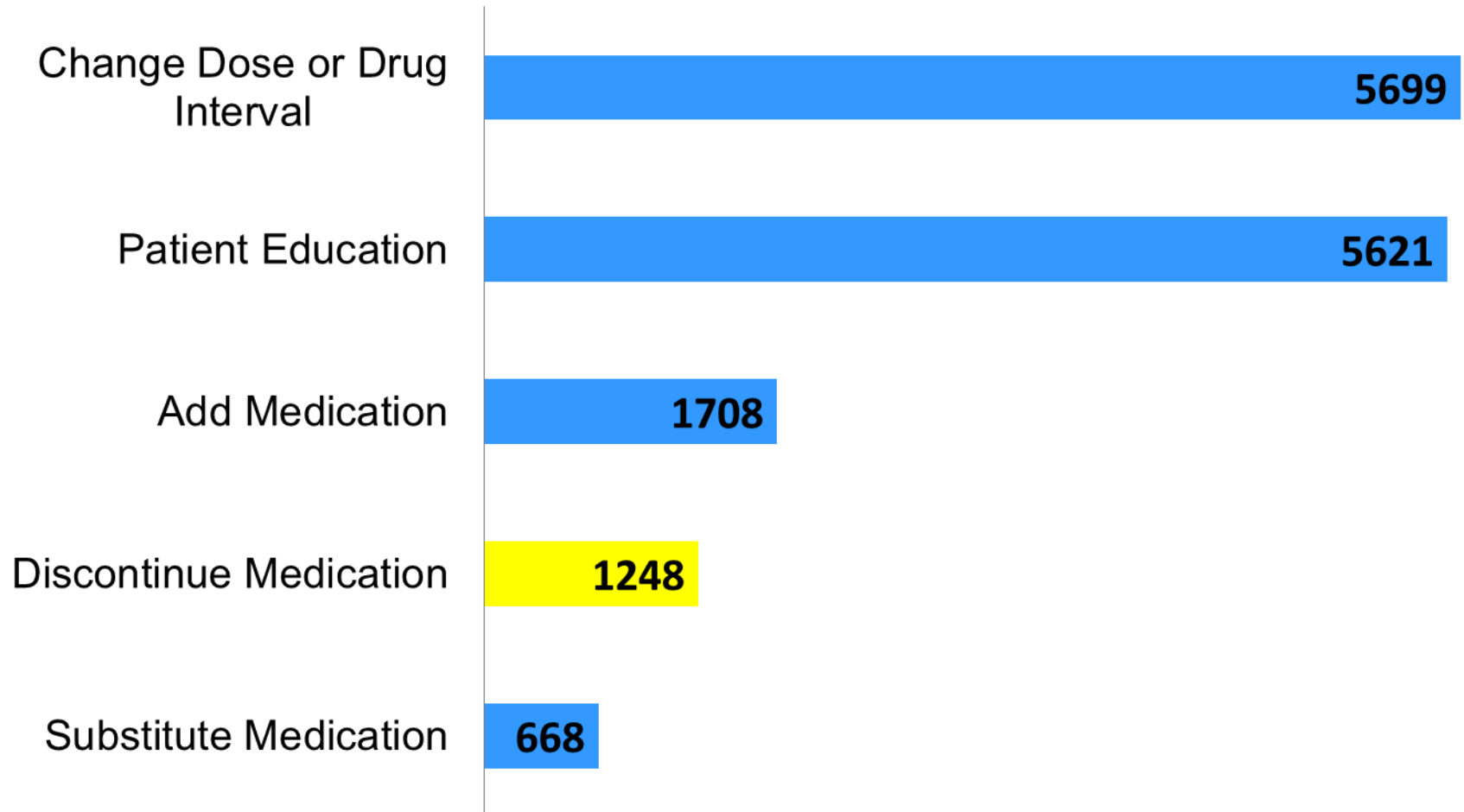
Medication-Related Problems Identified Through CMMI  
Clinical Pharmacy Program, 10/112-8/28/13  
19,696 problems, 1,993 patients (9.9 per patient)



