



DEPARTMENT OF

# Family Medicine and Community Health

UNIVERSITY OF WISCONSIN

SCHOOL OF MEDICINE AND PUBLIC HEALTH

## Systems Consultation: A Novel Implementation Strategy for Adopting Clinical Guidelines for Opioid Prescribing in Primary Care

Andrew Quanbeck, Ph.D.

University of Wisconsin-Madison

Assistant Professor- Dept. of Family Medicine and Community Health

Research Scientist- Center for Health Enhancement Systems Studies

Honorary Associate- Dept. of Industrial & Systems Engineering



The Center for Health  
Enhancement Systems Studies  
UNIVERSITY OF WISCONSIN-MADISON

# Thank You!

- National Institute on Drug Abuse (1R34DA036720-01A1; 1K01DA039336-01 )
- UWHealth Primary Care Clinics
- Advisory panel
  - Jane Ballantyne, MD
  - Roger Chou, MD
  - David Gustafson, PhD
  - Dennis McCarty, PhD
  - John Frey, MD
  - Paul Batalden, MD
  - Perry Fine, MD
  - Jonas Lee, MD
  - Beth Potter, MD
- Research team: Randall Brown, Bri Deyo, Aleksandra Zgierska, Bobbie Johnson, Esra Alagoz, Nora Jacobson Jim Robinson, Wen-Jan Tuan, Lynn Madden

