Program Evaluation Intensive: Practical Training in Selecting Measures and Data Collection Methods to Obtain Useful Outcome Data

Robyn L. Shepardson, PhD, Clinical Research Psychologist, VA Center for Integrated Healthcare, Syracuse, NY
Jennifer S. Funderburk, PhD, Clinical Research Psychologist, VA Center for Integrated Healthcare, Syracuse, NY
Nadiya Sunderji, MD, MPH, Psychiatrist-in-Chief, Waypoint Centre for Mental Health Care, Assistant Professor, Dept of Psychiatry, University of Toronto, Ontario, Canada
Jodi Polaha, PhD, Associate Professor, Dept of Family Medicine, Division of Primary Care Research, East Tennessee State University, Johnson City, TN

Faculty Disclosure

The presenters of this session have NOT had any relevant financial relationships during the past 12 months.

Disclaimer: The views expressed in this presentation are those of the authors and do not reflect the views or official policy of the Department of Veterans Affairs or other departments of the U.S. government.

CFHA COLLABORATIVE FAMILY HEALTHCARE ASSOCIATION

Conference Resources

Slides and handouts will be available on the CFHA website at https://www.cfha.net/page/Resources_2019 and on the conference mobile app.

CFHA COLLABORATIVE FAMILY HEALTHCARE ASSOCIATION

Learning Objectives

At the conclusion of this session, participants will be able to:

- List common measures in integrated primary care research and evaluation at the levels of patient/family, provider, program, and population/system
- Select appropriate measures for use in their own program evaluation
- Describe advantages and disadvantages of various methods of collecting program evaluation data
- Identify a feasible strategy for collecting their program evaluation data

Learning Assessment

A learning assessment is required for CE credit.

A question and answer period will be conducted at the end of this presentation.

CFHA COLLABORATIVE FAMILY HEALTHCARE ASSOCIATION

Bibliography / References

1. Funderburk, J. S., & Shepardson, R. L. (2017). Real-world program evaluation of integrated behavioral health care: Improving scientific rigor. *Families, Systems, & Health, 35*, 114-124. doi:10.1037/fsh0000253

2. Peek, C. J., Cohen, D. J., & deGruy, F. V. (2014). Research and evaluation in the transformation of primary care. *American Psychologist, 69*, 430-442. doi:10.1037/a0036223

3. Peikes, D., Taylor, E., Genevro, J., & Meyers, D. (2014). *A guide to real-world evaluations of primary care interventions: Some practical advice*. Retrieved on 14 February 2019. https://pcmh.ahrq.gov/sites/default/files/attachments/PCMH_Evaluation_Guide.pdf

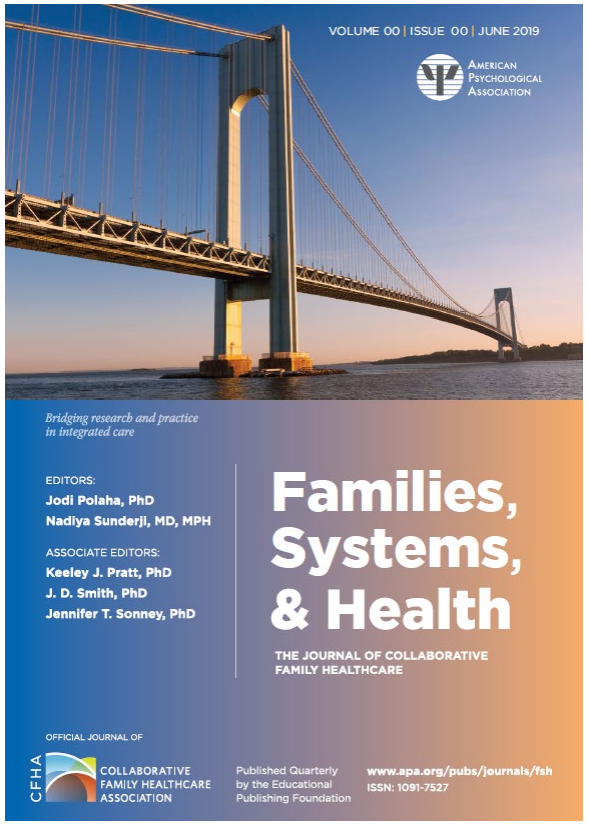
4. Smith, J. D., & Polaha, J. (2017). Using implementation science to guide the integration of evidence-based family interventions into primary care. *Families, Systems, & Health, 35*, 125-135. doi:10.1037/fsh0000252

5. Sunderji, N., Ion, A., Ghavam-Rassoul, A., & Abate, A. (2017). Evaluating the implementation of integrated mental health care: A systematic review to guide the development of quality measures. *Psychiatric Services, 68*, 891-898. doi:10.1176/appi.ps.201600464

Welcome

CFHA COLLABORATIVE FAMILY HEALTHCARE ASSOCIATION

Research & Evaluation Committee (REC)



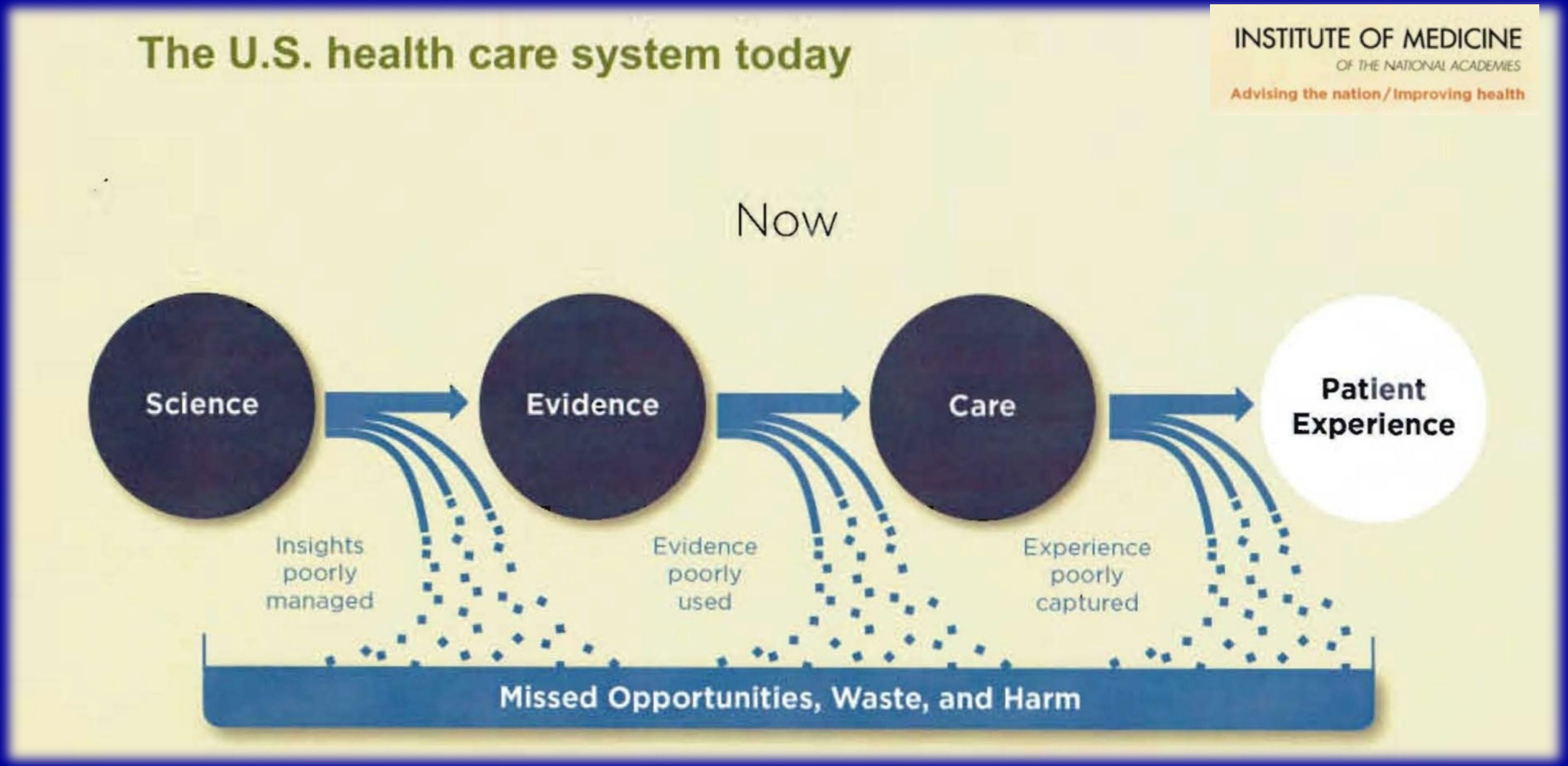
Workshop Overview

- The power of evaluators
- Introductions and overview of your PE projects
- Domains and levels of measures helpful in PE
- Measures useful in IPC PE
- Discussion of appropriate measures for your PE projects
- Quick break (9:55-10:00)
- Advantages & disadvantages of PE data collection methods
- Considerations in choosing PE data collection methods
- Additional considerations in PE
- Discussion of data collection methods for your PE projects
- Closing and questions

The Power of Evaluators

Jodi Polaha, PhD

Learning Healthcare System



Who are our participants?

Most are just getting started on their PE

~Half have intermediate experience with PE

Wide variety of key stakeholders

Many have protected time & a few have funding!

94% have access to EMR data

Most common PE audience is administration

Who are our participants? – New Programs

- Pilot program for IBHC in adult primary care
- Starting SBIRT in our medical offices
- Our reverse integration clinic where we offer PC services at the CMHC, has been in operation for 1.5 years
- Primary care adolescent social prescribing 'link worker' program being established in a new Primary Care Network of 6 UK clinics
- Relatively new BH Program in Canadian setting

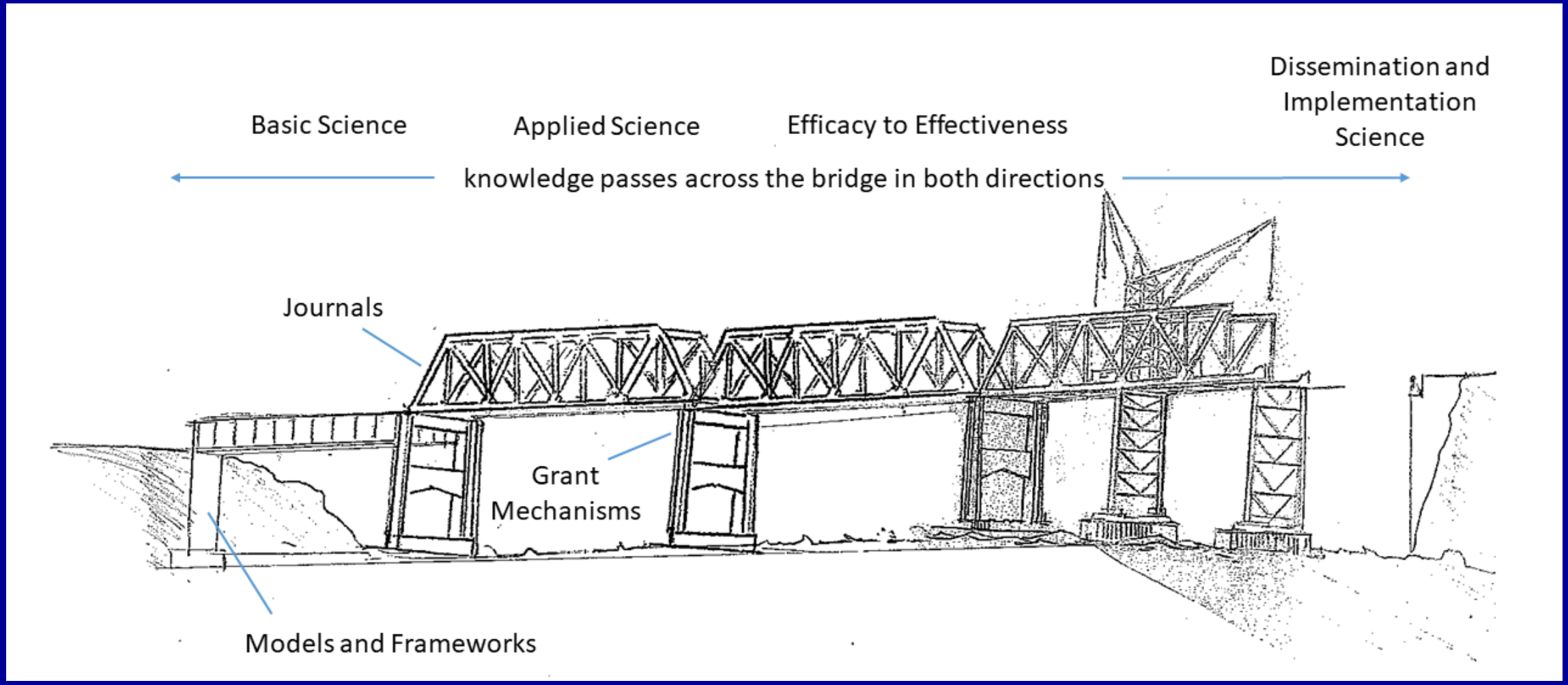
Who are our participants? – Expanding Programs

- The PCBH program at our health system. We are in 11 of 28 PC/pediatric clinics with hope of expanding to all 28.
- Integration of tobacco cessation services in a MH clinic. More specifically, referring more patients to the program and getting more members of the team involved (therapist, psychiatrist)
- Having successfully piloted a small PCBH program in 2 of our clinics, we would like to expand the service to our newly re-opened flagship clinic and make integrated care a core part of our PCMH model.

