

Research & EBP: Two Flavors of Professional Practice

EBP

- Translation of evidence to practice
 - Evidence appraisal
 - Translation
 - Implementation
 - Evaluation
- Plethora of EBP models
- PDSA-type cycle
- Not “research”, which is about producing new generalizable evidence

EBP Models: What do they describe?

- All models share a cyclical “PDSA-type” foundation
- EBP domains
 - **Evidence appraisal:** systematic review or meta-analysis
 - ✓ Evidence summaries can also be purchased for a price
 - **Evidence implementation & evaluation**
 - ✓ Change management
 - ✓ Cultural readiness
- Most models have no *health system* context; all EBP is assumed to occur in a vacuum of a single unit or hospital

EBP Model	Focus Areas	Strengths	Weaknesses
ACE Star Model of Knowledge Transformation - 2004	Bedside nurses Innovation adoption Knowledge transformation		No health system context
Advancing Research and Clinical Practice Through Collaboration (ARCC) - 2011	Change management Adoption readiness	Health system context	Does not guide EBP appraisal
Iowa Model - 2001	Flow diagram Problem-solving Pilot	Prescriptive; easy to follow	No health system context
Johns Hopkins Nursing Evidence Based Practice Model - 2007	Individual nurse Practical guidance for staff nurses Appraisal	Nursing-centric EBP model Includes appraisal tools	No health system context
Promoting Action on Research Implementation in Health Services Framework - 2004	Implementation Factors for success	Considers culture/readiness	Does not guide EBP appraisal
Stetler Model - 2001	Individual nurse Critical thinking	Comprehensive guide for both appraisal and implementation	No health system context
Cochrane Collaboration - 1993	Evidence appraisal	Very robust guidance	No guidance for implementation
Joanna Briggs Institute - 1996	Global evidence System view	Very robust guidance	Cost-prohibitive?
Delivery Science Model - 2015	Research emphasis	System-view Strong track record at KP	Does not guide EBP process Physician-centric
Learning Health System - 2010	Technical/data-driven approaches Delivery science	System-view	Limited applicability outside of informatics/data projects Physician-centric

ACE Star Model of Knowledge Transformation - 2004

- Stevens K.R. (2004) ACE Star Model of EBP: Knowledge Transformation. Academic Center for Evidence-Based Practice.
- The University of Texas Health Science Center at San Antonio
- <http://www.acestar.uthscsa.edu>
- Discovery, Evidence Summary, Translation, Integration, Evaluation
- Foci:
 - ✓ Nursing evidence for bedside nurses
 - ✓ Knowledge transformation; innovation adoption

See: Schaffer MA, Sandau KE, Diedrick L. Evidence-based practice models for organizational change: overview and practical applications. J Adv Nurs. 2013 May;69(5):1197-209. doi: 10.1111/j.1365-2648.2012.06122.x. Epub 2012 Aug 9. Review. PubMed PMID: 22882410.

Advancing Research and Clinical Practice Through Collaboration (ARCC) - 2011

- Ciliska D., DiCenso A., Melynk B.M., Fineout-Overholt E., Stettler C.B., Cullent L., Larrabee J.H., Schultz A.A., Rycroft-Malone J., Newhouse R. & Dang D. (2011) Models to guide implementation of evidence-based practice. In Evidence-Based Practice in Nursing and Healthcare: A Guide to Best Practice (Melynk B.M., Fineout-Overholt E., eds), Wolters Kluwer, Philadelphia, PA, pp. 241–275
- Dr. Ciliska is professor emerita at McMaster University in Ontario, Canada; Dr. Melnyk is a champion in US:
<https://stti.confex.com/stti/congrs18/webprogram/Paper91692.html>
- Assess organizational culture and readiness for system-wide implementation; identify organizational strengths and barriers to EBP; identify EBP mentors within the organization to mentor direct care staff on clinical units; implement evidence into practice; evaluate outcomes

See: Schaffer MA, Sandau KE, Diedrick L. Evidence-based practice models for organizational change: overview and practical applications. J Adv Nurs. 2013 May;69(5):1197-209. doi: 10.1111/j.1365-2648.2012.06122.x. Epub 2012 Aug 9. Review. PubMed PMID: 22882410.

Iowa Model - 2001

- Titler M.G., Kleiber C., Steelman V., Goode C., Rakel B., Budreau G., Everett L.Q., Buckwalter K.C., Tripp-Reimer T. & Goode C.J. (2001) The Iowa model of evidence-based practice to promote quality care. *Critical Care Nursing Clinics of North America* 13(4), 497–509.
- Dr. Marita Titler is the Department Chair of Systems, Populations and Leadership in the University of Michigan, School of Nursing
- Identify practice questions; determine whether or not the topic is an organizational priority; form a team to search, critique, and synthesize the evidence; determine if evidence is sufficient; pilot the recommended practice change; evaluate pilot; disseminate results and implement
- Foci: Flow diagram, includes problem-solving steps, pilot

See: Schaffer MA, Sandau KE, Diedrick L. Evidence-based practice models for organizational change: overview and practical applications. *J Adv Nurs*. 2013 May;69(5):1197-209. doi: 10.1111/j.1365-2648.2012.06122.x. Epub 2012 Aug 9. Review. PubMed PMID: 22882410.