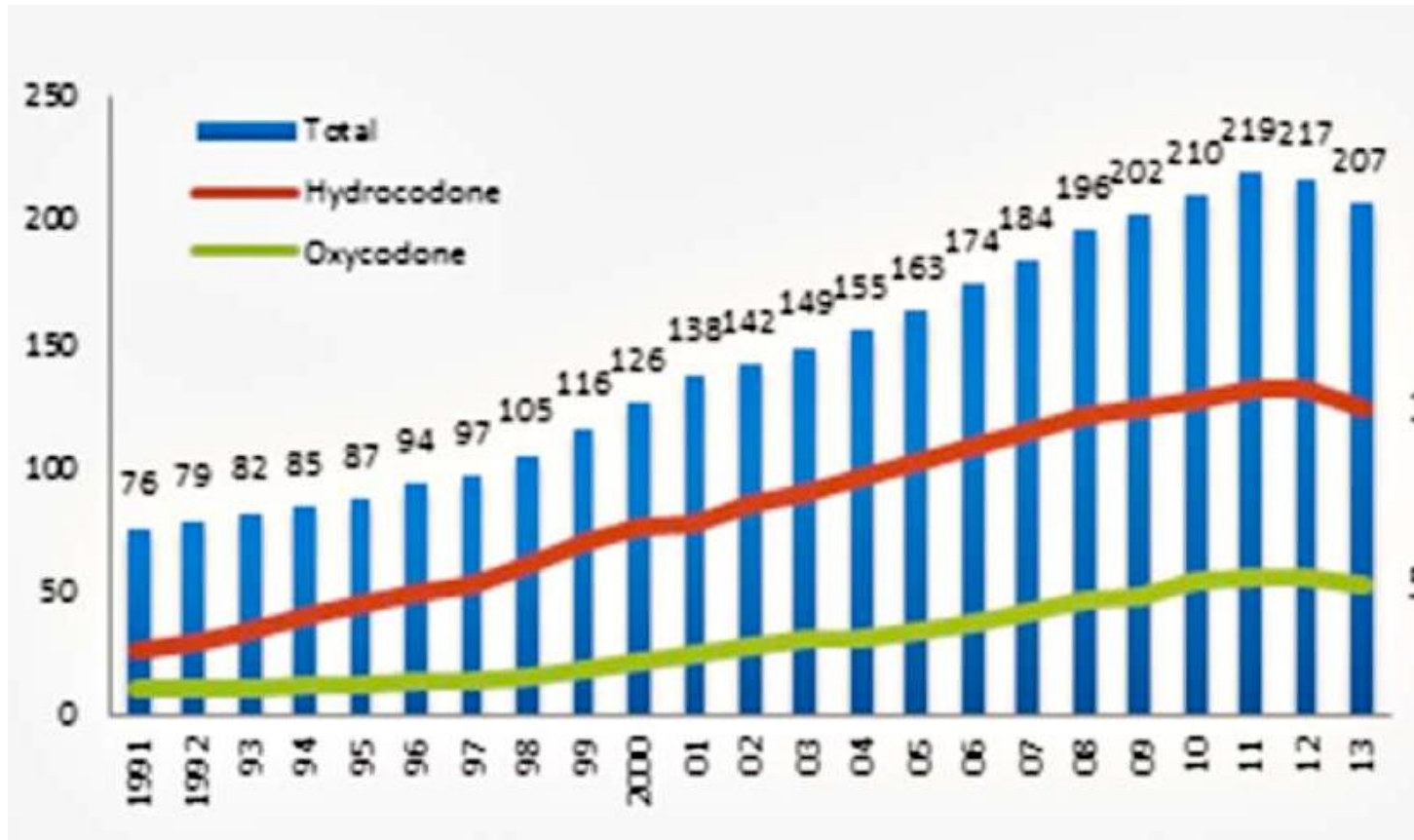
# Declarations

I have a shareholder interest in CHESS Mobile Health, a web-based health care technology company that has developed software for patients and family members struggling with addiction.

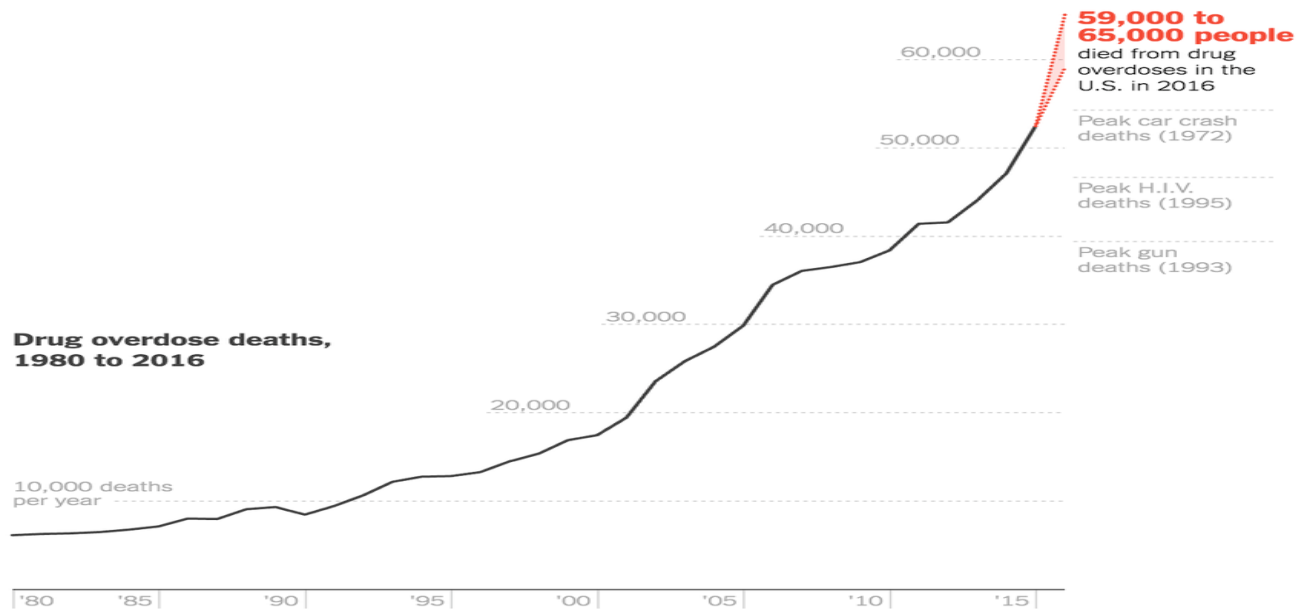
# Aims of the Project

- Goal is to improve patient safety by instituting a set of universal precautions for opioid prescribing in primary care based on leading clinical guidelines
- R34 grant mechanism is specifically for testing the feasibility, acceptability, and preliminary effectiveness of novel implementation strategies in preparation for larger trials