Who are our participants? – Novel Programs

- Integration of BH in women's health service line in large AHC
- Within our PCBH program we are looking to ensure long term retention and "burn-out" prevention strategies for our BHCs
- Integrating MAT into existing (but also fairly new) integrated behavioral health work

Opportunities at the End-Point



from Polaha & Sunderji (2018)

Who are our participants disseminating to?

	Almost guaranteed that we don't do this	Unlikely that we do this	Likely that we do this	Almost guaranteed that we do this
Complete an executive summary, but no formal project report	6%	38%	25%	31%
Complete a project report for our team's internal use	6%	6%	50%	38%
Complete a project report for key stakeholders' use	0%	6%	38%	56%
Present at an internal meeting (e.g., within our clinic)	0%	0%	13%	88%
Present at a conference	0%	19%	50%	31%
Write up for publication in peer-reviewed journal	13%	25%	44%	19%
Develop press release or other media campaign	19%	38%	31%	6%

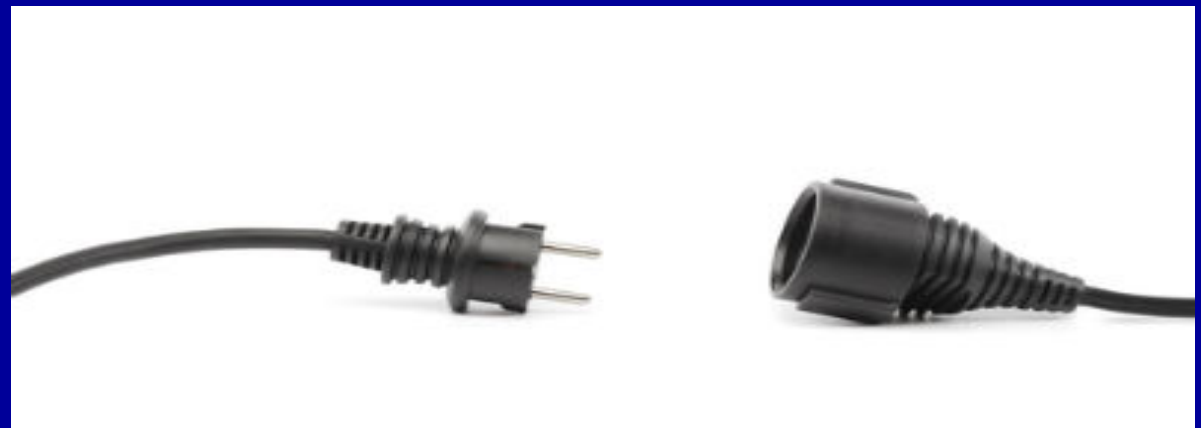
Dissemination of Scientific Findings: A Tale of Two Worlds

Researchers

1. Journal articles
2. Face to face meetings
3. Media interviews
4. Press releases

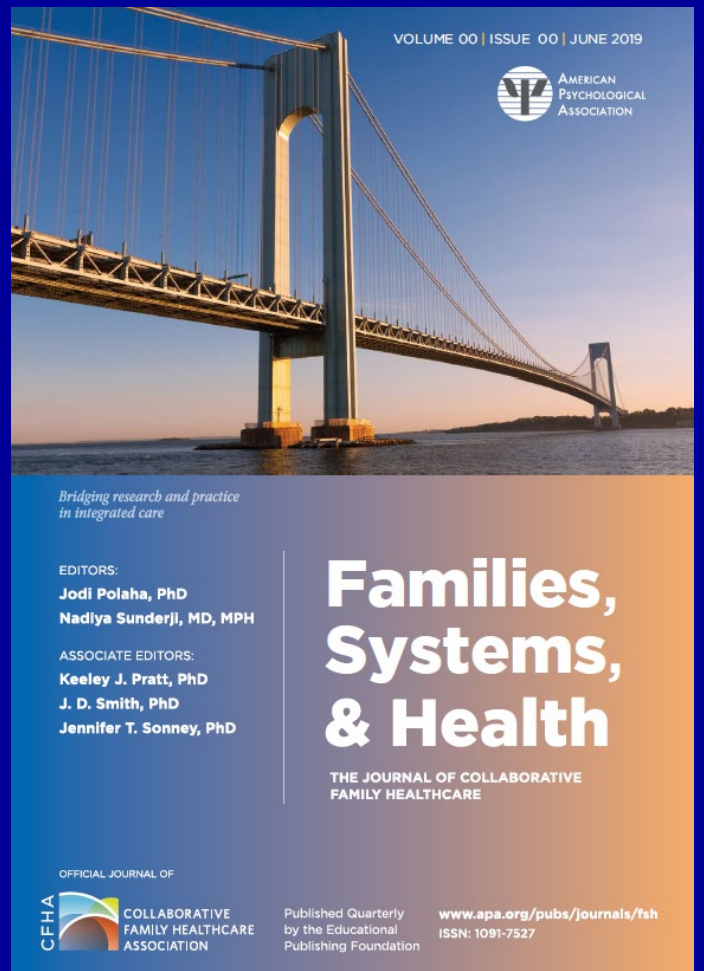
Practitioners

1. Professional associations
2. Seminars/workshops
3. Email alerts
4. Journal articles

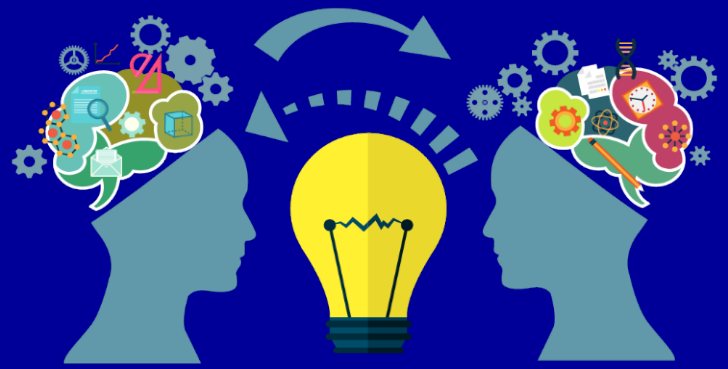


From Brownson/TIDIRH

Friday 12:30
Lunch Discussion
Publishing in IC



Small Groups



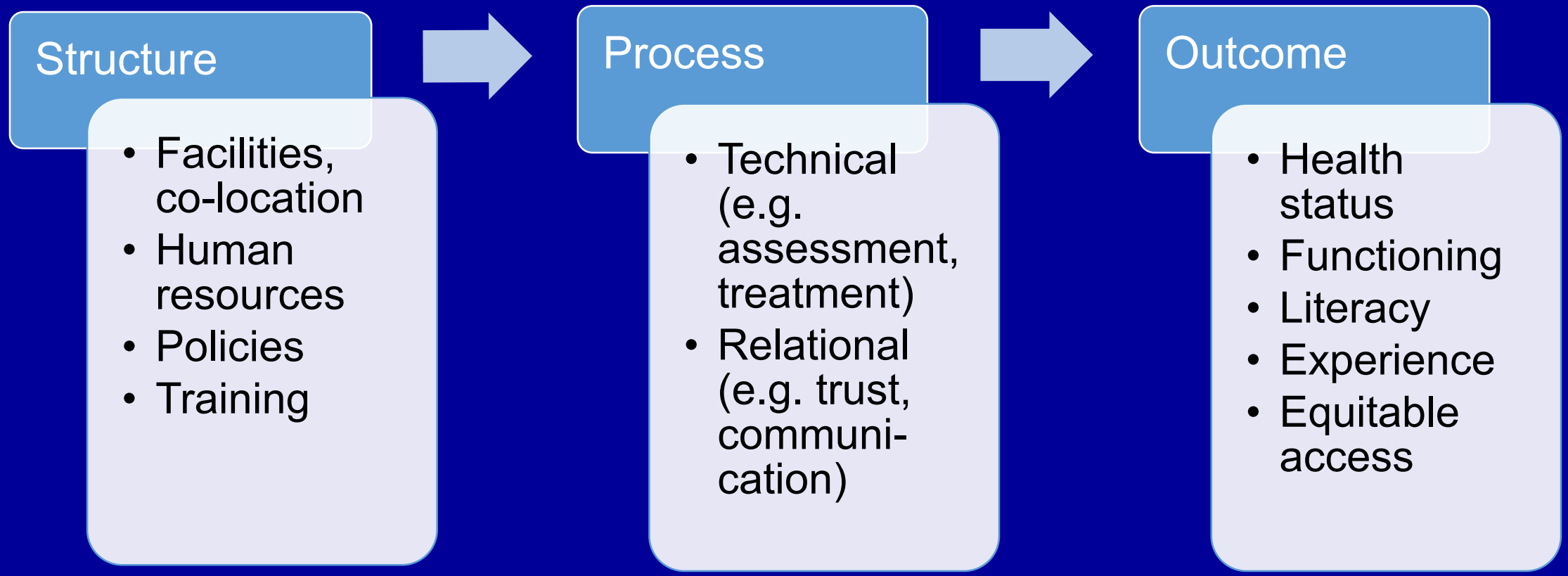
Everyone take ~2 minutes each to introduce yourself, your setting, and the program evaluation project you are working on

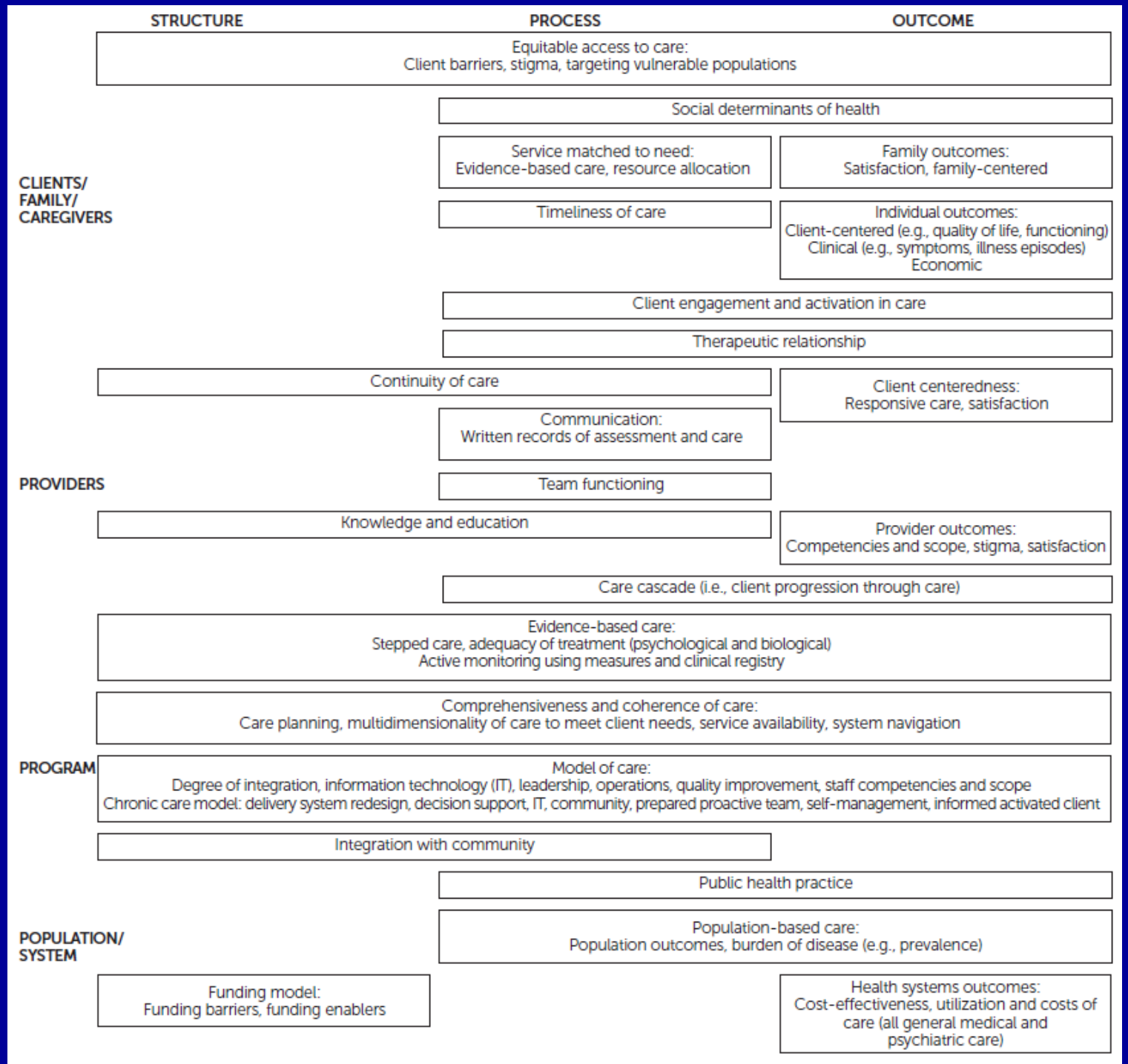
15 minutes

Domains & Levels of Measures Helpful in Program Evaluation

Nadiya Sunderji, MD

Structure – Process – Outcome
or why? – how? – what and how much?