Johns Hopkins Nursing Evidence-Based Practice Model - 2007

- Newhouse R.P., Dearholt S.L., Poe S.S., Pugh L.C. & White K.M.(2007) Johns Hopkins Nursing Evidence-Based Practice Model and Guidelines. Sigma Theta, Indianapolis, IN
- Robin Newhouse is Dean, Indiana University School of Nursing
- Identify the EBP question using a team approach; search, critique, summarize, rate evidence strength, and develop recommendations for change based on evidence strength; determine feasibility, create an action plan, implement change, evaluate, and communicate findings
- Foci: Individual use, practical guidance for staff nurse, appraisal

See: Schaffer MA, Sandau KE, Diedrick L. Evidence-based practice models for organizational change: overview and practical applications. J Adv Nurs. 2013 May;69(5):1197-209. doi: 10.1111/j.1365-2648.2012.06122.x. Epub 2012 Aug 9. Review. PubMed PMID: 22882410.

Promoting Action on Research Implementation in Health Services Framework (PARIHS) - 2004

- Rycroft-Malone J. (2004) The PARIHS framework – A framework for guiding the implementation of evidence-based practice. *Journal of Nursing Care Quality* 19(4), 297–304.
- Jo Rycroft-Malone is Vice-Chancellor for Research and Impact at Bangor University in Wales, UK
- Search for evidence from research, clinical experience, patient experience, and local data and information; adoption of an innovation is influenced by the organizational culture, leadership support, and evaluation practices; individuals in the organization use their knowledge and skills to assist with implementation of the practice change
- Foci: implementation, factors for success

See: Schaffer MA, Sandau KE, Diedrick L. Evidence-based practice models for organizational change: overview and practical applications. *J Adv Nurs*. 2013 May;69(5):1197-209. doi: 10.1111/j.1365-2648.2012.06122.x. Epub 2012 Aug 9. Review. PubMed PMID: 22882410.

Stetler Model - 2001

- Stetler C.B. (2001) Updating the Stetler model of research utilization to facilitate evidence-based practice. *Nursing Outlook* 49, 272–278.
- Cheryl B. Stetler, Independent Consultancy, Amherst, MA, USA, and formerly Research Associate, Boston University School of Public Health,
- Define priority need and initiate a search for evidence; systematically critique and summarize evidence; make a decision about what evidence to use; plan change; implement evidence-based change plan; determine whether goals for using the evidence were accomplished
- Foci: individual nurse use, critical thinking, internal vs. external evidence

See: Schaffer MA, Sandau KE, Diedrick L. Evidence-based practice models for organizational change: overview and practical applications. *J Adv Nurs*. 2013 May;69(5):1197-209. doi: 10.1111/j.1365-2648.2012.06122.x. Epub 2012 Aug 9. Review. PubMed PMID: 22882410.

Cochrane Collaboration -1993

- Headquarters: London, UK with world-wide network including NIH and NHS; subsidiary of Wiley & Sons
- Very robust guidance for conducting systematic reviews
- The gold standard? <https://training.cochrane.org/handbook>
- Identification of relevant studies from a number of different sources; selection of studies for inclusion and evaluation of their strengths and limitations; systematic collection of data; synthesis of data
 - Focus: Evidence appraisal

Joanna Briggs Institute - 1996

- <http://joannabriggs.org>
- Affiliated with the University of Adelaide, Australia
- 72 international partner organization
- Lippincott Williams & Wilkins (CE's)
- Globally disseminates information in appropriate, relevant formats to inform health systems, health professionals and consumers (evidence transfer); has designed programs to enable the effective implementation of evidence and evaluation of its impact on health care practice (evidence implementation)
- Foci: Global health, system view

Delivery Science Model - 2015

- Grant, R. W., & Schmittdiel, J. A. (2015). Building a Career as a Delivery Science Researcher in a Changing Health Care Landscape. *Journal of General Internal Medicine*, 30(7), 880-2.
- Richard Grant is Director of Delivery Science at DOR (TPMG)
- Partner with organizational stakeholders; formulate a research question; conduct research
- Examples: Health IT/EHR innovation, patient-centered models of care that integrate individual patient preferences and values
- Focus: translation of evidence of clinical research into the practice of clinical care

Learning Health System Model (IOM)-2010

- Charles P. Friedman, Adam K. Wong, David Blumenthal. Achieving a Nationwide Learning Health System. Science Translational Medicine 10 Nov 2010 : 57cm29
- Dr. Friedman is Department Chair of Learning Health Sciences University of Michigan, School of Medicine
- Utilize EHR to speed up the cycle of inquiry
- Assemble the data from various sources; analyze the data by various means; interpret the findings; feed findings back into the system; change practice
- Focus: Technical/data-driven approaches