



Evidence based Practice: Applications in Public Health

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USPHS

16th Annual Nursing Recognition Day

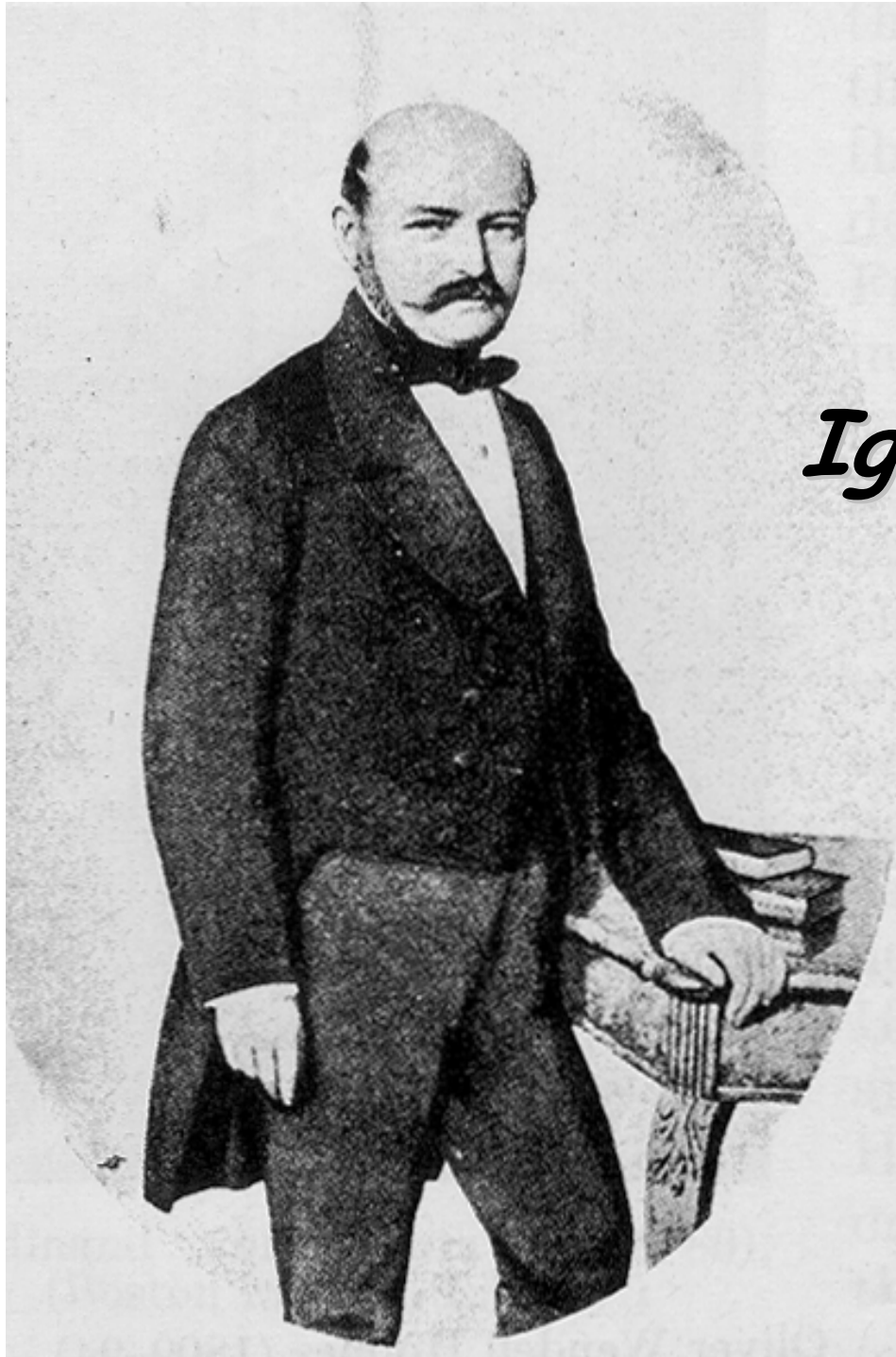
May 4, 2007





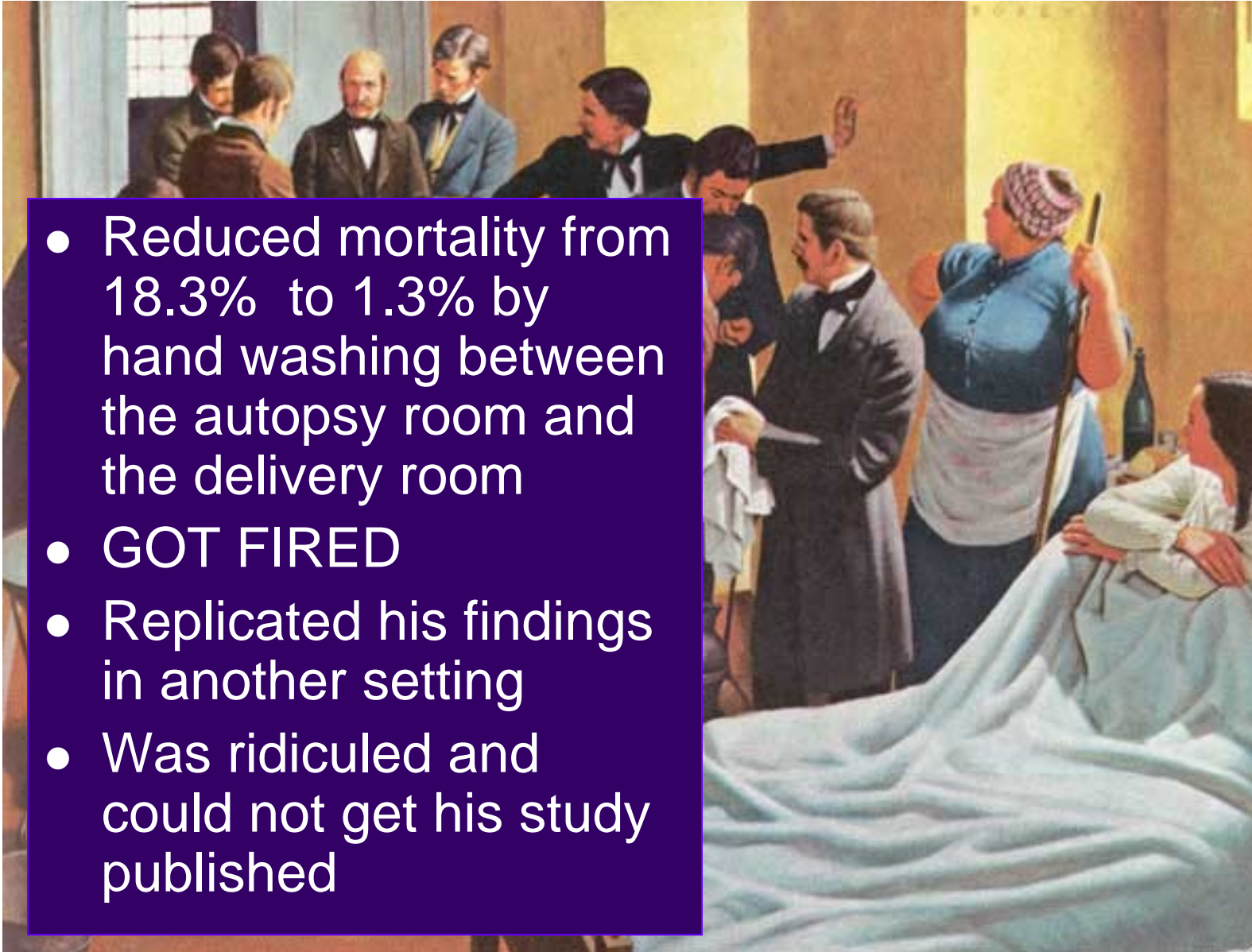
Objectives

- Describe a process for assessing research evidence and applying it to practice
- Describe the use of evidence based practice in improving public health outcomes



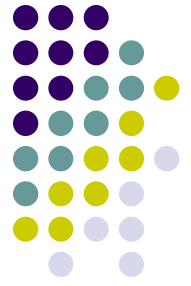
Ignaz P. Semmelweis
(1818-1865)

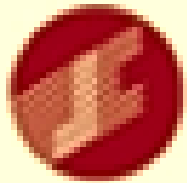
Now famous for
establishing the link
between hand washing
(after autopsy) and
infection control
(reduction in childbed
fever)



- Reduced mortality from 18.3% to 1.3% by hand washing between the autopsy room and the delivery room
- GOT FIRED
- Replicated his findings in another setting
- Was ridiculed and could not get his study published

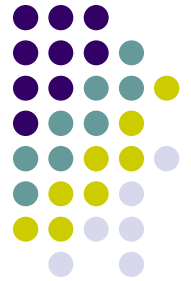
So where have we come in the past 150 years...?