from Sunderji, Ion, Ghavam-Rassoul, & Abate, 2017

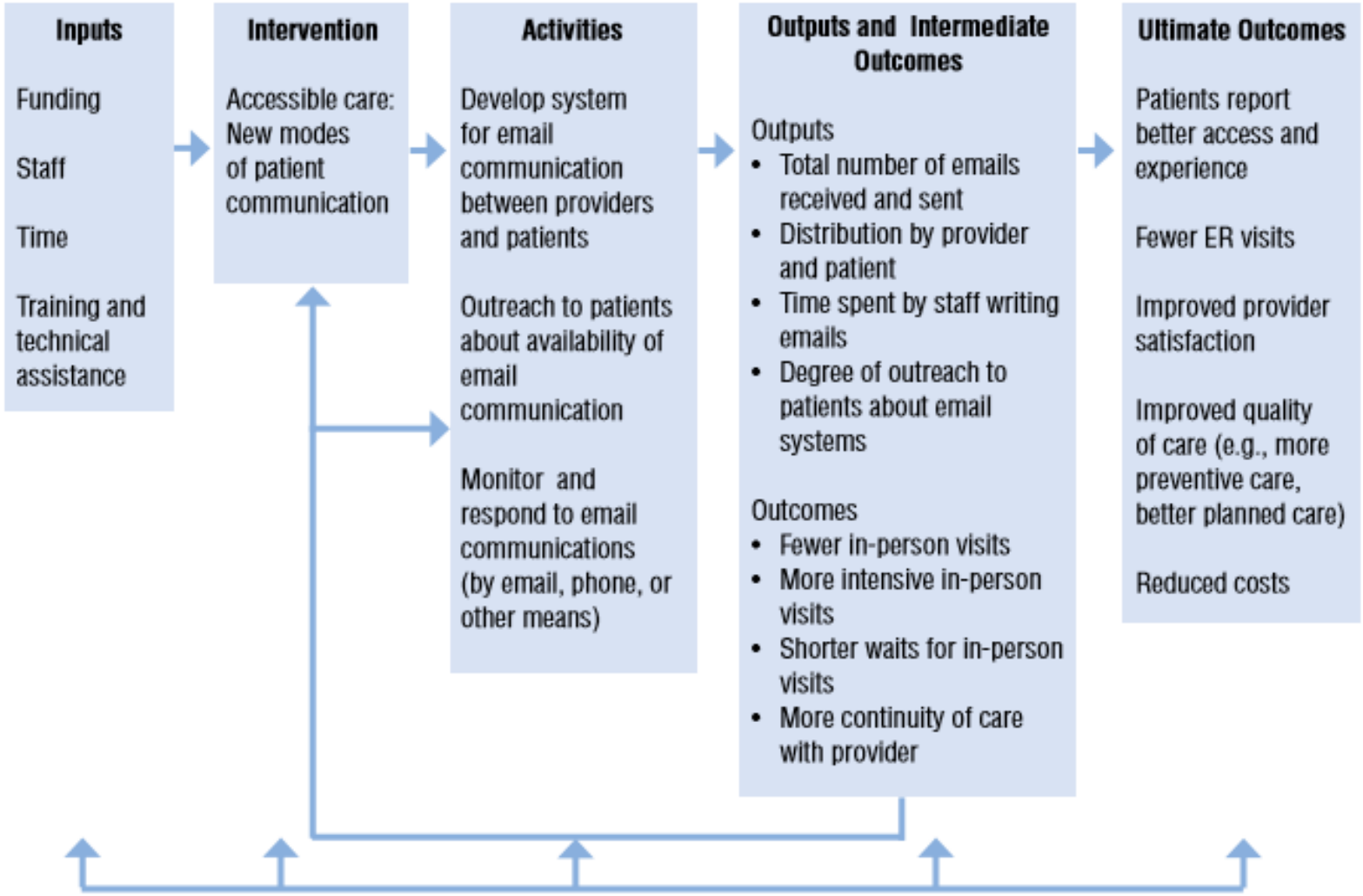
Develop a Logic Model

*Theory of change showing *why* and *how* the program is believed to improve outcomes of interest

This helps you identify:

- each component of the program
- the pathways through which components could affect outcomes of interest
- types of effects expected

Figure 2. Logic Model of a PCMH Strategy Related to Email Communication

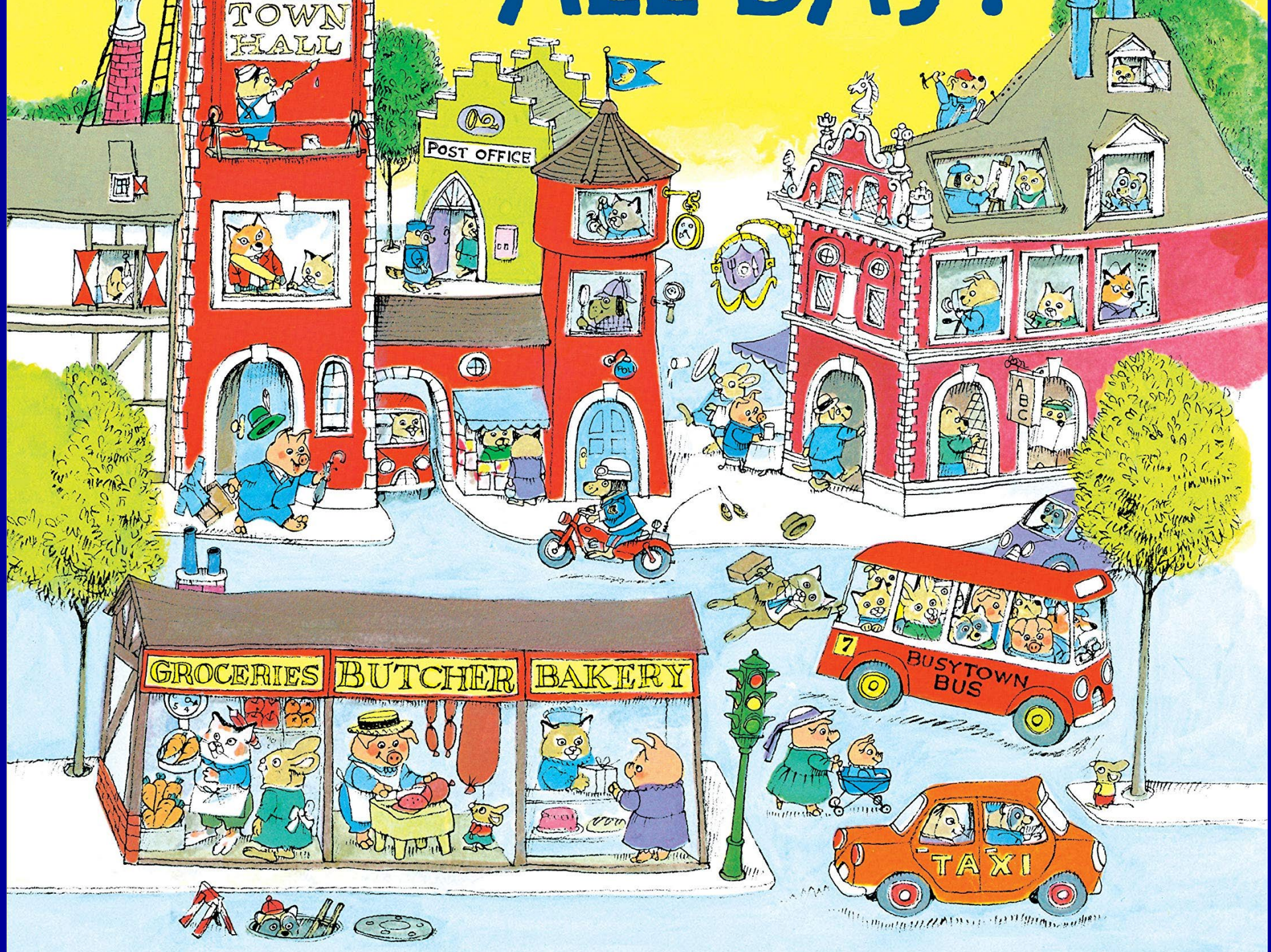


Contextual and External Factors: Patient access to email and availability and ease of other forms of communication (such as a nurse advice line); patient familiarity with email; regulations and patient concerns about confidentiality, privacy, and security; insurance coverage for email interactions; and insurance copays.

Source: Adapted from Petersen, Taylor, and Peikes. Logic Models: The Foundation to Implement, Study, and Refine Patient-Centered Medical Home Models, 2013, Figure 2.[9]

For more info: Kellogg Foundation Logic Model Development Guide

From https://pcmh.ahrq.gov/sites/default/files/attachments/PCMH_Evaluation_Guide.pdf


TOWN HALL
POST OFFICE
ABC
GROCERIES
BUTCHER
BAKERY
7
BUSYTOWN BUS
TAXI

To focus your selections:

- What is your program trying to achieve?
- What is it doing to achieve that?
- What needed to be in place to enable those activities?
- What else may have occurred as an unintended consequence (+ or -)?
- Who are you evaluating for, and why?
- What do you hope will change as a result of your evaluation?

Example “family of measures”

- Initiative to introduce use of PHQ-9 for monitoring patients with known depression and diabetes in an academic multi-site primary care clinic
- Typical individual patient level measures of effectiveness
- But what about:
  - Time and other resources required
  - Impacts on clinic flow
  - Staff perceptions
  - Impacts on the care cascade
  - Patient perceptions
  - Equity & population impacts

Further reading

Website:
www.qi4cc.com
Contact:
nsunderji@waypointcentre.ca

Evaluating the Implementation of Integrated Mental Health Care: A Systematic Review to Guide the Development of Quality Measures

Nadiya Sunderji, M.D., M.P.H. F.R.C.P.C., Allyson Ion, M.Sc., Abbas Ghavam-Rassoul, M.D., M.H.Sc., Amanda Abate, M.D.

Objective: Although the effectiveness of integrated mental health care has been demonstrated, its implementation in real-world settings is highly variable, may not conform to evidence-based practice, and has rarely been evaluated. Quality indicators can guide improvements in integrated care implementation. However, the literature on indicators for this purpose is limited. This article reports findings from a systematic review of existing measures by which to evaluate integrated care models in primary care settings.

Methods: Bibliographic databases and gray literature sources, including academic conference proceedings, were searched to July 2014. Measures used or proposed to evaluate integrated care implementation or outcomes were extracted and critically appraised. A qualitative synthesis was conducted to generate a panel of unique measures and to group these measures into broad domains and specific dimensions of integrated care program performance.

Results: From 172 literature sources, 1,255 measures were extracted, which were distilled into 148 unique measures. Existing literature frequently reports integrated care program effectiveness vis-à-vis evidence-based care processes and individual clinical outcomes, as well as efficiency (cost-effectiveness) and client satisfaction. No measures of safety of care and few measures of equitability, accessibility, or timeliness of care were located, despite the known benefits of integrated care in several of these areas.

Conclusions: To realize the potential for quality measurement to improve integrated care implementation, future measures will need to incorporate domains of quality that are presently unaddressed; microprocesses of care that influence effectiveness, sustainability, and transferability of models of care; and client and health care provider perspectives on meaningful measures of quality.

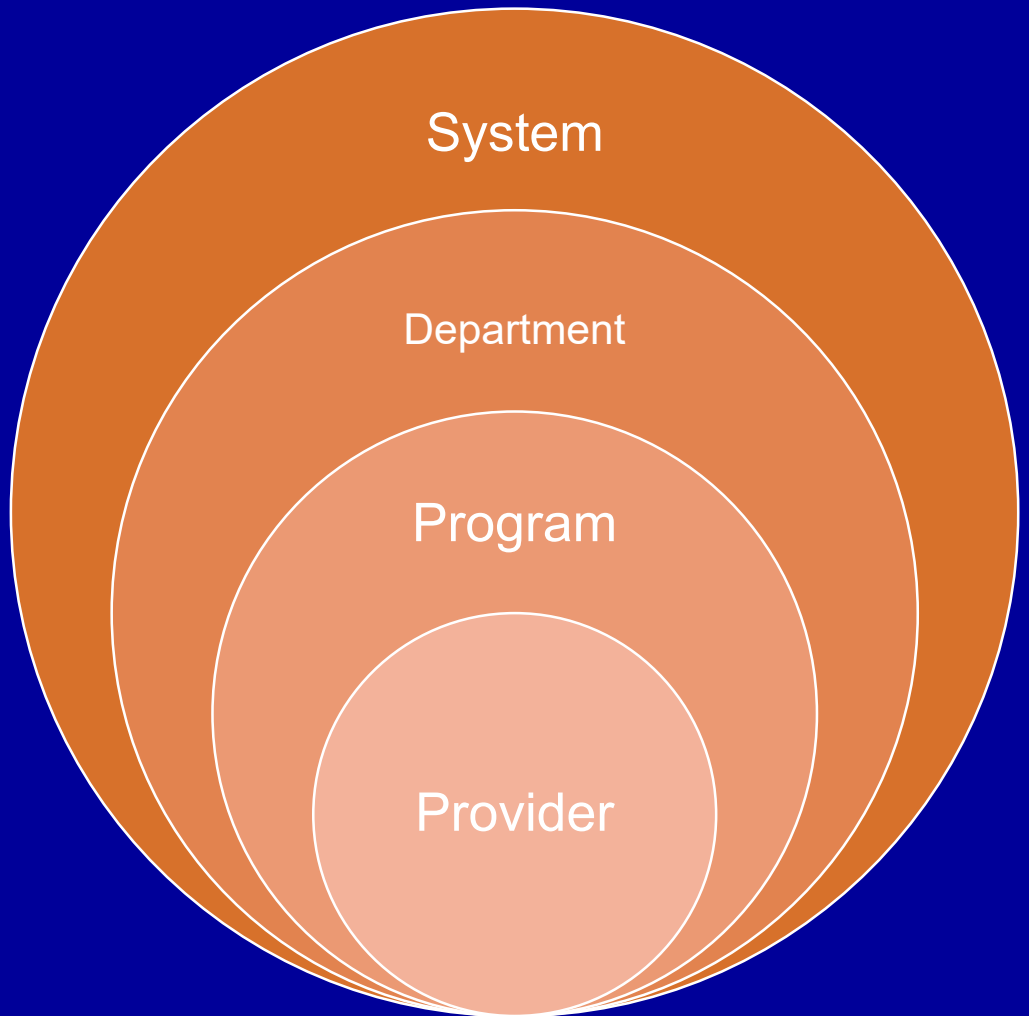
Psychiatric Services 2017; 68:891–898; doi: 10.1176/appi.ps.201600464