# Background & Motivation



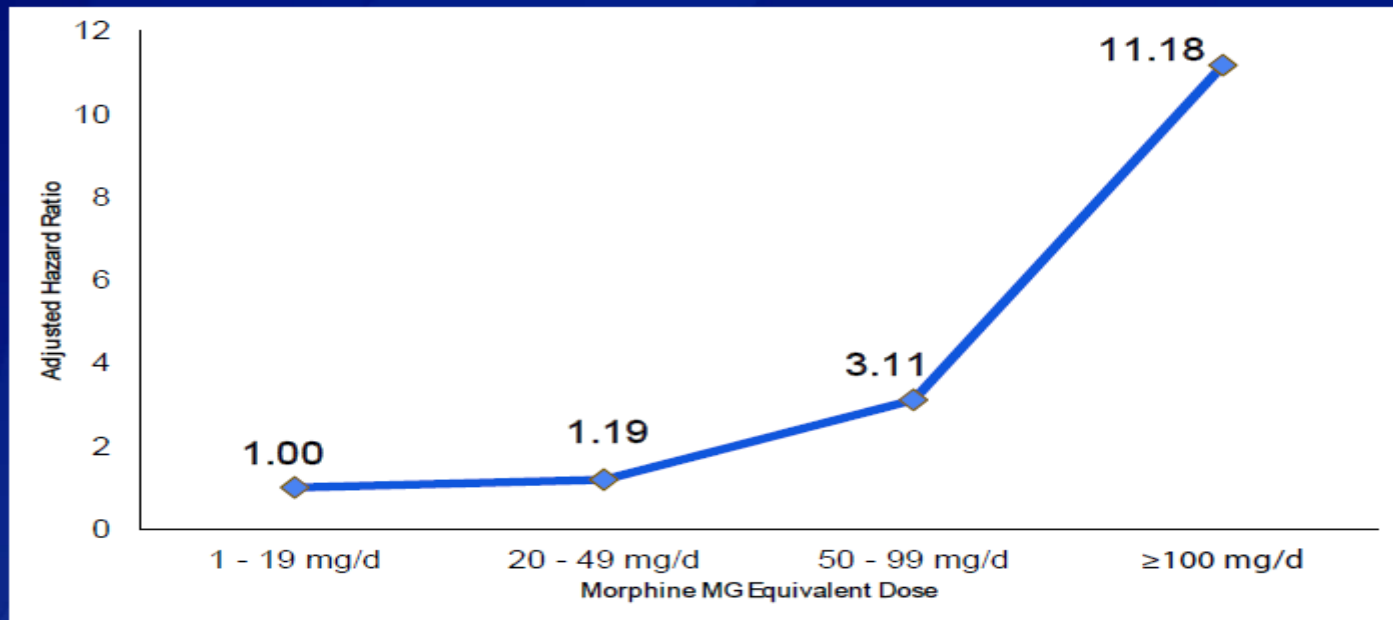
Source: Opioid Prescriptions Dispensed by US Retail Pharmacies. IMS Health, Vector One



Opioid prescribing rates may be on the decline, but overdose rates are at all-time highs.

Source: New York Times infographic, June 5, 2017

## High Opioid Dose and Overdose Risk



\* Overdose defined as death, hospitalization, unconsciousness, or respiratory failure.

Dunn et al. Opioid prescriptions for chronic pain and overdose. *Ann Int Med* 2010;152:85-92.

Risk of overdose is directly correlated with morphine equivalent daily dose (Dunn et al., 2010).

# Clinical guidelines



ELSEVIER

The Journal of Pain, Vol 10, No 2 (February), 2009: pp 1  
Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

## Opioid Treatment Guidelines

### Clinical Guidelines for the Use of Chronic Opioid Therapy in Chronic Noncancer Pain

Roger Chou,<sup>1</sup> Gilbert J. Fanciullo,<sup>2</sup> Perry G. Fine,<sup>3</sup> Jeremy A. Adler,<sup>4</sup> Jane C. Ballantyne,<sup>5</sup> Pamela Davies,<sup>6</sup> Marilee I. Donovan,<sup>7</sup> David A. Fishbain,<sup>8</sup> Kathy M. Foley,<sup>9</sup> Jeffrey Fud Aaron M. Gilson,<sup>11</sup> Alexander Kelter,<sup>12</sup> Alexander Mauskop,<sup>13</sup> Patrick G. O'Connor, Steven D. Passik,<sup>15</sup> Gavril W. Pasternak,<sup>16</sup> Russell K. Portenoy,<sup>17</sup> Ben A. Rich,<sup>18</sup> Richard G. Roberts,<sup>19</sup> Knox H. Todd,<sup>20</sup> and Christine Miaskowski,<sup>21</sup> FOR THE AMERICAN SOCIETY–AMERICAN ACADEMY OF PAIN MEDICINE OPIOIDS GUIDELINES PANEL

## CDC Guideline for Prescribing Opioids for Chronic Pain – United States, 2016

*Recommendations and Reports* / March 18, 2016 / 65(1);1-49



*On March 15, 2016, this report was posted online as an MMWR Early Release.*

**Please note:** An erratum has been published for this report. To view the erratum, please click [here](#).

Deborah Dowell, MD<sup>1</sup>; Tamara M. Haegerich, PhD; Roger Chou, MD<sup>1</sup> ([View author affiliations](#))