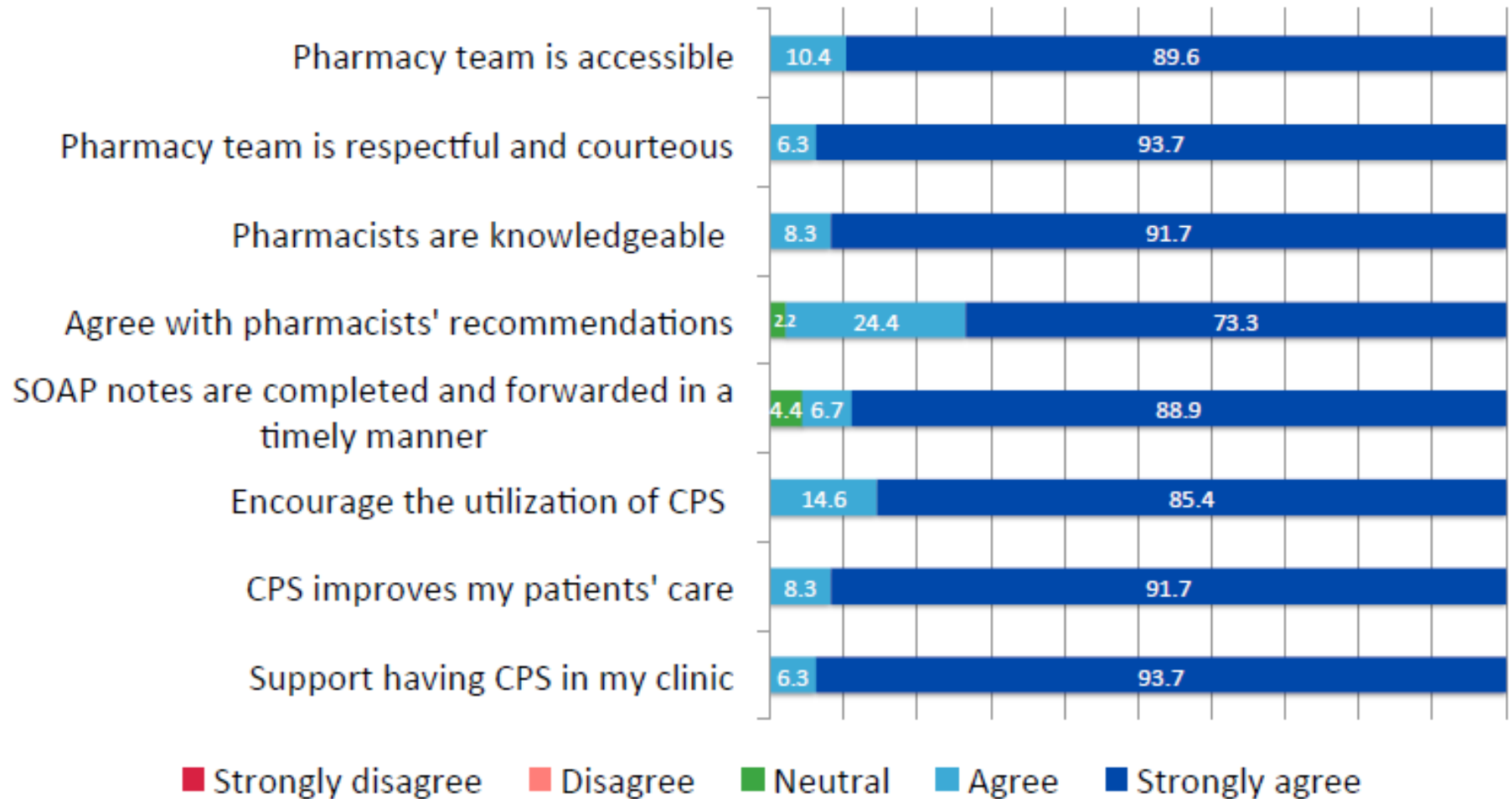
# Appropriateness / Effectiveness of Drug Therapy Problems Identified Through CMMI Clinical Pharmacy Program 10/1/12 to 8/28/13 (N = 8,545)



# Top Actions Made by Pharmacists to Resolve Medication-Related Problems



# Physician Satisfaction





# Unsolicited letter from AltaMed Physician

"I am writing to you today of my own accord, I have offered to make my opinion known about the excellent work that USC pharmacy team is doing without solicitation because I think pharmacy team has done an extraordinary job."