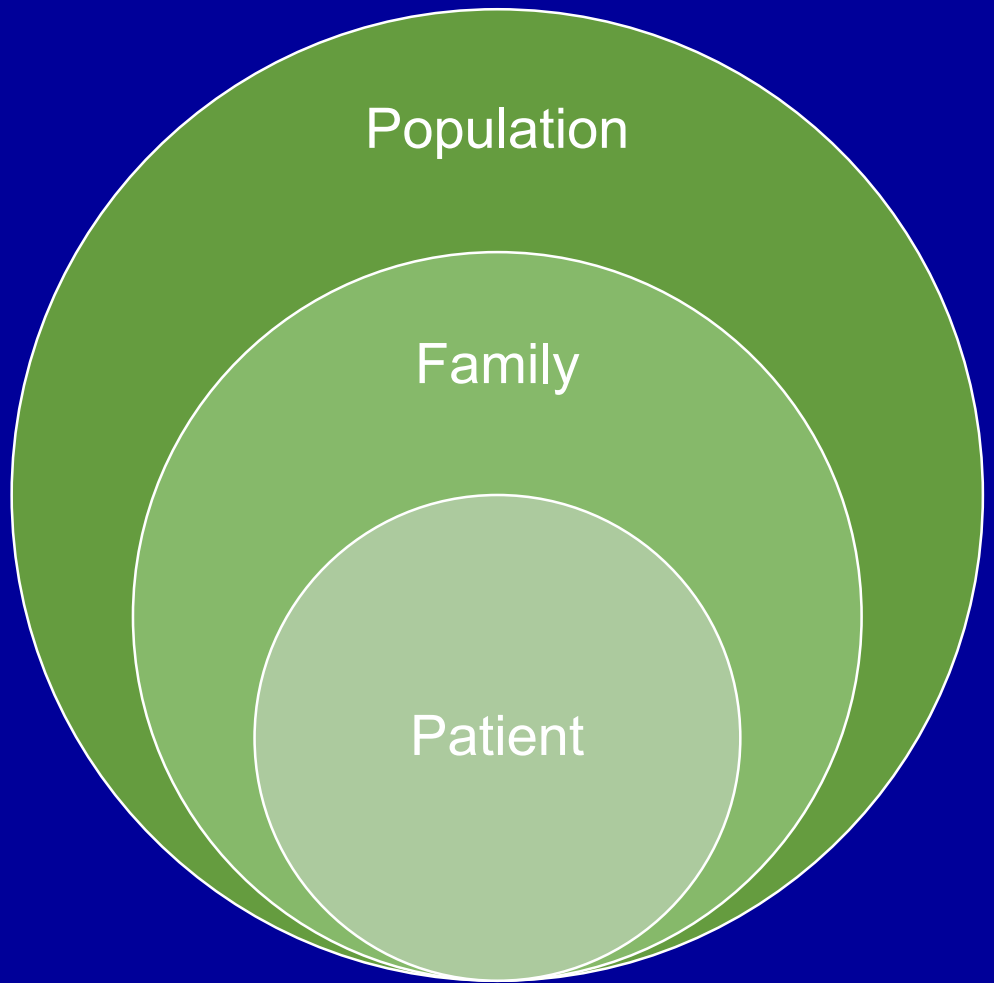
Measures Helpful in IPC Program Evaluation

Robyn L. Shepardson, PhD

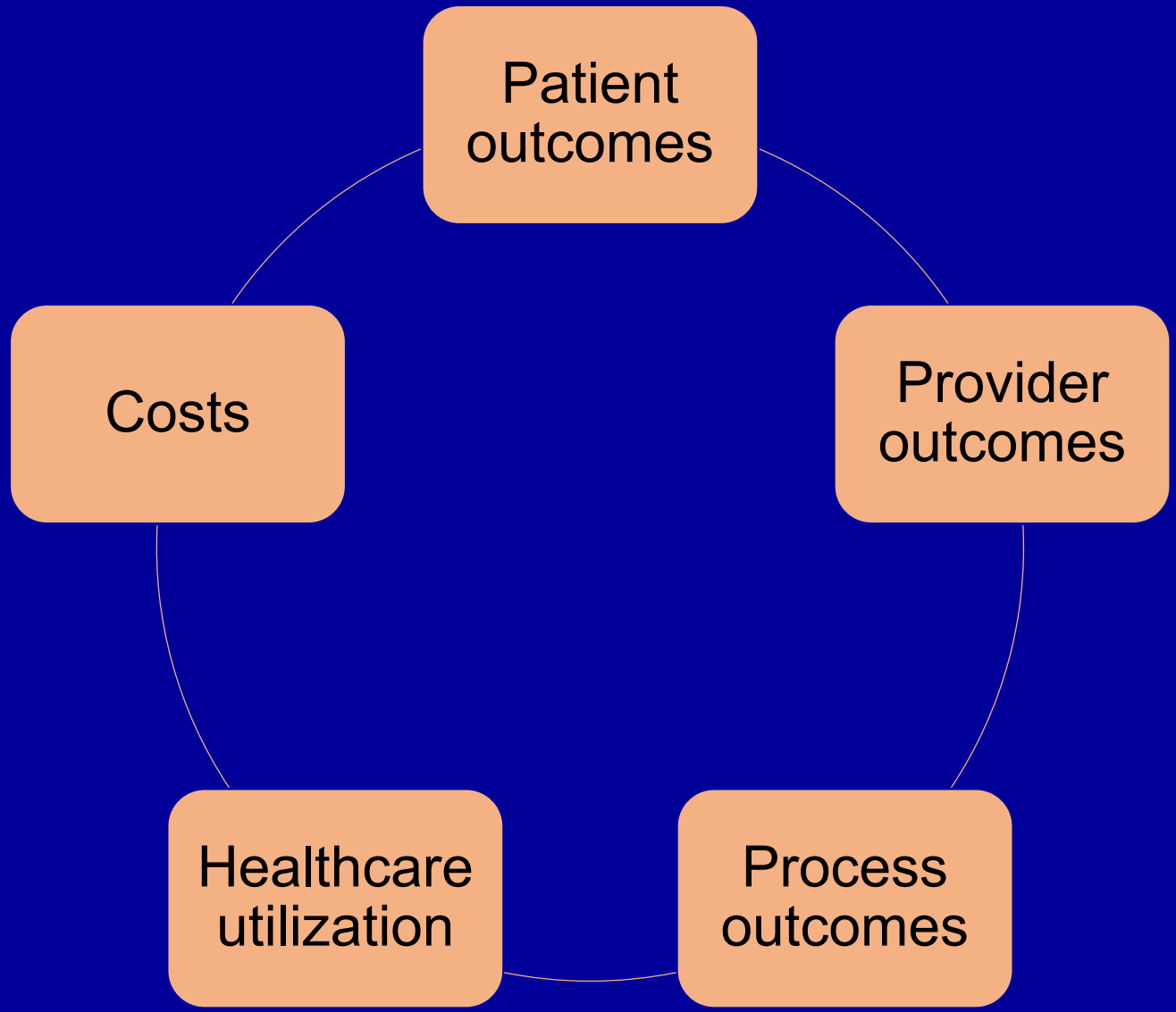
Measures Across Levels in IPC

Measures Across Levels in IPC





What are you most interested in?



What are you most interested in?

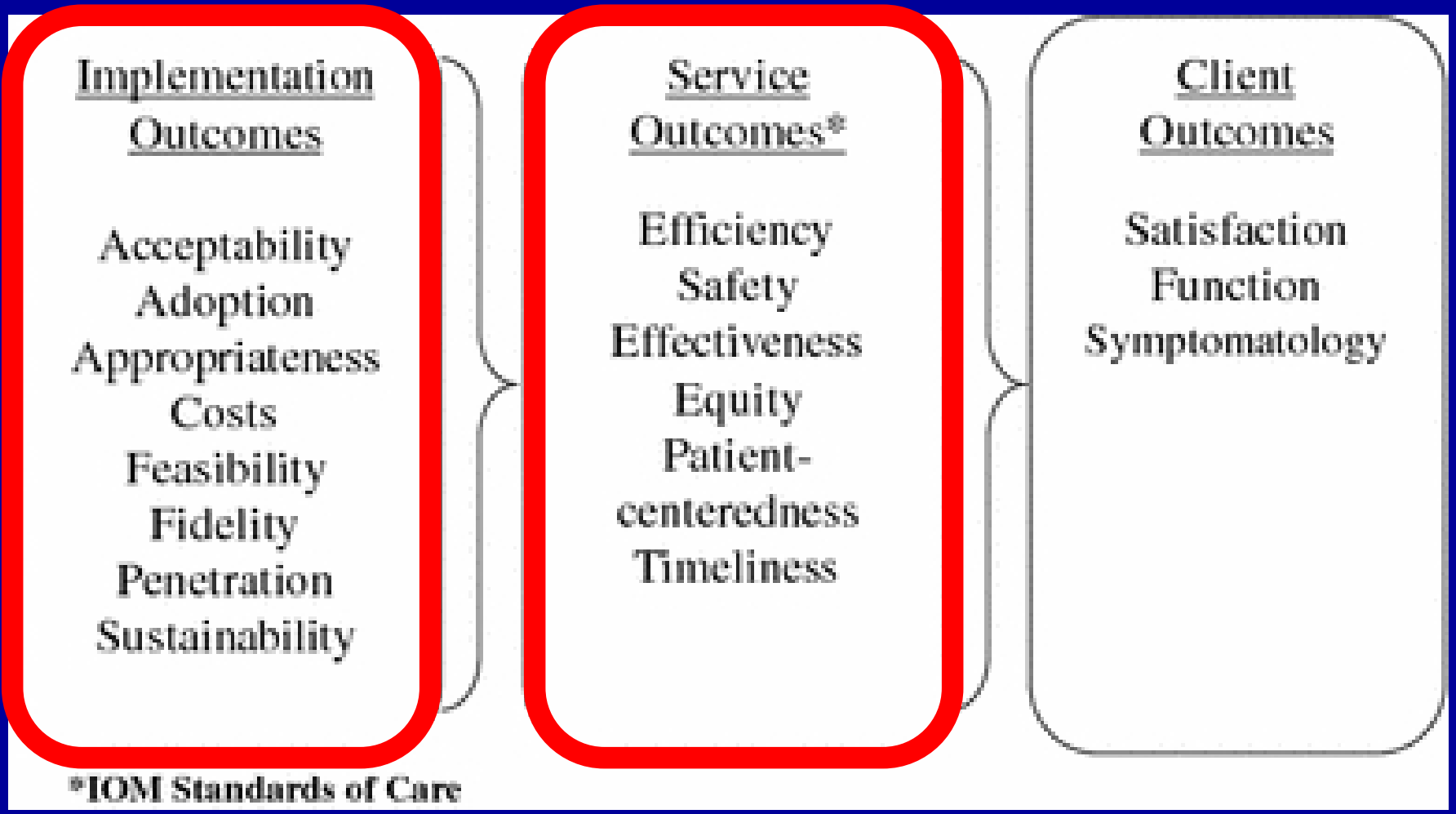


Figure 1. Types of outcomes in implementation research
From E. Proctor et al., 2011,

Implementation Outcomes

- Adoption
  - % of providers within your clinic who are adhering to IPC
  - % of clinics with your organization that are delivering IPC

- Reach
  - Population penetration rate: % of primary care patients who have had contact with BHC (or other IPC providers) (in the past year)
  - % of patients who should receive a given intervention (e.g., eligible based on diagnosis or referral) who do receive it

Implementation Outcomes: Fidelity

to PCBH model of IPC

- Self-report survey for providers
  - PCBH Provider Adherence Questionnaire 2 (PPAQ2; Beehler et al., 2013; 2019)
    - PCBH model (42 items)
    - Collaborative Care Management model (52 items)
  - Likert scale from 1 (never) to 5 (always)

PCBH Domains	CCM Domains
Clinical Scope & Interventions (4)	Patient Identification (2)
Consultation, Collaboration, & Interprofessional Communication (7)	Patient Education, Self-Management Support, & Psychological Intervention (14)
Practice & Session Management (19)	Supervision & Care Coordination (10)
Referral Management & Care Continuity (8)	Measurement-based Care & Protocol Adherence (23)
Prohibited (4)	Panel Management (3)

Implementation Outcomes: Fidelity

to PCBH model of IPC

- Administrative data pulled from EMR

- % of BHC visits that are ≤30 minutes
  - 16-37 minute psychotherapy code
  - 1-2 15-minute health & behavior code
- % of BHC visits that occur same day
- % of BHC patients with ≤4 visits per episode