## Consensus is emerging around guidelines, with CDC guidelines leading the way



# Multidisciplinary workgroup

Clinical guideline writers (Chou, Fine, Ballantyne)

Primary care physicians (Frey, Lee, Potter)

Systems engineering / quality improvement (Gustafson, Batalden)

Addiction and drug policy (McCarty)

# Integrated Group Process (Gustafson et al., 1993)

1. Choose participants
2. Develop a straw model through telephone interviews
3. Convene the group and revise the straw model
4. Design case scenarios
5. Enumerate the model
6. Identify sources of conflict
7. Average the smaller differences
8. Report the group's judgment

# Mapping the recommendations onto an actionable, checklist-based implementation guide

- Review and discuss the Treatment Agreement and have the patient sign it.
- If checking the PDMP produced warnings, document details in the patient's chart and discuss with the patient.
- Screen the patient for opioid misuse risk using the DIRE assessment tool, if this has not been done. Positive results warrant further assessment.
- Screen the patient for the risk for substance use disorders, if this has not been done. Positive results warrant further assessment.
- Screen the patient for depression using a validated tool such as PHQ2 or PHQ9, if this has not been done. Positive results warrant further assessment.
- Check the patient's medication list for opioid/benzodiazepine co-prescribing. If present, discuss strategies for tapering benzodiazepine and/or opioid dose.
- Order a urine drug test and discuss a plan for future monitoring of opioid therapy using urine drug testing.
- Assess pain using the Brief Pain Inventory tool. If it is above 8 with doses near 100 MEDD, consider other therapeutic options (physical therapy, behavioral health consultation, acupuncture, etc.) or referral to a pain specialist.

# General approach

- Create a detailed flowchart of Rx refill process and monitor incoming requests
- Compare patient's chart to checklist and set up appointments to take steps towards risk minimization
- Select new opioid patients carefully, and set a clinic-wide expectation to limit dose to 100 MEDD
- Use skill and clinical judgment in dealing with inherited and/or high-dose patients.

# Implementation Strategy: Systems Consultation

- Based on an organizational coaching model proven cost-effective in a randomized trial of 201 addiction treatment organizations (Gustafson et al., 2013) and used by ~ 4000 organizations nationwide

Addiction



RESEARCH REPORT

doi:10.1111/add.12117

## Which elements of improvement collaboratives are most effective? A cluster-randomized trial

David H. Gustafson<sup>1</sup>, Andrew R. Quanbeck<sup>1</sup>, James M. Robinson<sup>2</sup>, James H. Ford II<sup>1</sup>, Alice Pulvermacher<sup>1</sup>, Michael T. French<sup>3</sup>, K. John McConnell<sup>4</sup>, Paul B. Batalden<sup>5</sup>, Kim A. Hoffman<sup>4</sup> & Dennis McCarty<sup>4</sup>

# Key features of implementation strategy

- The implementation guide produced via the integrated group process was central to the approach
- We trained and deployed physician peer coaches/consultants to work with clinics in implementing the guide
- We used evidence-based implementation tools from systems engineering (e.g., flowcharting, Plan-Do-Study-Act change cycles) to modify workflows and facilitate adoption of the guide

# Coaching model

The usual approach to organizational change in healthcare: surveillance, scolding, etc.

Our approach: self determination theory

Competence

Relatedness

**Autonomous motivation**

Perspective, empathy, and homophily

# Methods

- The study compares 4 intervention clinics to 4 control clinics in a randomized matched-pairs design.
- Each systems consultation team worked with clinics on implementing the guidelines during a 6-month intervention comprised of 3 monthly site visits and 3 telephone / videoconferences.
- Quantitative outcomes are reported using difference-in-differences analysis.
- Qualitative methods included ethnographic field techniques, focus groups, and interviews.