"Both Dr. Oh and Dr. Lin are extremely diligent and knowledgeable professionals, with very good rapport with their patients. I know that most of my patients actually look forward to having their sessions with the pharmacy team and have learned a great deal regarding their chronic disease self-management. Improving patient clinical parameters are an excellent proof of that."

"Dr. Oh in particular has been an integral part of the work that we do here, as a resident she goes above and beyond to make sure the patient are well care for. We have had some really mutually beneficial academic discussions and she has helped changed my practice on a few occasions while bringing in new research to my knowledge. I am really grateful to have the opportunity to work with Dr. Oh and Dr. Lin and look forward to their continued mutually beneficial relationship with us."

What are some successes you have had in improving medication-related quality and safety for your most challenging patients?



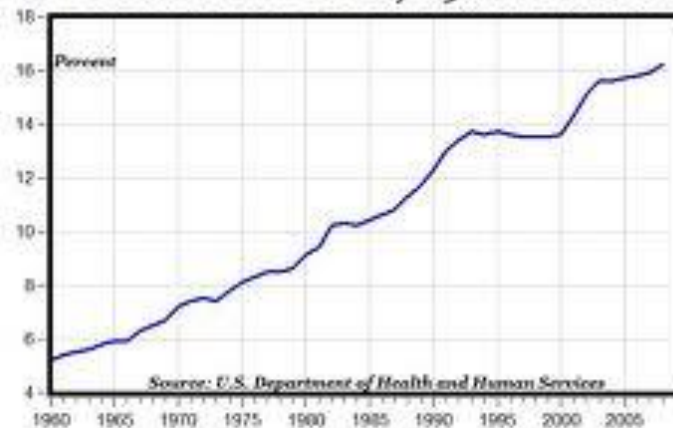
# Outline

- Overview of the USC / AltaMed Healthcare Innovation Award (HCIA) program from CMMI
- Early results from the HCIA program
- Medical leadership perspective



## WHY WE DID THIS

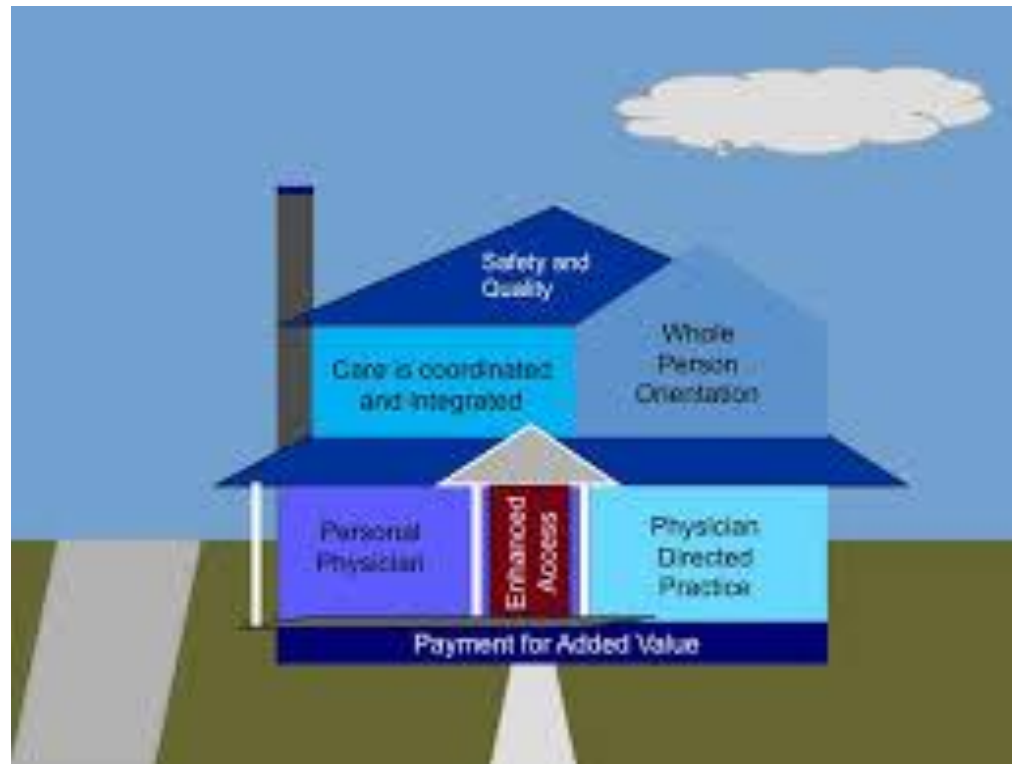
**Total Health Care Expenditures  
Percent of GDP, 1960-2008**