Process improvement opportunity	Process indicators	Sample data sources
Adherence to brief, time-limited treatment structure	• 1–4 sessions per episode of care • 15- to 30-min sessions • Biweekly to monthly (or less frequent) follow-up schedule	• EMR data reflecting number of sessions per patient per episode of care (e.g., number of visits within a 3-month period) • EMR data reflecting length of appointments (e.g., procedures codes for appointment length) • Data on number of sessions per patient from BHPs own clinical tracking log or database • BHP survey on adherence to ideal treatment structure (e.g., Beehler et al., 2013) • Observational data on length of appointments

G. P. Beehler et al., 2017

Table 1
Model Fidelity

Year	*N* by Year	Mean (*SD*) number of visits by year	Median number of visits by year	% Patients with more than 4 visits by year	Maximum number of visits by year
2007	678	2.46 (2.04)	2.0	9%	15
2008	1,044	2.60 (2.62)	2.0	10%	19
2009	1,625	2.61(2.80)	1.0	10%	23
2010	2,655	2.50 (2.62)	1.0	10%	29
2011	3,083	2.55 (2.75)	1.0	10%	31
2012	2,854	2.39 (2.43)	1.0	8%	25
2013	2,641	2.42 (2.62)	1.0	9%	29

M. Fondow et al., 2017

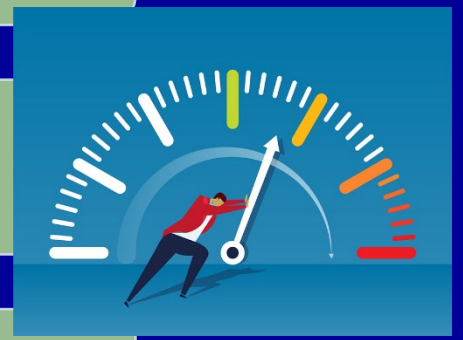
Implementation Outcomes

- Brief measures of intervention implementation: AIM, IAM, & FIM (Weiner et al., 2017)
  - Likert scale from 1 (completely disagree) to 5 (completely agree)
  - All have strong psychometric properties and are sensitive to change

Acceptability	Appropriateness	Feasibility
(Int) meets my approval	(Int) seems fitting	(Int) seems implementable
(Int) is appealing to me	(Int) seems suitable	(Int) seems possible
I like (Int)	(Int) seems applicable	(Int) seems doable
I welcome (Int)	(Int) seems like a good match	(Int) seems easy to use

Patient Outcomes

Mental health (specific)	• PHQ9, GAD7, PCL5 (20) • OASIS (anxiety 5), ODSIS (depression 5)
Mental health (general)	• BHM (20) • Duke (17)
Quality of Life	• CDC Healthy Days Measures (4+5) • Q-LES-Q-SF (16)
Functioning	• WSAS (5) • ORS (4)
Behavioral health	• PEG (pain 3), ISI (sleep 7) • Diabetic control (HbA1c), weight, etc.



Access Measures

- General BHC access: number of days to 3rd next available BHC appointment
- General PCP access: number of days to 3rd next available PCP appointment
- Same-day access: % of PCBH initial visits occurring on the same day as a primary care (medical) visit
- Open access: % of BHC grid that is not filled with scheduled appointments
- BHC productivity: average number of BHC appointments per 8-hour day
- Practice-wide: Ratio of BHC FTE to PCP FTE
- Telehealth: % of encounters by telephone and/or video
- EMR access: % of patients registered for personal EMR access

Families, Systems, & Health

2019, Vol. 37, No. 3, 191–194
http://dx.doi.org/10.1037/fsh0000442

EDITORIAL

Patient Access: How Do We Measure It?

Access to What?

Continuity of Care Measures

- Referrals from screening: % screening positive (e.g., on PHQ9) on behavioral health screenings who are referred to BHC/IBHC
- Specialty care: % of patients in need of specialty MH (e.g., based on SMI diagnoses or other indicators) who are (a) referred and/or (b) seen in SMH
- Engagement: % of patients who attend initial BHC appointment (after warm hand-off or referral/scheduled appointment)
- Primary care: % of primary visits with the patient's assigned PCP
- After discharge: % of patients receiving telephone follow-up from PCMH team within 48 hours of hospital discharge

Patient Experience Measures

- Consumer Assessment of Healthcare Providers and Systems (CAHPS)
- https://www.ahrq.gov/cahps/surveys-guidance/index.html

CAHPS surveys ask patients to report on their experiences with a range of health care services at multiple levels of the delivery system. Some CAHPS surveys ask about patients' experiences with providers, such as medical, groups, practice sites, and surgical centers, or with care for specific health conditions. Other surveys ask enrollees about their experiences with health plans and related programs. Finally, several surveys ask about experiences with care delivered in facilities, including hospitals, dialysis centers, and nursing homes.

For each survey, you can download formatted survey instruments, guidance for administering them, and information on analyzing and using the results. Information in the guidance documents is based on the survey developers' extensive research into best practices in survey design and administration as well as analyses of data collected during the field testing of each instrument. AHRQ does not require the use of any surveys or the use of a specific methodology for sampling or survey administration.

CAHPS Clinician & Group Survey Item Set

Quality Measures From the Clinician & Group Survey 3.0

The CAHPS Clinician & Group Survey produces the following measures of patient experience:

- Getting Timely Appointments, Care, and Information.
- How Well Providers Communicate With Patients.
- Providers' Use of Information to Coordinate Patient Care (*New to the 3.0 version*).
- Helpful, Courteous, and Respectful Office Staff.
- Patients' Rating of the Provider.

Some supplemental items are designed to be fielded as a set. They address the following subjects:

- Patient Narratives (Open-ended comments)
- Patient-Centered Medical Home (PCMH)
- Health Literacy
- Health Information Technology

https://www.ahrq.gov/cahps/surveys-guidance/cg/index.html

CAHPS Patient-Centered Medical Home Item Set

Versions of the PCMH Item Set

3.0 Version. In January 2016, AHRQ released the PCMH Item Set 3.0 to supplement the CG-CAHPS Survey 3.0.

Users of this version of the item set can supplement the core survey measures with the following additional composite measures:

- Talking with You About Taking Care of Your Own Health (adult only)
- Provider's Attention to Your Child's Growth and Development (child only)
- Provider's Advice on Keeping Your Child Safe and Healthy (child only)

Review the current items and learn more in About the Patient-Centered Medical Home Item Set 3.0 (PDF, 352 KB)

2.0 Version. The original PCMH Item Set was designed for the CG-CAHPS 12-Month Survey 2.0.

Users of this version of the item set can supplement the core survey measures with the following additional composite measures:

- Talking with You About Taking Care of Your Own Health
- Attention to Your Mental and Emotional Health (adult only)
- Talking About Medication Decisions (adult only)

Review the original items and learn more in About the Patient-Centered Medical Home Item Set (PDF, 382 KB).

https://www.ahrq.gov/cahps/surveys-guidance/item-sets/PCMH/index.html

CAHPS Mental Health Care Surveys

The CAHPS Experience of Care and Health Outcomes (ECHO) Survey asks experiences with behavioral health care

Quality Measures From the ECHO Survey

Measures for adults: The ECHO Survey for adults produces the following measures of patient experience:

- Getting treatment quickly.
- How well clinicians communicate.
- Getting treatment and information from the plan (or MBHO).
- Perceived improvement.
- Information about treatment options.
- Overall rating of counseling and treatment (MCO and MBHO).
- Overall rating of the health plan (MCO only).

https://www.ahrq.gov/cahps/surveys-guidance/echo/index.html

Provider-level Outcomes

- Burnout
  - Maslach Burnout Inventory, “gold standard,” 22 items
    - Minimum cost $125
  - 2 items often used as proxy
    - #8 (I feel burned out from my work)
    - #10 (I have become more callous toward people since I took this job)
  - See National Academy of Medicine website listing several alternatives:
    - https://nam.edu/valid-reliable-survey-instruments-measure-burnout-well-work-related-dimensions/

Provider-level Outcomes

- Job satisfaction
  - e.g., 20-item Satisfaction of Employees in Health Care (Alpern et al., 2013), Chang et al., 2017 evaluated in US healthcare professionals
- Retention
  - % of BHCs still on staff 1, 2, 5 years after hiring
- Desired support from administration
  - Qualitative interviews or focus groups specific to your setting/staff?

Staff/Provider-level Outcomes

- Team functioning
  - Team Development Measure (Stock, Mahoney, & Carney, 2013)
    - Subscales: Communication, Roles & Goals Clarity, Cohesion, Team Primacy
- Coordination
  - Relational Coordination Scale (Gittell, Seidner, & Wimbush, 2010)
    - Sample items: shared goals, mutual respect, timeliness of communication
  - Medical Home Care Coordination Survey, Healthcare Team version (Zlateva, 2015)
    - Subscales include: Accountability, Care transitions, Communication, Plan of care

Provider-level Process Outcomes

- Number of referrals to program
  - Consults submitted in EMR
  - Procedure codes for initial visits (new patients) in EMR
  - Tracking log kept by coordinator
- Number of interventions delivered
  - Procedure or billing code in EMR
  - Click box in note template
  - Chart review for text in notes
  - Count of total per week/month/quarter
- Barriers & facilitators to adopting IPC or delivering intervention
  - BHC Readiness for IPC (Blaney et al., 2018)
  - Interviews, focus group, anonymous survey/feedback

How could we measure these outcomes?

Example: Tracking Intervention Delivery

Families, Systems, & Health
2017, Vol. 35, No. 2, 207–216

J. R. Craner et al.

1091-7527/17/$12.00 http://dx.doi.org/10.1037/fsh0000265

Development and Implementation of a Psychotherapy Tracking Database in Primary Care

Table 2
IBH Tracking Database Variables

Content area	Description of variables	Medical record	Manual entry
Demographic information	Age, gender, race/ethnicity, language, insurance information, primary care provider, authorization to use information for research purposes[a]	X	
Diagnoses	Mental health diagnoses based on International Classification of Diseases (ICD)-10		X
Service utilization	Patient-reported mental health services within the past 6 months, which may include: triage/warm hand-off in primary care, care coordination, psychiatric mediation, specialty mental health or community-based programs, case management		X
Recommended and accepted services	Provider-recommended services and those accepted by the patient		X
Symptomatic and functional assessment measures	Patient Health Questionnaire–9 (PHQ-9)	X	X
	Generalized Anxiety Disorder–7 (GAD-7)	X	X
	Alcohol Use Disorder Identification Test (AUDIT)	X	X
	Mood Disorders Questionnaire (MDQ)	X	X
	Work Productivity and Activity Impairment (WPAI)	X	X
Psychotherapy principles	Evidence-based interventions		X

Note. IBH = integrated behavioral health.
[a] Patients at the Mayo Clinic authorize use of clinical data for research purposes as part of the general consent to treatment process, or they may waive participation. Institutional review board approval is required for use of data in specific research projects.

Table 3
Evidence-Based Intervention Principles and Specified Subcategories

Intervention principles and subcategories
Education and case formulation
Self-monitoring
Motivational interviewing/treatment engagement
Relaxation training
Strategies for managing negative thinking:
Cognitive restructuring/reframing
Acceptance/mindfulness
Scheduled worry/rumination time
Exposure
Situational exposure
Interoceptive exposure
Imaginal exposure
Behavioral activation
Daily activity monitoring
Activity goal setting
Skill-building
Communication
Assertiveness
Problem solving
Behavioral sleep management
Behavioral pain management
Emotion regulation
Distress tolerance
Relapse prevention
Interpersonal social rhythm therapy
Other (please specify)

Provider-level Process Outcomes

- Communication, coordination, collaboration among team members
  - Provider survey on frequency of different behaviors
  - Referrals & warm hand-offs as a function of shared clinic time & space
  - Conjoint appts or group medical visits
  - Chart review of notes to examine additional signers

G. P. Beehler et al., 2017

Independent variable: Shared clinical time and space. Shared clinical time and space was measured as the percentage of overlap between each provider's and the BHP's clinic schedules (i.e., number of shared clinic half-days divided by the full availability of the BHP in number of clinic half-days). During times of overlap, the BHP was located in a medical pod shared with the physicians and saw patients in the clinics' exam rooms, a practice that reflects "full collaboration/integration" in a "fully shared space," as defined in the IBH lexicon

Hiefner & Woods, 2019

Process improvement opportunity	Process indicators	Sample data sources
Collaboration with other members of the primary care team	• Regular communication and consultation with PCPs • Availability for and acceptance of warm handoffs • Shared medical appointments between PCPs and BHPs	• PCP survey on frequency of receiving face-to-face (e.g., brief hallway chat) and/or electronic follow-up (e.g., being added to BHP progress note, receiving e-mail or instant message) from BHPs about patients • Log of BHP attendance at team huddles or meetings with PCPs and other team members • EMR data reflecting electronic communication between BHP and PCP (e.g., proportion of BHP progress notes that were sent to PCP for review and/or signature)

Impact on healthcare utilization

- e.g., primary care, specialty MH, or ED visits
- Compare the average or total number of visits per patient
  - Between patients who do and don't receive integrated care services
  - Between patients at clinics that do and don't have integrated care services
  - Of patients before and after launch of integrated care program (e.g., 1 year period)
  - Of patients before and after receiving integrated care visit (e.g. 6 or 12 months)

Families, Systems, & Health
2017, Vol. 35, No. 2, 167–173

M. Peterson et al.

1091-7527/17/$12.00 http://dx.doi.org/10.1037/fsh0000267

Integrated Care in Rural Health: Seeking Sustainability

Claims data were pulled for those Medicaid patients who consulted with the BHP during the 6-month period, January 1, 2015, through June 30, 2015. The utilization data included claims for the following services: primary care visits, inpatient specialty care, outpatient specialty care, Emergency Department utilization, ambulance, lab and facility charges for hospitalization. These data served as a baseline for respective patient utilization and were compared with medical utilization and claims data pulled for the 6 months following the patients' respective episode of care with the BHP.

