

# Organizational Cost of Quality Improvement for Depression Care

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QUERI Cyberseminar

# Organizational Investments Needed for Quality Improvement (QI) Efforts

- Integrating evidence-based care into routine practices could be challenging, even when toolkits and materials are available to support implementation
- QI efforts to change clinical practices require investments of organizational and clinical resources
- Important information for mobilizing discretionary resources to support QI efforts

# Challenges in Quantifying QI Efforts

- Identity specific QI activities and participants
- Account for all efforts evolving over the QI process
- Link costs to QI activities
- Obtain complete and accurate data

# Objective

- This study documented the activities and timeline of the implementation process, as well as estimated the organization costs in a depression care quality improvement project
- We developed standard data collection methods and analytical approach

Reference: Liu CF, Rubenstein LV, Kirchner JE, Fortney JC, Perkins MW, Ober SK, Pyne JM, Chaney EF. Organizational Cost of Quality Improvement for Depression Care. *Health Services Research* 44:226-244, 2009.

# Poll Questions

1. Have you been involved in measuring QI efforts?

- Yes
- No

2. Are you interested in measuring QI efforts for your current or future projects?

- Yes
- No
- Maybe

# Translating Initiatives for Depression into Effective Solutions (TIDES)

- Adapted and implemented a collaborative care model for depression into routine primary care practices
  - Telephone care management
- Used an evidence-based quality improvement (EBQI) approach by building research/clinical partnerships
  - Clinical team: VISN and local QI leaders and clinical managers, who were decision-makers of the QI process
  - Technical expert team: VA research staffs, who provided support to the decision-making process and tool development

# TIDES Intervention Sites

- 7 intervention sites in 3 VISNs: 2-3 sites per VISN
- VISN leadership identified potential sites
- Medium-size primary care clinics with some mental health support
- TIDES and VISNs jointly provided salary support for depression care managers
- Implementation time period: April 2000 - June 2004

# Study Design

- Cross-sectional descriptive analysis of a research/clinical partnership to implement a collaborative care model for depression in primary care among 7 TIDES primary care clinics

# Methods

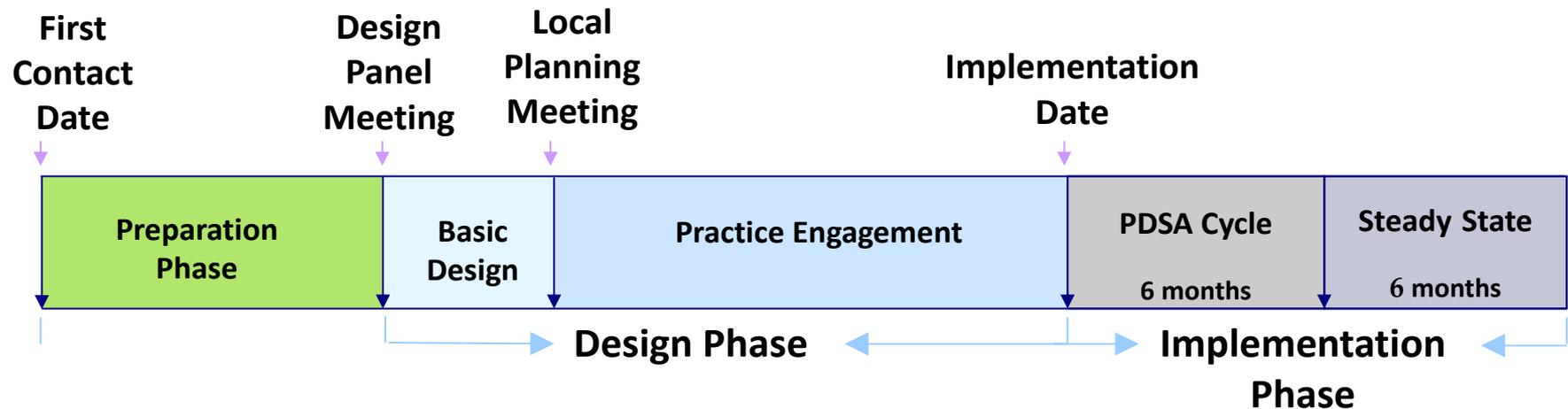
# Define Key Aspects of QI Process

- QI process: adapting and implementing an evidence-based care model into routine clinical practices
- Key QI aspects
  - Timeline
  - Participants
  - Implementation activities

# Define QI Timeline

- Start and end dates
- Milestones of QI process, e.g.
  - Kickoff meeting
  - Site visit
  - First patient referral

# QI Timeline: TIDES Implementation Phases



*First contact date:* Between the technical expert team and a VISN leadership

*Design Panel Meeting:* VISN level meeting

*Local Planning Meeting:* Clinic level meeting

*Implementation Date:* Date of first patient referral

**PDSA: Plan-Do-study-Act**

# Preparation Phase

- Goal: to obtain leadership buy-in for participation of the QI program
- Identified mental health, primary care, and administrative leaderships