# Feasibility

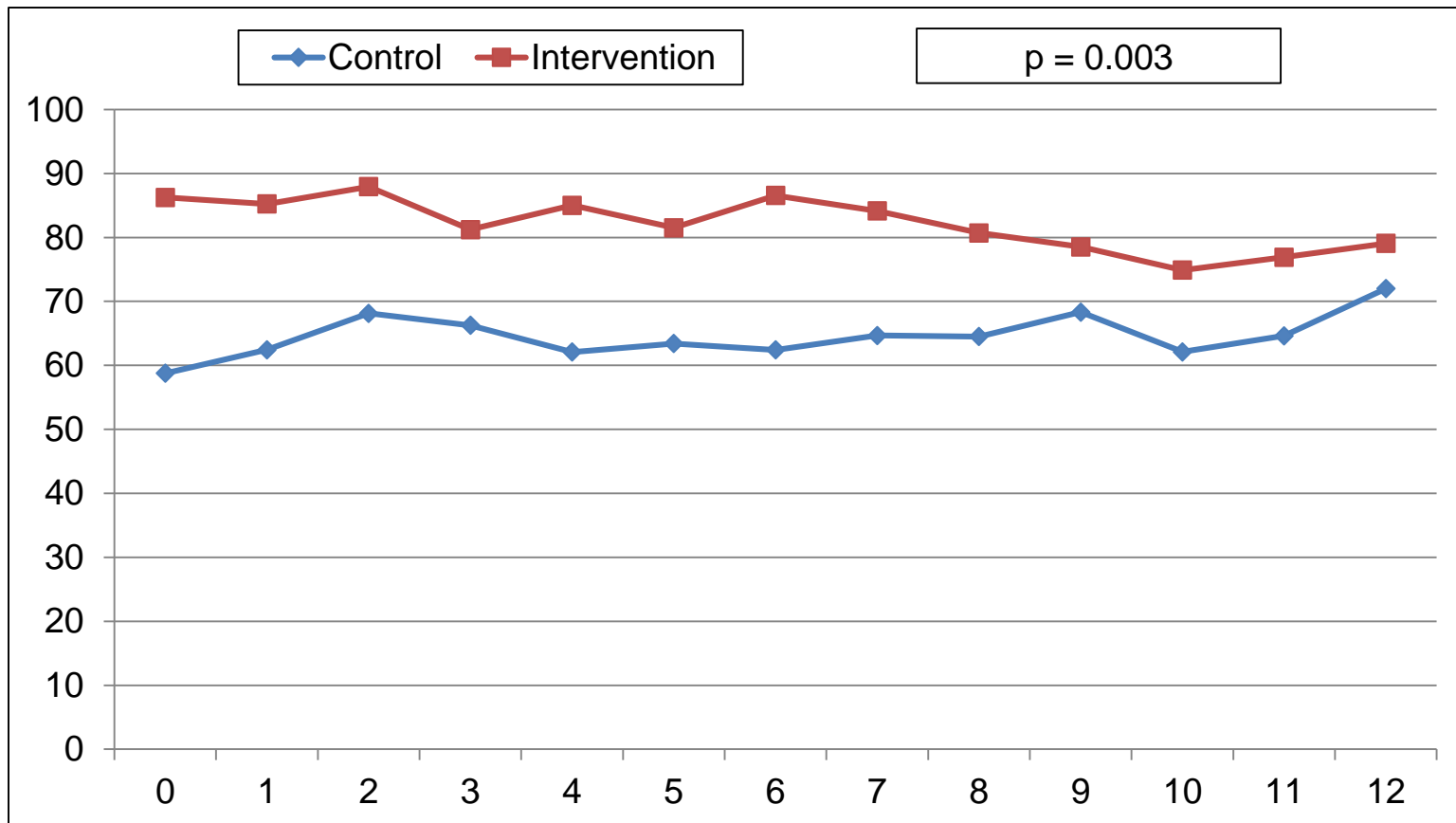
- From a pool of 13 clinics, we randomly approached 7 clinics to recruit 4 intervention clinics (3 clinics declined, 2 citing “lack of time” and 1 “leadership turnover”).
- Baseline prescribing rates (% of patients on long-term opioid therapy): 1.4% in control clinics, 1.2% in intervention clinics
- Each clinic designated a project team consisting of 6-8 staff members, each with at least 1 primary care physician, RN, MA/LPN, and administrative staff member.
- All 4 clinics completed all scheduled activities over 6 months, and attendance at intervention meetings was 88%.

## Average MEDD of Consistent Opioid Users by Intervention Month

Average opioid MEDD has decreased significantly for intervention clinics.