Clinical Pharmacy

## WHY WE DID THIS



## WHY WE DID THIS

- Doctors don't like to follow protocols ...
- Pharmacists manage drug therapy better through collaborative practice agreements!



## OVERCOMING ANXIETY

- Can pharmacists do this?
- Will they communicate with us?
- Why did I go to medical school?
- Liability?

## FEEDBACK SO FAR

- Staff love it
- Patients love it
- Quality team loves it
- Unexpected benefits:
  - patient assistance programs
  - help with medication errors
  - staff education

## MAJOR CHALLENGE





## BUSINESS CASE

- Does clinic pharmacy save money?
- Is clinical pharmacy a high-value service?
- If yes, how do we pay for it?

## OPTIONS

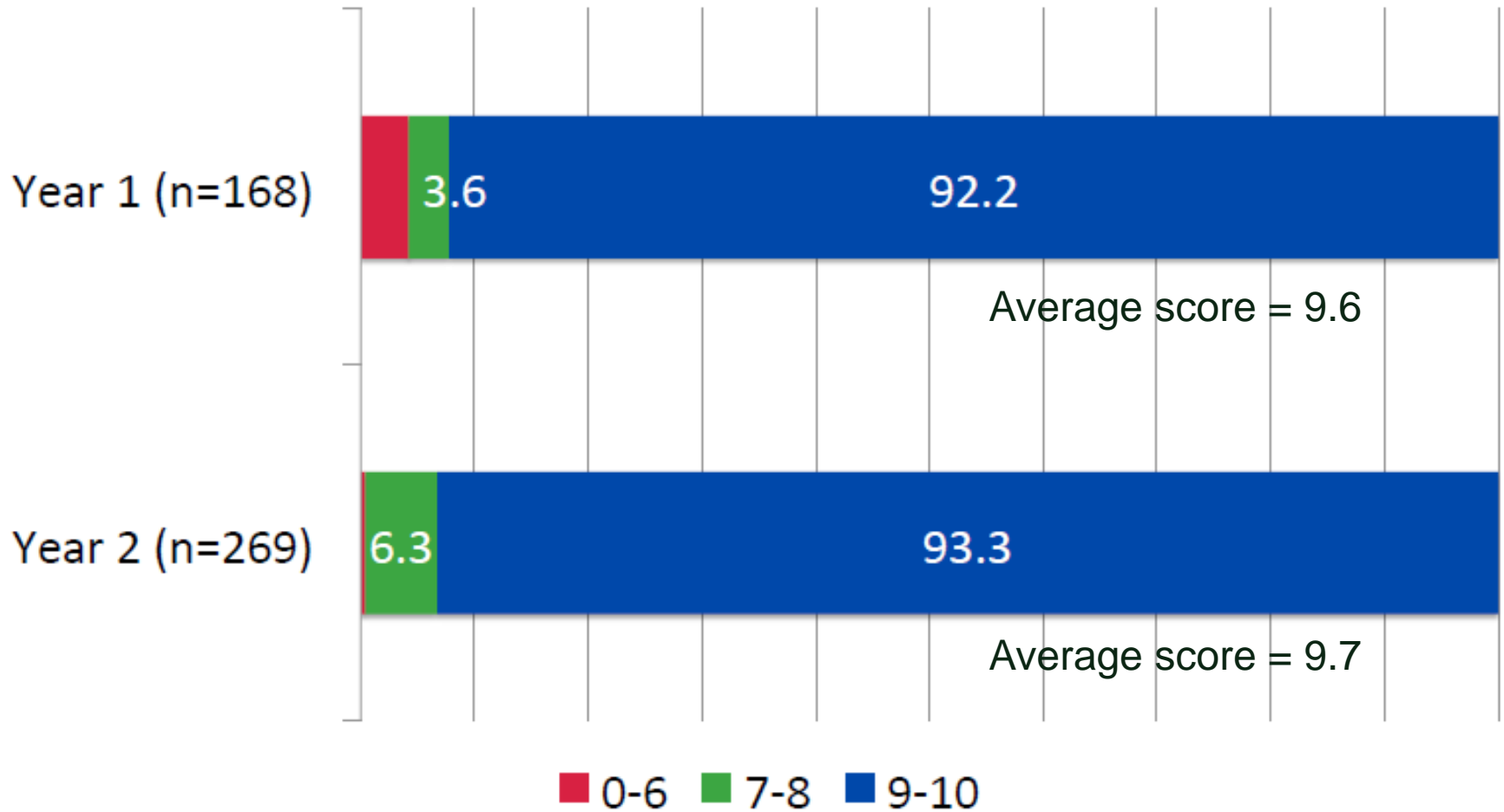
- Billing policy changes
- Pay for performance
- Health Home Demonstration
- More risk-bearing, capitated payment arrangements