# Design Phase

- Goal: to adapt the care model to clinical practices
- Basic design sub-phase
  - Decisions on the care model's basic features
  - Identifications of TIDES practices
  - Establishment of technical expert/clinical partnership organizational structures
- Practice engagement sub-phase
  - Provider education, informatics tools, and protocol development

# Implementation Phase

- Goal: to gradually transition into routine care
- Plan-Do-Study-Act sub-phase (first 6 months)
  - Tried out, improved, and tailored the care model
- Routine care sub-phase (second 6 months)
  - Adapted basic elements of the care model
  - Stable workload

# Define QI Participants

- QI participants: Individuals directly participated in design or implementation of the care model
  - Technical expert team
  - Clinical team: leaders from participating VISNs, VAMCs, and local practices
- Non-QI participants
  - Providers who referred patients
  - Researchers

# TIDES Technical Expert/Clinical Partnership Organizational Structures

- Five QI workgroups
  - Senior leadership
  - Collaboration
  - Provider education
  - Clinical informatics
  - Care management and patient self-management support
- Data collection by workgroup

# Define QI Activities

- QI activities: communications, meetings, protocols and materials development, training and education, and other activities to facilitate the QI process
- Non-QI activities: usual patient care, evaluation and research activities, Human Subjects Review activities

# Classification of QI Activities

## Activity Class

### Leadership and collaboration

## Example Activities Included

- Regional leadership design process
  - Individual and group communication through calls and emails
  - In-person design panel and panel preparation
- Senior Leader and Collaboration Workgroup activities
  - Coordination and policy development

### Provider education

- Education Workgroup activities
  - Preparation and production of educational materials
- Local practice in-person educational activities
  - Introductory educational conferences by technical expert team, in person or video-conference
  - Ongoing seminars and academic detailing by clinical team

### Clinical informatics

- Clinical reminder workgroup activities
  - Software development
  - Software programming, licensing, and protocol development
  - Server costs

### Care management and patient self-management support

- Pilot testing/PDSA cycles of informatics products
- Care management and patient self-management support workgroup
- Training for care manager role
- Marketing activities targeting practices and clinicians
- Involvement in PDSA cycles of care management

### Project coordination

- Organizing meetings, tracking timelines, problem-solving implementation barriers

# Data Sources and Data Collection

- Main data source: project records
- Planning for data collection
  - Determined records needed
  - Prospective data collection if possible
- Developed standard approaches to track and collect activities systematically and regularly
  - Standardized data collection forms, e.g. meeting minutes and attendance
  - Centralized the location for storing records: shared drive and listserv
- Validated data carefully throughout the process

# Project Records

- Conference calls and in-person meetings
  - 193 conference calls
  - Two design panel meetings
- One care manager training and 10 provider education sessions
- Travels: 29 QI participants made 59 trips to 11 events
- Contracts for care management software and clinical informatics

# Email Data Collection

- TIDES listserv and workgroups
- Excluded short emails (<10 words), duplicates, non-project related emails, not generated by QI participants
- 18,253 emails processed
- Classified by subject title, date, and participant
- Estimated times for reading and composing email from one week of recording from the project team
  - Median time for reading: 62 words/minute
  - Median time for composing: 21 words/minute

# Survey Data Collection

- Retrospective data collection
- IT personnel: maintenance of information system
- Research personnel: development of education materials

# Estimate Personnel Time

- Conference calls and in-person meetings
  - 90% of scheduled time
  - Range: 80% - 100% scheduled time
- Travel for in-person meetings
  - 8 hours for traveling by plane
  - 4 hours for traveling by car