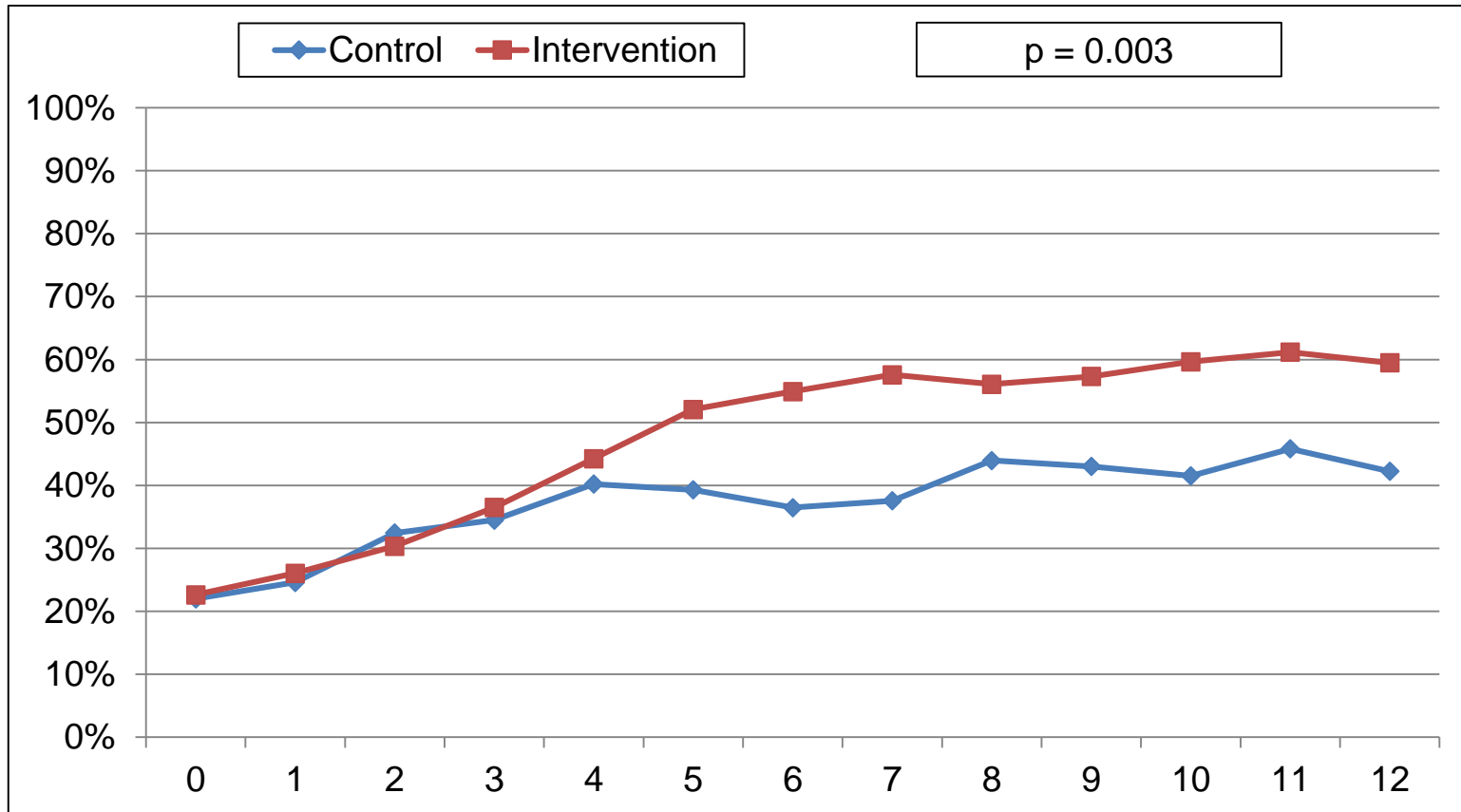
MEDD for control clinics has increased, but not significantly so.

The difference between intervention and controls is significant.