Impact on healthcare costs/billing

- BHC
  - Calculate total charges accounted for by BHC care (compared to cost of BHC) (plus extra medical billing from PCPs who are freed up by BHC assistance)
  - Calculate (potential) bonuses in bundle payment if BHC assists in reaching additional PCMH metrics
  - Combine with qualitative or quantitative evidence of additional non-revenue benefits (e.g., patient and PCP satisfaction)
    - Greater PCP satisfaction → Less turnover in PCPs → Less costs for hiring/training PCPs

- Medical
  - Compare PCP billing/productivity (# of patients seen per day) on days when BHC is vs. is not working
  - For patients who are high utilizers of medical care: compare total annual cost of healthcare (or # of PC/MH/ED visits) with vs. without integrated care
  - Compare rates of high-cost care (e.g., ambulance use, inpatient hospitalization) between clinics that do and do not have IPC

Demonstrating Value Beyond Standard Fee-for-Service Revenue

- Ask PCPs how IBHC could make their lives easier
  - Greater access for warm hand-offs
  - New group for a common problem (e.g., diabetes management, HTN)
  - Shared medical visits for behavioral health concerns
  - Monthly consultation case conference for challenging cases
  - Identify patients who may benefit from IBHC in daily huddles
- Show administration how IBHC could improve PCMH metrics
  - Access to care, continuity of care
  - Diabetic control
  - Universal screening measures
  - AIMS screening for patients on anti-psychotic meds
  - Antidepressant medication management
  - Follow-up care for children on ADHD meds

Practice/System-level Outcomes

- Level of behavioral health integration
- Practice Integration Profile (Kessler et al., 2016; Macchi et al., 2016)
  - 30 items, scores range from 0 to 100%
  - Scale: Never (0%), Sometimes (1-33%), Often (34-66%), Frequently (67-99%), Always (100%)
- Total integration score and 6 domains

Domain	Example Item; In our practice…
Practice workflow	we use registry tracking for patients with identified behavioral health issues
Clinical services	we have clinicians available on site who provided non-crisis focused BH services
Workspace arrangement & infrastructure	patient treatment/care plans are routinely documented in a medical record accessible to both behavioral and medical clinicians
Integration methods (shared care)	behavioral health and medical clinicians regularly spend time together collaborating on patient care
Case identification	all patients are screened at least annually for lifestyle or behavioral risk factors
Patient engagement	we have follow-up plans for all patients who complete BH interventions

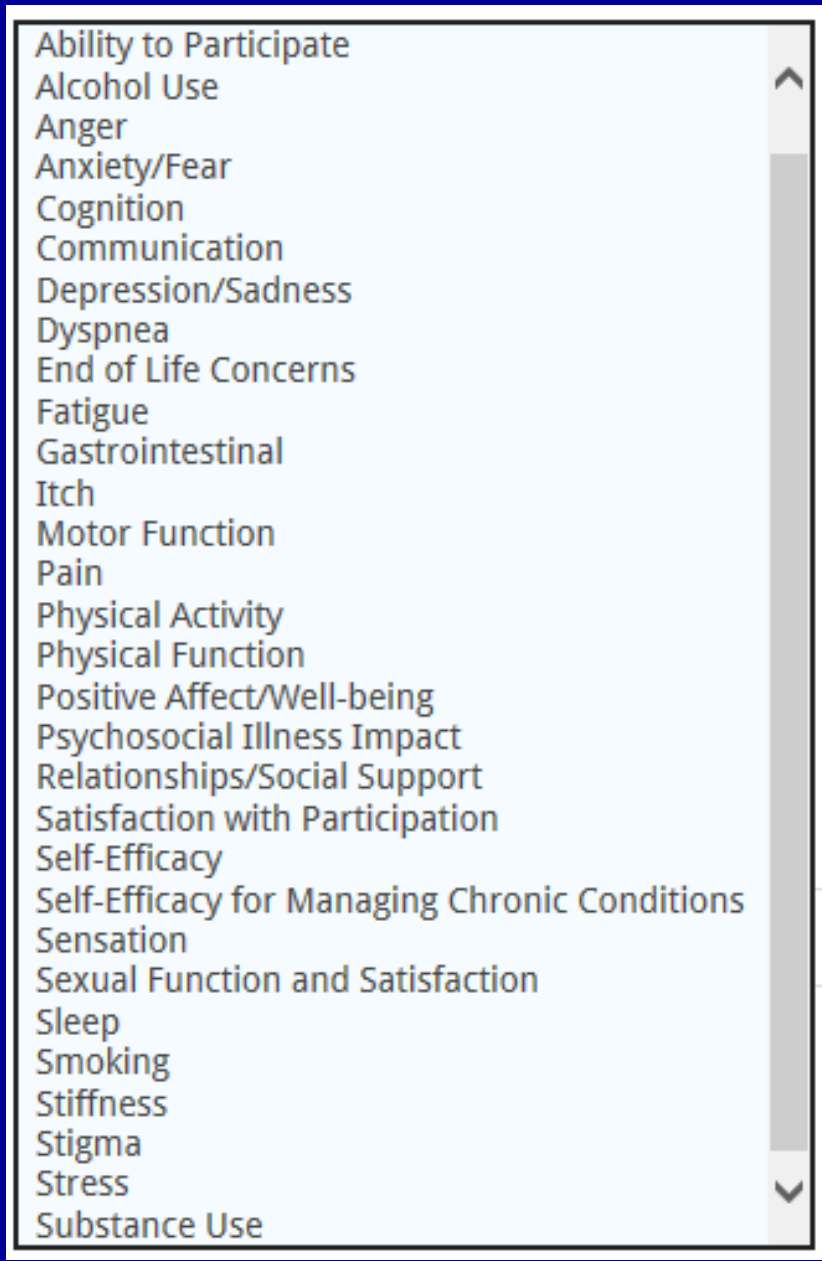
Where to Find Good Measures

Measure repositories!

The following repositories are an excellent source of quality measures relevant to integrated care

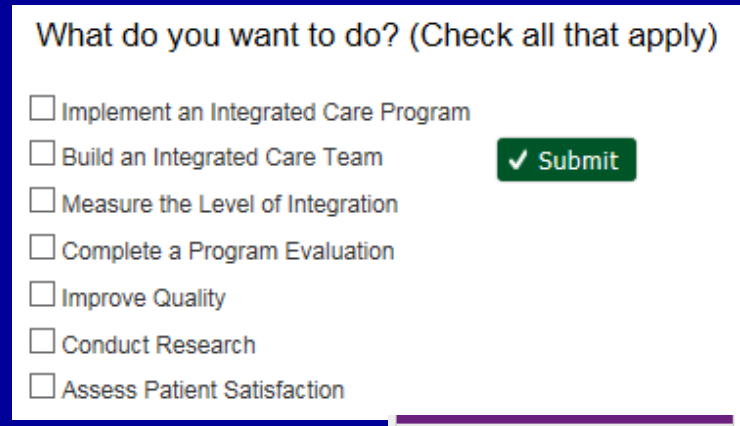
Patient-Reported Outcomes Measurement Information System (PROMIS)

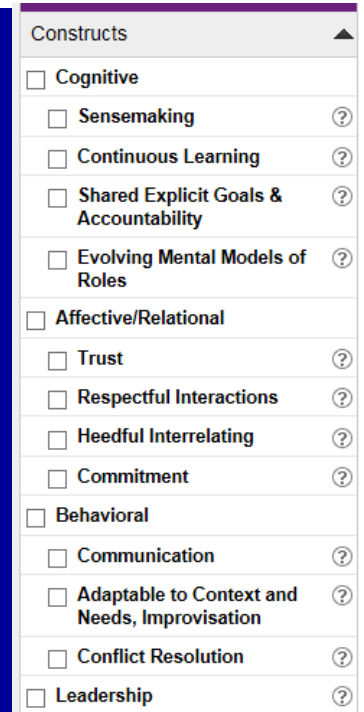
- Person-centered measures of physical, mental, and social health in adults and children
- Strong psychometric properties
- Available in many languages
- For general population & those with chronic conditions
- Search by age, category, domain, type, language, etc.
  - List of domains →
- http://www.healthmeasures.net/explore-measurement-systems/promis



AHRQ Measure Repositories

- AHRQ Integration Academy IBHC Measure Atlas
  - Integrates with the Academy Lexicon & Playbook
  - Includes 9 core measures and 8 additional measures
  - Search by name, functional domain, or goal with "Guide Me to a Measure" search
  - https://integrationacademy.ahrq.gov/products/ibhc-measures-atlas



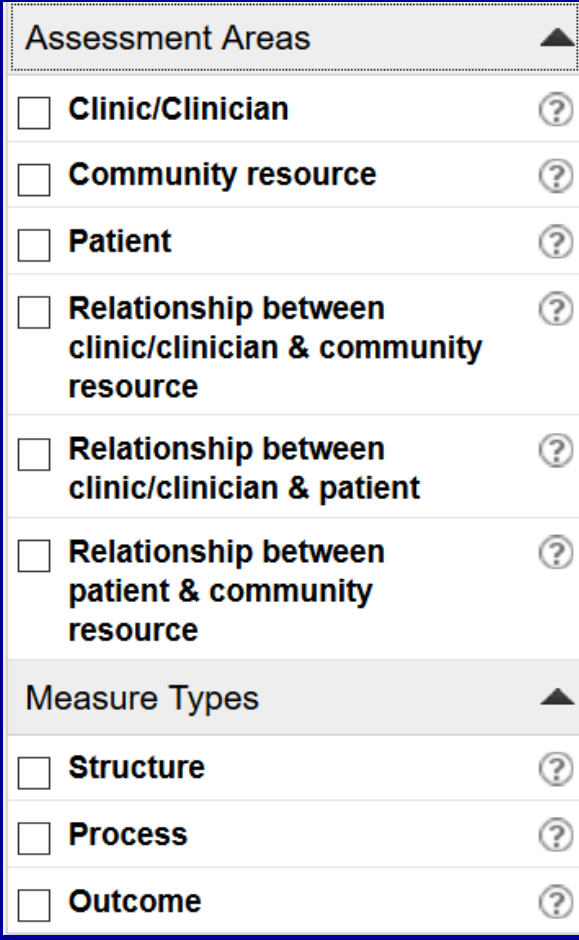


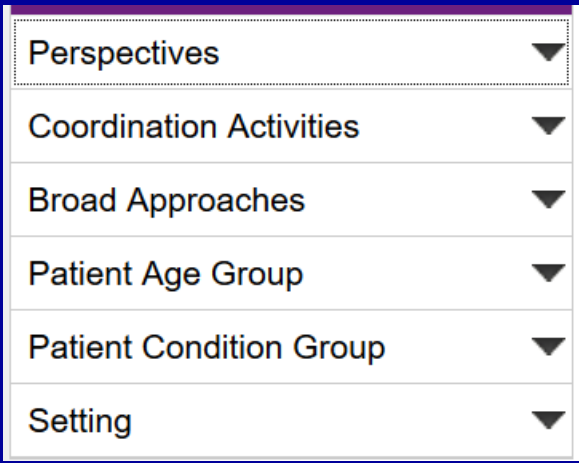
- AHRQ Team-Based Primary Care Measures Database
  - Includes 48 team measures
  - Search by construct, setting, respondent type, etc.
  - https://primarycaremeasures.ahrq.gov/team-based-care//search

More AHRQ Measure Repositories

- AHRQ Clinical-Community Relationships Measures Database
  - Includes 22 measures
  - Search by assessment area or measure type
  - https://primarycaremeasures.ahrq.gov/clinical-community/

- AHRQ Care Coordination Measures Database
  - Includes 100 measures
  - Search by numerous filters
  - https://primarycaremeasures.ahrq.gov/care-coordination/Search





Grid-Enabled Measures (GEM)

https://www.gem-measures.org/Public/Home.aspx

GEM database snapshot...

- 1463 Measures
- 496 Constructs

What is GEM?

GEM is an interactive website containing behavioral, social science, and other scientific measures organized by theoretical constructs. GEM enables researchers to collaborate with others, encourages the use of common measures, and facilitates the sharing of harmonized data.

- Users contribute to the virtual community by adding or editing meta-data about constructs and measures.
- Users rate and comment to drive consensus on best measures.
- Users search for constructs (e.g., anxiety, depression), see definitions, view theoretical foundations, and download associated measures.
- Users search for measures and see attributes (e.g., definition, associated construct, target population, author, reliability, validity)
- Users download and share datasets using GEM measures and constructs

Goals of GEM

GEM enables users to collaborate with their peers to build consensus on the use of common measures and to facilitate broad-scale data sharing and harmonization.