# Outline

- Overview of the USC / AltaMed Healthcare Innovation Award (HCIA) program from CMMI
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- Medical leadership perspective
- **Patient perspective**

# Patient Satisfaction



# Unsolicited letter from AltaMed patient

- I wanted to take this time to commend and congratulate *Alta Med Healthcare* in implementing such a **vital and useful program** for their patients. The *Clinical Pharmacy Service* is a **benchmark that all other Health Care providers could learn from and try to emulate**. And in an era where severe cuts are the norm at the *State* and *Local* levels, I can't begin to express **how fortunate I feel to be a benefactor** of this program. It is well **staffed with professionals** who seem to want to make a positive difference in their community outreach. I was made aware that the *Clinical Pharmacy Service* was established through a grant to maintain a more efficient protocol between Dr. and patient. In reflective thought **I can't think of money better spent**.
- However **when I was first introduced to this program I was quite leery** to say the least... I'm quite busy and after seeing my primary care physician **the last thing I wanted to do is spend more time with a clinical pharmacist...** But **after my first visit with Dr. Hamai I became a true believer**. I was so taken back and impressed with her immeasurable knowledge and seasoned professionalism.

## Patient letter (cont.)

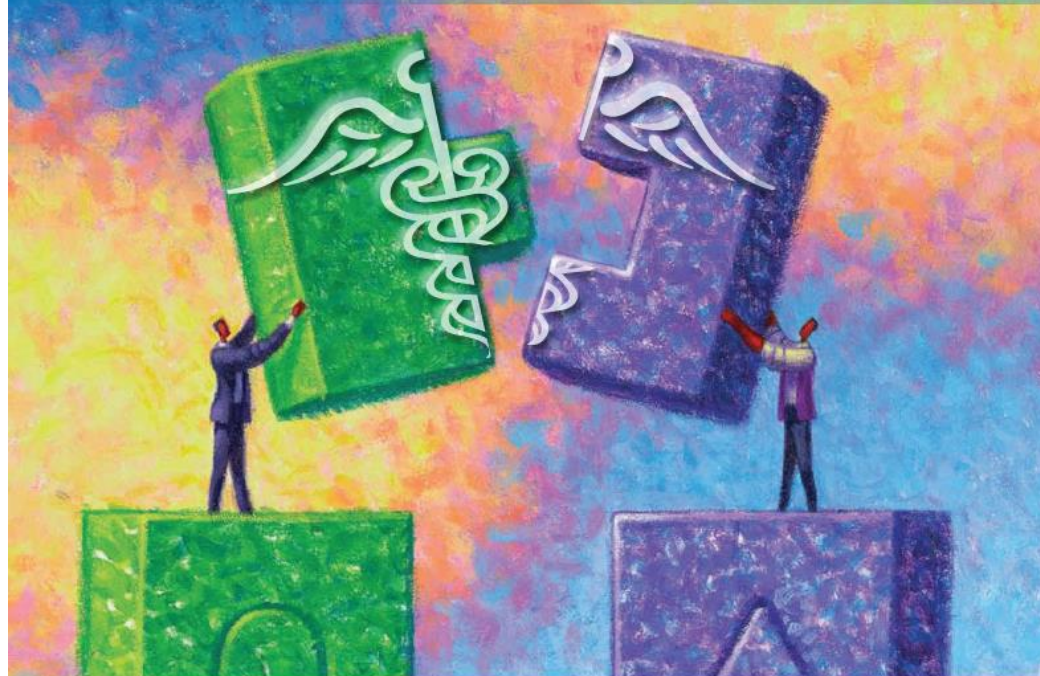
- Being insulin dependent for over a quarter century I thought I had a real grasp on my condition, but she opened my eyes to a number of things that I wasn't even aware existed. Long term complications from diabetes can be quite devastating; to say the least and I really felt she had my best interest in mind. Not only was *Dr. Hamai* instrumental in shedding insight regarding my condition, but her team of *Gabriella* and *Wendy* also proved to be more than worthy on the support side. In fact *Gabriella* brought to my attention that I might not be getting the most efficient readings from my glucometer given the way I was administering my blood sample. **Wendy's phone follow-up was more than I could have asked for with respect to having a trusted liaison to the program.**
- As I look at this program in retrospect, **I can only see the positive long term effects and cost savings to the community at large.** Cost savings in the way of much needed education and support that can make all the difference from falling victim to one's disease or gaining the upper hand in living and controlling it. **My hopes are that the Clinical Pharmacy Service program does not fall victim to any budget shortfall in the future and continues to thrive in the community. Knowledge is power and this program embraces that statement ever so.**