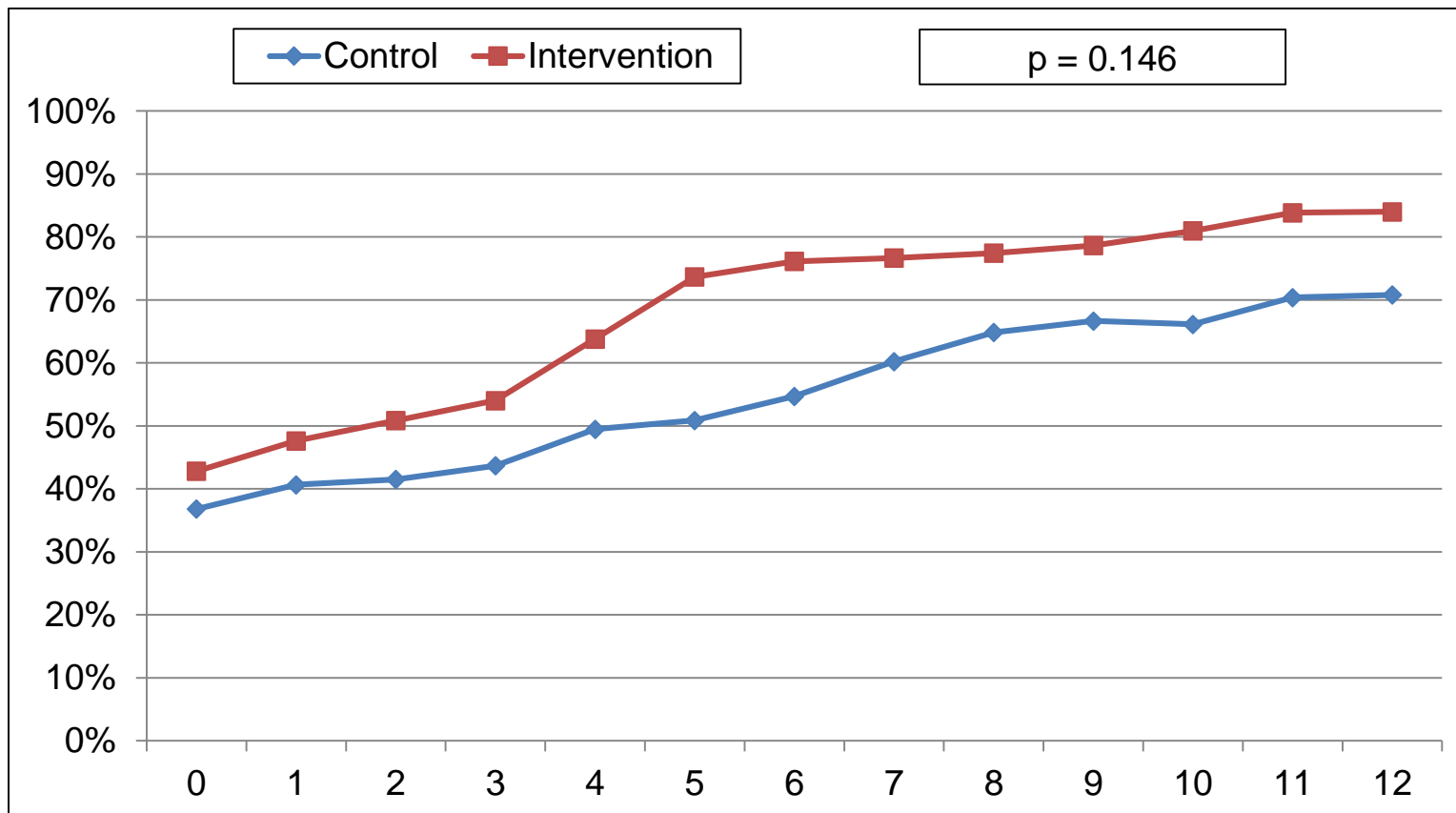
## % Consistent Opioid Users with Mental Health Screen by Intervention Month

MH screening outcomes for intervention and control clinics both show significant improvement. Rate of improvement for intervention clinics is significantly greater.