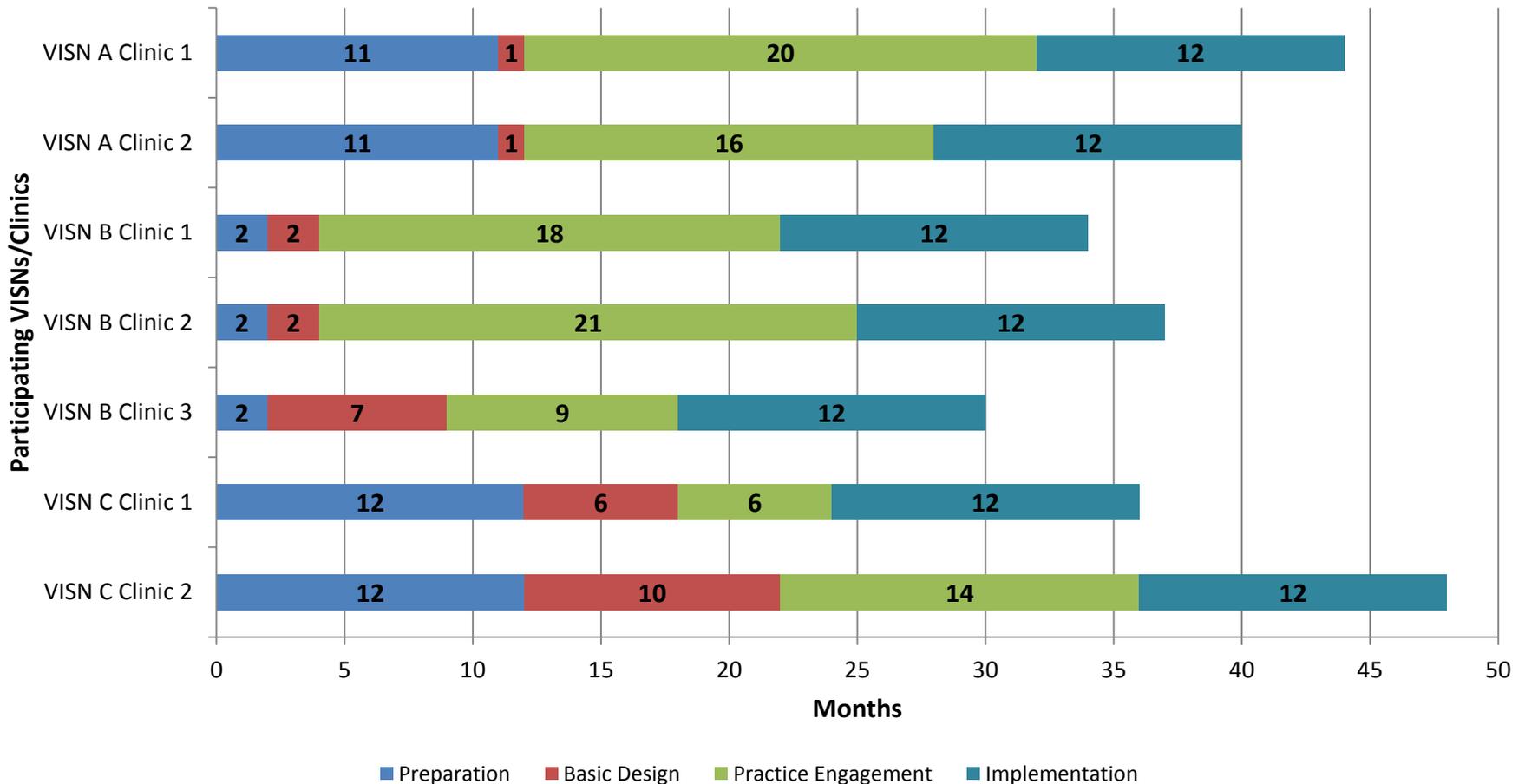
# Cost Estimation

- Personnel costs: average hourly salary based on VA job category, including fringe benefits
- Travel costs: trip budgets
  - Range: 90% - 110% of trip budget
- Licenses for care management software: actual costs from purchase orders
- In 2003 dollars

# Results

# QI Timeline

## Number of Months by Phase



# Research/Clinical Partnership

- Broad range of involvement for both technical expert team and clinical team
- 128 persons contributed 3,233 hours at a total cost of \$282,225 (personnel, travel, and contracts) over 4 years

Partner	Participants	Hours	Cost
Clinical Team	86	1,086	\$84,438
Technical Expert Team	42	2,147	\$197,787
<b>Total</b>	128	3,233	\$282,225

# QI Efforts by Phase

Phase	Clinical Team		Technical Expert Team	
	Person Hours	Cost	Person Hours	Cost
<b>Preparation and Design Phases</b>	742	\$61,759	1,639	\$177,193
<b>Implementation Phase</b>				
<b>PDSA Cycle subphase</b>	179	\$11,860	278	\$11,287
<b>Routine Care subphase</b>	164	\$10,704	230	\$9,307
<b>Total</b>	1086	\$85,490	2,147	\$197,787

We combined Preparation and Design phases because the activities for the technical expert team could not be separated due to involvement with multiple sites at different phases.

# Limitations

- The implementation costs are likely to be underestimated because only countable and documented activities were measured
- The implementation cost estimates are for earlier adopters
- The results may not be generalized to other QI strategies
- The results may not be generalizable to non-VA health care systems

# Conclusions

- Adopting the care model requires significant technical expert support to achieve full integration in a well-established care system such as the VA
- The technical expert assistance and facilitation provided by the research team was costly, but it may have minimized costs to the care settings themselves

# Current Work

- Blended Facilitation to Enhance PCMH Program Implementation (SDP 08-316; PI: JoAnn Kirchner, MD)
  - Assessed the implementation cost of blended facilitation approach
- Virtual Specialty Care QUERI (QUE 15-282; PI: John Fortney, PhD)
  - Planning stage
  - Aim to simplify data collection process

# Lessons Learned

- Planning for data collection
- Understanding the QI process and keeping up with the progress
- Validating data

# Acknowledgement

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# Questions/Comments?

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