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***The Patient-Centered Medical Home:***

Integrating Comprehensive  
Medication Management to  
Optimize Patient Outcomes

A RESOURCE GUIDE



*“...medication management services demonstrated an ROI of as high as 12:1 and an average of 3:1 to 5:1.”*

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## **Improving Patient and Health System Outcomes through Advanced Pharmacy Practice**

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**A Report to the U.S. Surgeon General 2011**

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**Office of the Chief Pharmacist**

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## A PROGRAM GUIDE FOR PUBLIC HEALTH



### Partnering with Pharmacists in the Prevention and Control of Chronic Diseases

National Center for Chronic Disease Prevention and Health Promotion



[http://www.cdc.gov/dhdsp/programs/spha/docs/pharmacist\\_guide.pdf](http://www.cdc.gov/dhdsp/programs/spha/docs/pharmacist_guide.pdf)





# NGA PAPER

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## The Expanding Role of Pharmacists in a Transformed Health Care System

### Executive Summary

Pharmacists practice in a variety of health care settings. Although they are most often associated with dispensing medications in retail pharmacies, their role is evolving to include providing direct care to patients as members of integrated health care provider teams.<sup>1</sup>

The critical role that medication management plays in treating chronic diseases suggests that the integration of pharmacists into chronic-care delivery

and regulations governing the profession to address the challenges to pharmacists practicing to the full scope of their professional training.

### Introduction

The health care system is undergoing a significant transformation in both the finance and delivery of health care services. States, in particular, are examining their health care systems to define policies that create efficient models of care focused

# Value Proposition- USC Clinical Pharmacy Services

*Integration of clinical pharmacy services for high-risk patients:*

- *Lowers total healthcare costs (↓hospitalizations / readmits)*
- *Improves healthcare quality measures (Pay for performance)*
- *Improves medication safety (priority for CMS, others)*
- *Improves provider access (PCMH measure, video telehealth) and satisfaction (less staff turnover)*
- *Improves patient satisfaction (retention)*

# USC School of Pharmacy

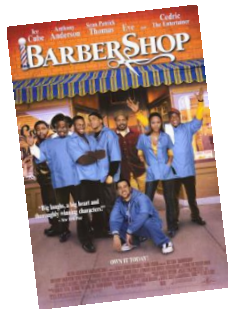
## Collaborations to Develop High-Impact, Sustainable Results



LOS ANGELES CHRISTIAN  
HEALTH CENTERS  
"SERVING ALL, WITH OPEN HEARTS"



Keck Medical  
Center of USC



David Geffen  
School of Medicine





# Stepwise Process for Implementation

- 1- Secure support from senior medical leadership
- 2- Align program with partnering organization's financial incentives
  - *↑ Value-based payment system, ↑ \$ Incentives (many aligned w/ pharmacy)*
  - *Readmissions, pay for performance*
  - *340B program*