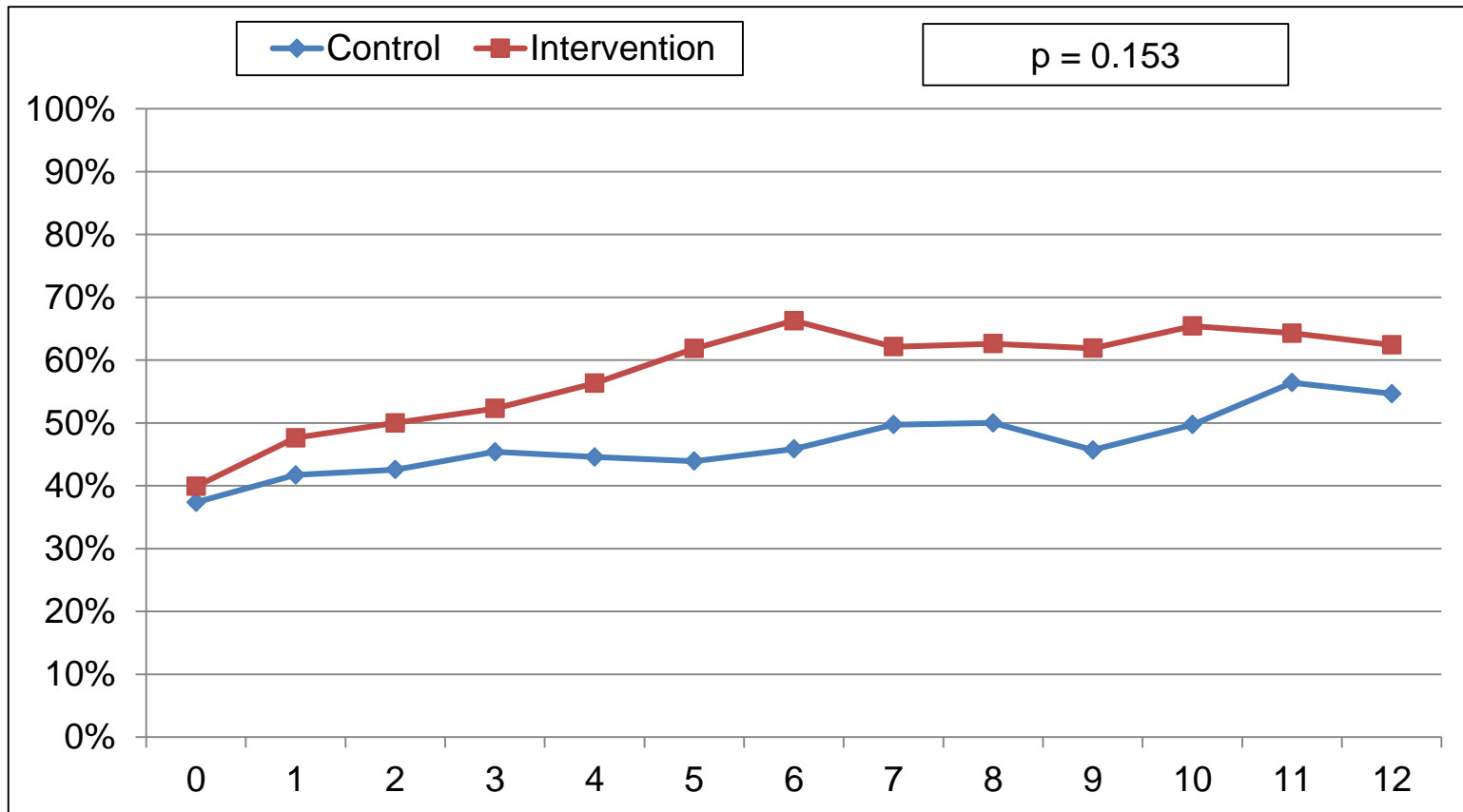


## % Consistent Opioid Users with Treatment Agreement by Intervention Month

Tx Agmt outcomes for intervention and control clinics both show significant improvement. There is somewhat greater improvement for intervention clinics.



**% Consistent Opioid Users with Urine Drug Screen by Intervention Month**  
UDT outcomes for intervention and control clinics both show significant improvement.  
There is somewhat greater improvement for intervention clinics.



# Qualitative results – key adaptations

- Our implementation strategy morphed into a “team coaching” model to mirror the structure of primary care work teams
- Lunch hour is the only time this kind of teamwork can be done (the four-hour meeting is a non-starter in primary care)
- We leveraged workflows employed for other chronic conditions that are hallmarks of primary care, including hypertension and diabetes.

# Acceptability

- More than 80% of staff respondents agreed or strongly agreed with the statements:
  - “I am more familiar with guidelines for safe opioid prescribing”
  - “My clinic’s workflow for opioid prescribing is easier”
- The approach seemed to provide the kind of help that primary care clinics want and need (Heard at the last site visit: “You’re leaving already?”)

# Limitations

- Relatively small sample of clinics (4), staff (28), and patients (~500) in a single health system
- Pragmatic study design
- Secular trends were evident



# Next steps: scaling up to affect population health

abouthealth™



- Aspirus
- Aurora Health Care
- Bellin Health
- Gundersen Health System
- ProHealth Care
- ThedaCare

# Takeaway thoughts

- The project provides a model for clinical experts and implementation scientists to work together in promoting implementation of clinical guidelines
- The opioids crisis developed over a generation, and there's no quick fix in sight
- Nevertheless, progress can be made when doctors and engineers tackle the problem together

# For more information, see:

Quanbeck *et al.* *Health Research Policy and Systems* (2016) 14:8  
DOI 10.1186/s12961-016-0079-2

Health Research Policy  
and Systems

**STUDY PROTOCOL**

**Open Access**



## Systems consultation: protocol for a novel implementation strategy designed to promote evidence-based practice in primary care

Andrew Quanbeck<sup>1\*</sup>, Randall T Brown<sup>2</sup>, Aleksandra E Zgierska<sup>2</sup>, Roberta A Johnson<sup>1</sup>, James M Robinson<sup>3</sup> and Nora Jacobson<sup>4</sup>

# Thank you!

Andrew Quanbeck  
[arquanbe@wisc.edu](mailto:arquanbe@wisc.edu)