Content Areas

- Anthropometrics
- Cancer
- Cardiovascular
- Diabetes
- Education, Training, and or Career Development
- Environment
- HIV/AIDS
- Mental Health
- Methods
- Nutrition
- Obesity
- Occupational Health
- Pain
- Physical Activity
- Pregnancy
- Risk and Decision Making
- Sexual Behaviors
- Sleep
- Smoking/Tobacco
- Spirituality
- Stress
- Substance Abuse

- General Information
- References
- Workspaces
- Measure Characteristics
- Language/Translations
- History
- Contact Information
- Documents
- Datasets
- Comments/Ratings

Measures

- Functional Assessment of Cancer Therapy-General (FACT-G)
- Short-Form-36 Health Survey
- RAND 36-Item Health Survey
- The Functional Assessment of Cancer Therapy - Prostate Cancer (FACT-P)
- The Expanded Prostate Cancer Index Composite (EPIC)
- The Functional Assessment of Cancer Therapy - Breast Cancer (FACT-B)
- SF-8 General Health Survey (short form)
- EQ-5D /EQ-5DY
- PROMIS Global Physical Health (GPH) Short Survey
- Behavioral Risk Factor Surveillance System- Quality of Life
- Cystic Fibrosis Questionnaire-Revised
- Functional Assessment of Cancer Therapy - Bone Marrow Transplant (FACT-BMT) scale
- Veterans RAND 12 Item Health Survey (VR-12)
- Quality of Well-Being Scale-Self Administered (QWB-SA)
- Cancer Survivors Survey of Needs
- Impact of Cancer Scale
- Cancer problems in living scale (CPILS)
- McGill Quality of Life measure
- The Expanded Prostate Cancer Index Composite (EPIC-26)
- CARES-Marital Functioning Scale
- Karnofsky Performance Status (KPS) Scale

Search by Construct or Measure within each Content Area

Example
Content area: Pain
Construct: Quality of Life

Number of Items:

Response Category Format:

Validity:

Reliability:

Psychometric Properties:

Scoring Algorithm:

Data Sharing Capability:

Public Availability:

Source Data:

QI for Collaborative Care

www.qi4cc.com

+ TEAM FUNCTIONING

The clinical team of primary care and mental health providers work well together.

- Providers have clarity regarding their own and each other's roles and scopes, and these are reassessed as needed
- The team dynamic and group process support ongoing Collaborative Care skill development and provision; all team members' perspectives are valued and represented in clinical care and knowledge exchange
- Clients experience the well-functioning team by being provided with multiple perspectives of their clinical problems and a choice of treatment/care options
- Clinical leadership is effective in supporting teamwork and collaboration
- Staff turnover doesn't erode team or program function
- Providers are satisfied with care, i.e. they have a positive experience of delivering Collaborative Care
- Team members share common principles to guide care

DOMAINS OF COLLABORATIVE CARE

EACH DOMAIN CONTAINS UNIQUE DIMENSIONS WITHIN IT.

+ CLIENT OUTCOME

+ POPULATION-BASED CARE

+ EVIDENCE-BASED PRACTICES

+ CLIENT INCLUSION AND PARTICIPATION

+ ACCESS AND TIMELINESS OF CARE

+ INFRASTRUCTURE, LEADERSHIP, AND MANAGEMENT

+ LEVEL OF INTEGRATION BETWEEN MENTAL HEALTH AND PRIMARY CARE SERVICES

+ TEAM FUNCTIONING

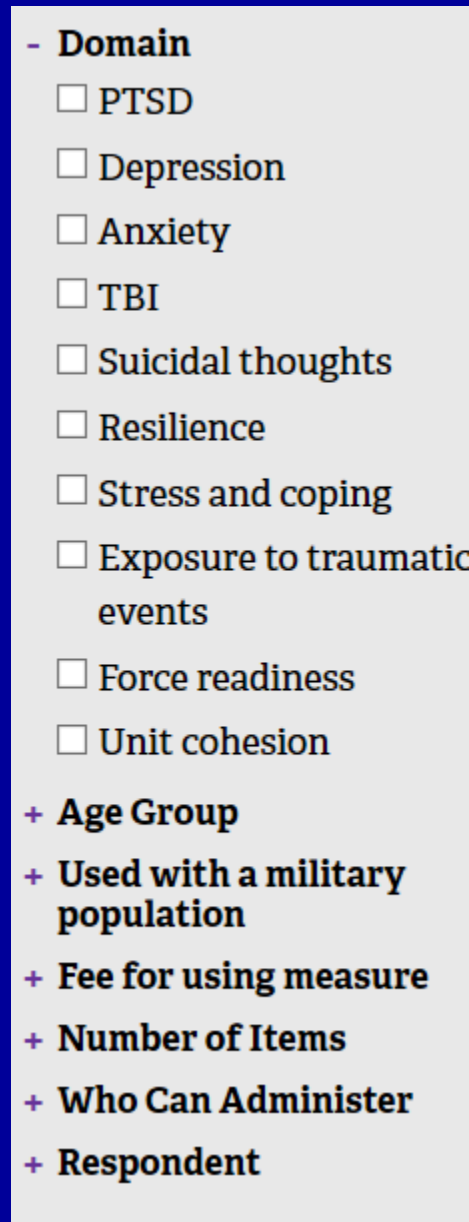
+ COLLABORATION FOR PATIENT SAFETY

+ QUALITY IMPROVEMENT

+ VALUE AND EFFICIENCY

More Measure Repositories

- RAND Online Measure Repository
  - https://www.rand.org/nsrd/ndri/centers/frp/innovative-practices/measure.html
- Science of Behavior Change Repository
  - https://scienceofbehaviorchange.org/



Resources for Dissemination & Implementation Measures

- Chaudoir SR, et al. (2011). Dissemination and implementation measurement compendium: A systematic review of structural, organization, provider, patient, and innovation level measures.
  - Includes brief description, citation, and measure itself
  - https://chipcontent.chip.uconn.edu/wp-content/uploads/2015/09/DI-Measurement-Compendium.pdf

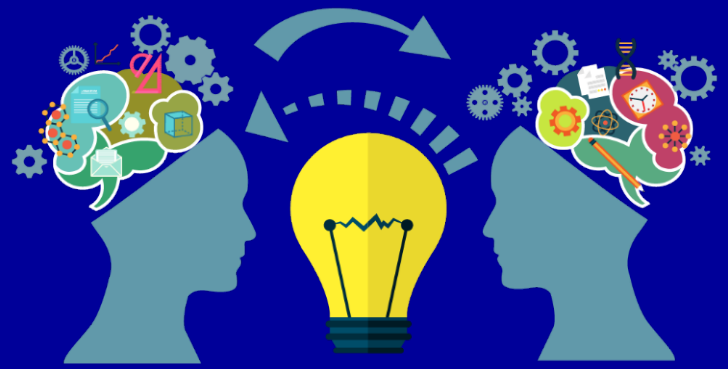
- Rabin BA, et al. (2016). Measurement resources for dissemination and implementation research in health. *Implementation Science, 11*:42.
  - Reviews 17 D&I measure resources
  - https://implementationscience.biomedcentral.com/articles/10.1186/s13012-016-0401-y

Resources for Dissemination & Implementation Measures

- Society of Implementation Research Collaboration (SIRC) instrument review project
  - Systematic review of D&I measures with assessment of psychometric properties and pragmatic qualities
  - https://societyforimplementationresearchcollaboration.org/sirc-instrument-project/
  - Database accessible to SIRC members only, but initial results available in article

- Lewis et al. (2015). Outcomes for implementation science: an enhanced systematic review of instruments using evidence-based criteria. *Implementation Science, 10*:155.
  - https://implementationscience.biomedcentral.com/articles/10.1186/s13012-015-0342-x
  - Additional file 3: implementation outcome rating scores
  - Additional file 4: construct head-to-head ratings comparison graphs

Small Groups



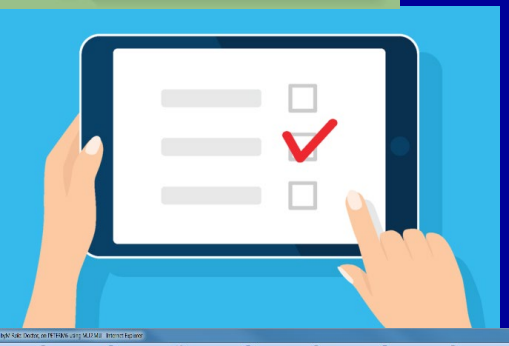
Use this time to discuss your questions on the most appropriate measures for your program evaluation projects

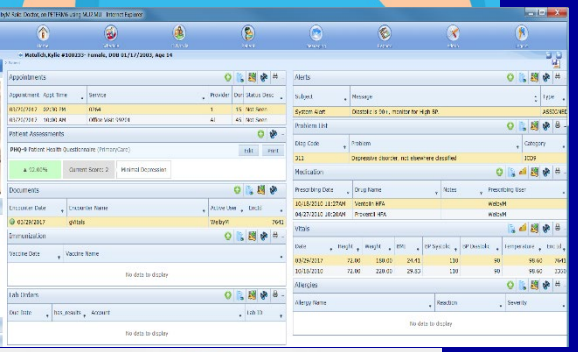
45 minutes

~8 minutes for each person in group of 5

Advantages and Disadvantages of Data Collection Methods

Jodi Polaha, PhD





Methods of Data Collection Include:

- Paper & pencil measures
- Embedding self-report patient measures in EMR
- Chart review of patient data in EMR
- Pulling administrative data from EMR
- Using existing performance metric data
- Observational methods
- Interviews
- Focus Groups

Considerations Include:

- Resources Used/Needed
- Ease of Use
- Validity
- Reliability and Reproducibility
- Sensitivity
- Other

Weigh the Advantages & Disadvantages of Using Your Group's Assigned Method in a Busy Real-world Clinic

~5 minutes then we'll discuss as a large group

- Paper & pencil measures
- Embedding self-report patient measures in EMR
- Chart review of patient data in EMR
- Pulling administrative data from EMR
- Using existing performance metric data
- Observational methods
- Interviews
- Focus Groups

Considerations

Resources Used/Needed	Validity	Sensitivity
Ease of Use	Reliability	Other

How To Approach the Decision on What Data to Collect

Jennifer S. Funderburk, PhD

Step 1:
What is the Specific Question You Are Asking, and Which Data Work Best to Answer It?

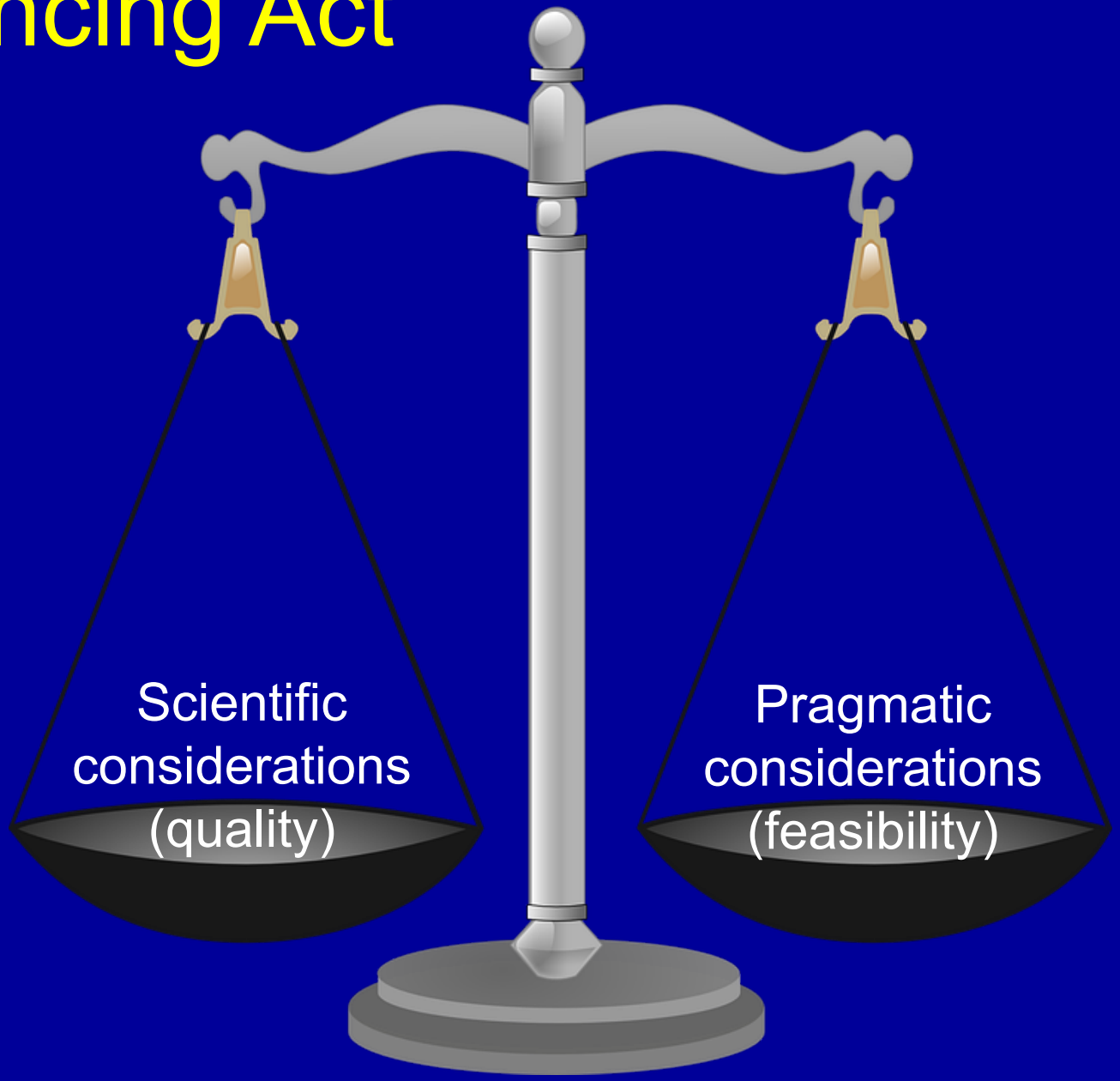
Types of Data
Paper & pencil measures
Embedding self-report patient measures in EMR
Chart review of patient data in EMR
Pulling administrative data
Using performance metric data
Observational methods
Interviews
Focus groups

What Type of Data Would Be Best?