# Stepwise Process for Implementation

- 3- Identify high-risk populations with the greatest potential benefit from clinical pharmacy
  - *Consider pre-program data audit*
- 4- Staff the program. Many options: Start with single pharmacist from organization or college of pharmacy faculty, start a residency, seek local foundation grants, 340B contribution.
- 5- Develop clinical pharmacy collaborative practice agreements for targeted patient populations and integrate program processes into existing workflow
  - *Flow diagram*
  - *Disrupt support staff workflow = No support*

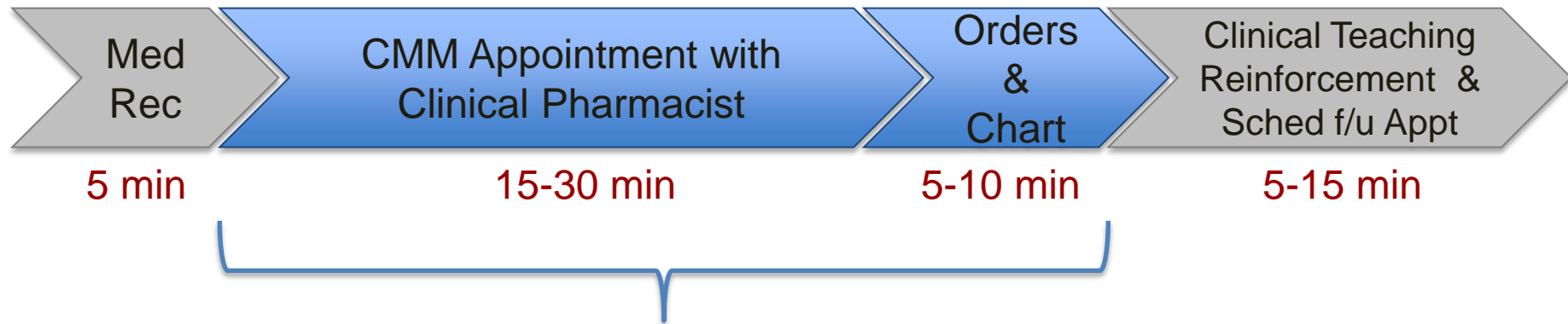
# Stepwise Process for Implementation

- 6- Ensure that reliable data is available for evaluating program impact
- 7- Host frequent team + leadership calls / meetings, integrate into key committees
- 8- Manage hazardous or misaligned partnerships
- 9- Maximize efficiency and productivity

# Clinical Pharmacy Tech Competencies

1. Collect accurate information about medications from patients (Rx, OTC, supplements, herbals)
2. Prepare medication adherence tools (pill boxes, charts, etc.)
3. Behave and communicate professionally
4. Solicit participation of targeted patients in pharmacy program
5. Perform appointment support functions (scheduling appointments, lab orders, etc.)
6. Manage a Patient Assistance Program (PAP) including
7. Provide education reinforcement / support
8. Conduct follow-up check-ins with patients after reaching treatment goals

# Impact of Clinical Pharmacy Technician on Team Efficiency



Time of visit: 20 - 40 minutes  
Dependent on initial vs. follow up visit  
**40-50% more patients seen each day**

# Clinical Pharmacy Tech Competencies

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6. Manage a Patient Assistance Program (PAP) including
7. Provide education reinforcement / support
8. Conduct follow-up check-ins with patients after reaching treatment goals

# Modes of Clinical Pharmacy Service Delivery



<http://www.pcpcc.net/files/medmanagepub.pdf>

[http://www.cdc.gov/dhdsr/programs/nhdsr\\_program/docs/pharmacist\\_guide.pdf](http://www.cdc.gov/dhdsr/programs/nhdsr_program/docs/pharmacist_guide.pdf)



- How can you adapt the approaches shared to provide optimal medication therapy outcomes for your patients?
- What barriers prevent you from integrating clinical pharmacy services?
- What can you do next Tuesday to begin offering clinical pharmacy services in your organization?

# Questions



Care Integration Resource Center  
<http://www.careinnovations.org/knowledge-center/facilitating-care-integration/>