- Example 1
  - Question: Do PCPs have adequate knowledge and skills in trauma-informed care?
  - Potential data types: survey PCPs, interviews or focus group, direct observation, chart review
- Example 2
  - Question: What new clinical services should we add to best serve our patient population?
  - Potential data types: patient survey, provider focus group, EMR data pull of diagnoses, etc.

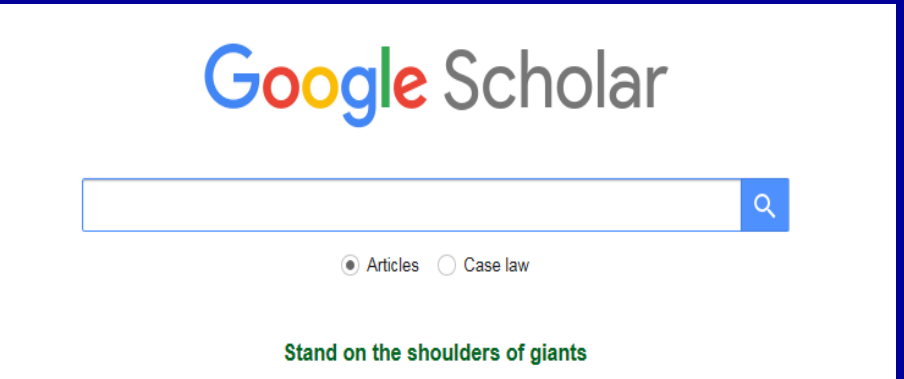
Types of Data
Paper & pencil measures
Embedding self-report patient measures in EMR
Chart review of patient data in EMR
Pulling administrative data
Using performance metric data
Observational methods
Interviews
Focus groups

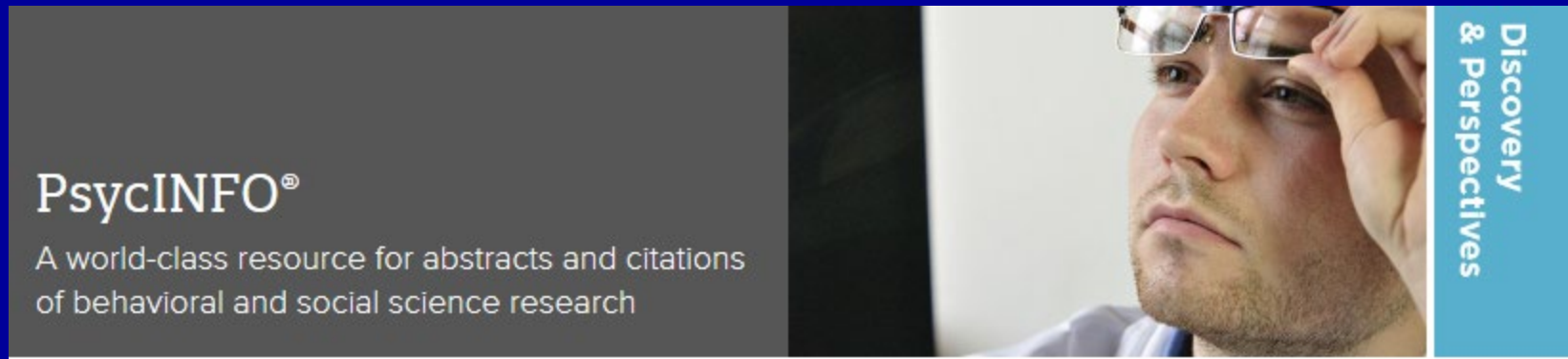
It’s a Balancing Act



Step 2:
How Have Others Done It?

- Use a library site, like PsycInfo or Google Scholar
  - Start with the specific objective
  - Specific outcome you want to measure





If You Use Questionnaires, Remember…

> HOMEGROWN

For more info, go to talk J8 by Gass et al. Sat. 4:15-5:15:
Want to ”Measure Up?”
How to Select and Use Validated Assessment Tools in IPC R&E

Watch Out!
Don’t Go After Too Much – Avoid Waste

Step 3:
Can I Make it Feasible and How?

- Consider the following ideas:
  - Partnering with an academic institution
  - Use technology to assist and make it easier
    - Free online survey platforms
    - Excel
  - Creative reinforcement
    - Identify a champion to help staff get motivated and willing
    - Regular feedback on how they do a great job – consider an award

Example: Developing a Partnership

Families, Systems, & Health
2017, Vol. 35, No. 2, 193–206

A. J. Bridges et al.

1091-7527/17/$12.00 http://dx.doi.org/10.1037/fsh0000268

Need, Access, and the Reach of Integrated Care: A Typology of Patients

Table 1
How We Did It: Establishing a Partnership Between a University and a Primary Care Clinic

An infrastructure for collaboration
Be ready and willing to reach out to potential partners
For clinics, this means seeking out academic partners who can bring scientific expertise to real-world problems.
For researchers/academics, this means seeking out community partners who are directly involved in healthcare service provision.
In our case, contact with the local FQHC resulted from a search for a large minority patient population and an interest in studying ways to reduce health disparities.
Assess compatibility
Use initial meetings to ask the following:
What expertise, resources, and experiences are present?
What limitations or barriers might potential partners face in trying to work together (e.g., time, space, economic resources, legal or ethical concerns)?

Example: Using Excel for Data Analysis

Families, Systems, & Health
2017, Vol. 35, No. 2, 238–247

P. C. Smith et al.

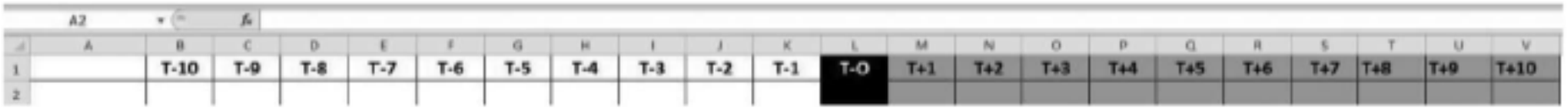
1091-7527/17/$12.00 http://dx.doi.org/10.1037/fsh0000271

Evaluating Transformation With Available Resources: The Influence of APEX on Depression Screening

Table 3
How We Did It: Multivariate Statistical Process Control Charts with Microsoft Excel

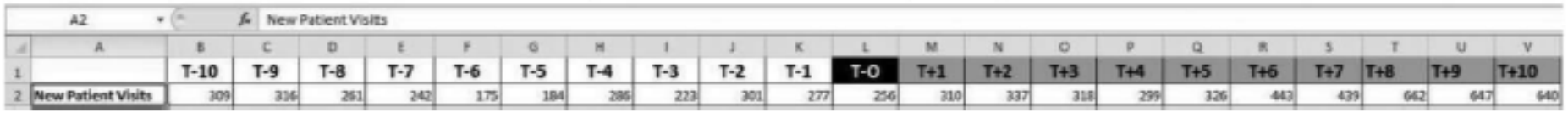
These are Excel screen shots illustrating step-by-step instructions for creating control charts using the median and median absolute deviation (MAD). Variations using the mean and standard deviation are included in the text.

1. First, create a table for each variable for a practice. The first row of each table will represent the dates before and after the intervention (T-0 = start of intervention). These could be days, weeks, months, quarters, etc.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1		T-10	T-9	T-8	T-7	T-6	T-5	T-4	T-3	T-2	T-1	T-0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9	T+10
2																						

2. Fill the next row with the observed data points for a variable by time period.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1		T-10	T-9	T-8	T-7	T-6	T-5	T-4	T-3	T-2	T-1	T-0	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9	T+10
2	New Patient Visits	309	316	261	242	175	184	286	223	301	277	256	310	337	318	299	326	443	439	662	647	640

Example: Identifying Project Champions

Families, Systems, & Health
2017, Vol. 35, No. 2, 217–226

DeCaporale-Ryan et al.

1091-7527/17/$12.00 http://dx.doi.org/10.1037/fsh0000269

Reducing Hospital Readmission Through Team-Based Primary Care: A 7-Week Pilot Study Integrating Behavioral Health and Pharmacy

Table 2
How We Did It: Collecting Data From a New Pilot Program

- **Define Research Roles.** In the way that we took time to get to know each other's strengths and define our roles and responsibilities clinically, we followed this same procedure to be able to conduct research. We clearly had defined responsibilities for assessment selection, data collection and entry, analyses, and the like. In this way, we were able to hold each other accountable and also ensure that we had adequate resources to get the research complete in a timely manner.
- **Prepare & Identify Project Champions.** We worked with administrators, clinical leadership, and the Institutional Review Board in advance. We presented existing research that demonstrated that our idea might help improve clinical outcomes and generate revenue. This engagement of practice champions allowed each of us to take time out of our normal routines to run this pilot. Additionally, it stimulated interest in knowing and understanding our results, reinforcing our plan for evaluation.
- **Define the Question to be Answered.** Before initiating the intervention, we identified several questions that we were interested in answering (e.g., what might the role of cognitive decline play in medication management). Though our

Example: Clinicians Finding Time for Research

Families, Systems, & Health
2017, Vol. 35, No. 2, 184–192

M. Fondow et al.

1091-7527/17/$12.00 http://dx.doi.org/10.1037/fsh0000266

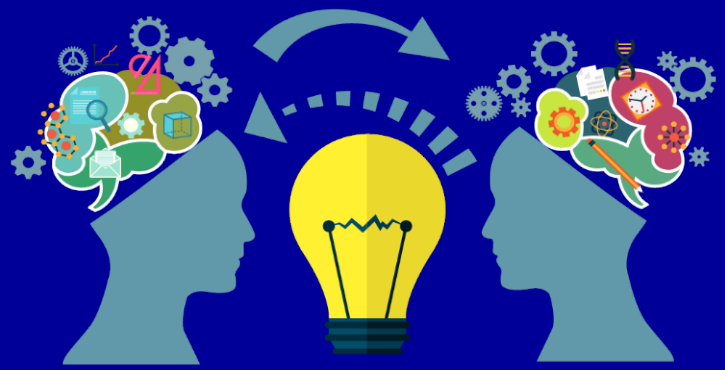
Initial Examination of Characteristics of Patients Who Are High Utilizers of an Established Primary Care Behavioral Health Consultation Service

Table 4
How We Did It: Leveraging the EHR and Using Conference Presentations to Conduct Research in Clinic

Question	Strategy
Where can data be found?	Explore what can be extracted from the EHR. We began by talking with other departments in the organization that look at data to see what they could share. We considered ways to use the data available. In addition, as we have planned new initiatives, we have kept data in mind to build new processes so that more useful data are available on the back end.
How can data be used?	We reviewed available data and compared them to research questions. We explored options that appeared to assist in answering the questions and acknowledge limitations.
What if needed data are not available?	We explored alternatives and were creative in solving problems. For example, tracking social determinates of health broadly was not an option. However, we did have access to a subset of patients with complexity scores that could assist in describing the complexity of our patients.
Where does the time come from?	As a group of primarily full-time clinicians, we needed more time to complete this project than a primary researcher might. We chose to present at a research conference as a first step, allowing for initial preparation of data and feedback from the conference. Assigning a point person to keep up the momentum helped, and we continued to keep working on the project over time.

Additional Considerations

Small Groups



Use this time to discuss your questions regarding the most feasible data collection methods for your program evaluation

45 minutes

~8 minutes for each person in group of 5

Keep Up Your Momentum

- Continue thinking through the ideas you have gotten during this workshop and other ideas you will get throughout the conference
- Then take action ASAP!
  - Jot down your thoughts this afternoon – ideas, questions for colleagues, etc.
  - Jot down more thoughts on your flight home or the first few days of next week
  - Block out some time for yourself over the next few weeks / month to make progress
  - Set up a meeting with colleagues/collaborators in the next week or two to share your new ideas
  - Pinpoint one area or question that would be helpful to tackle, and get started

What is your next most powerful step?

Research & Evaluation Training Track

These talks emphasize practical “how to” lessons in research, evaluation, and QI

#	Title
A8	Mapping the Territory: Using a Practical Tool to Assess Provider Perceptions of Presenting Problems Across System and Time
B8	Moving Beyond Behavioral (only) Screening and Assessment: The Case for Relational Screeners, Assessments, and Outcomes in Integrated Care
C8	EHR Cluster Analysis: Maximizing Patient Care
D8	Convincing Health System Leaders to Invest in Integrated Care: How to Conduct Research Using Clinical and Cost Outcomes
E8	Listening to Their Voice: A Primer on Conducting Qualitative Research in Integrated Care Settings
F8	Maximizing Partnerships for Integration Success: A QI Approach for Engaging Practices
G8	Clinician Evaluators: Take Your Mark!
H7	Evaluation of Interprofessional Team-based Care
I8	Evaluation Basics: Design and Implementation
J8	Want to "Measure Up?" How to Select and Use Validated Assessment Tools in IPC Research and Evaluation

Questions?

Our contact information:

- Robyn.Shepardson@va.gov
- Jennifer.Funderburk@va.gov
- nsunderji@waypointcentre.ca
- polaha@mail.etsu.edu

Session Survey

Use the CFHA mobile app to complete the survey/evaluation for this session.

We truly appreciate your feedback!

CFHA
COLLABORATIVE
FAMILY HEALTHCARE
ASSOCIATION

Join us next year in Philadelphia, PA! Thank you!