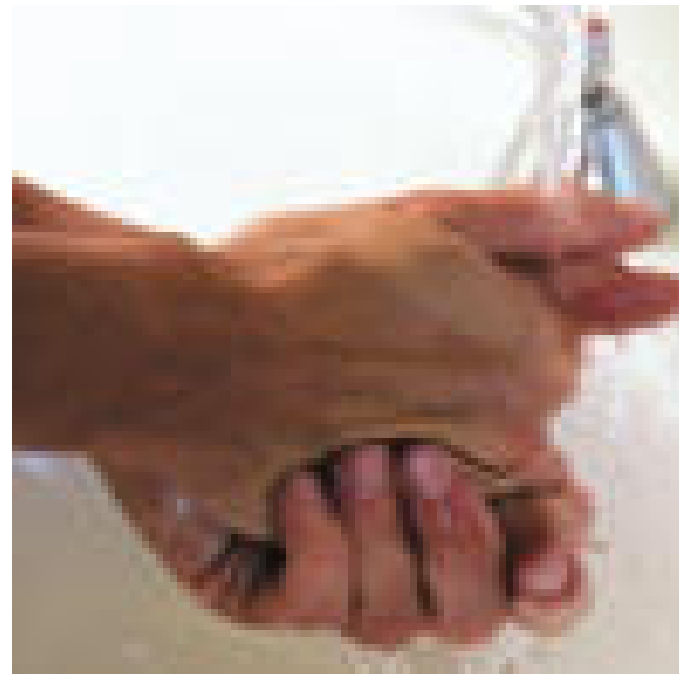
Joint Commission

on Accreditation of Healthcare Organizations

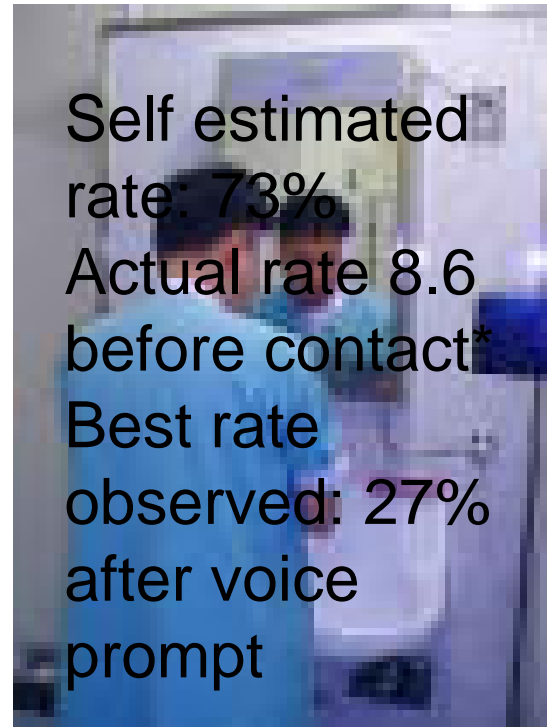
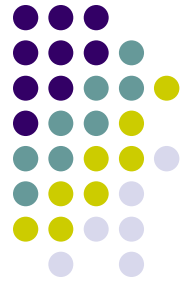


Joint Commission Patient Safety Goals for 2007

**Goal # 7: Reduce risk of health care associated infections...
7.A. ... by complying with CDC hand washing guidelines**

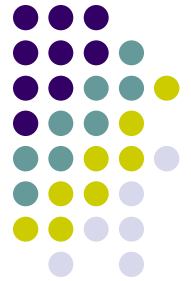


“Do as we say, not as we do: Healthcare workers and hand hygiene.”

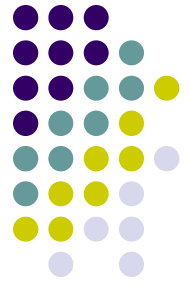


Arroliga, A., Budev, M.M., & Gordon, S.M. (2004) Editorial:
Do as we say, not as we do: Healthcare workers and hand
hygiene, Crit Care Med, 32:2, 592-593

So What Happens When Research Meets Current Practice?

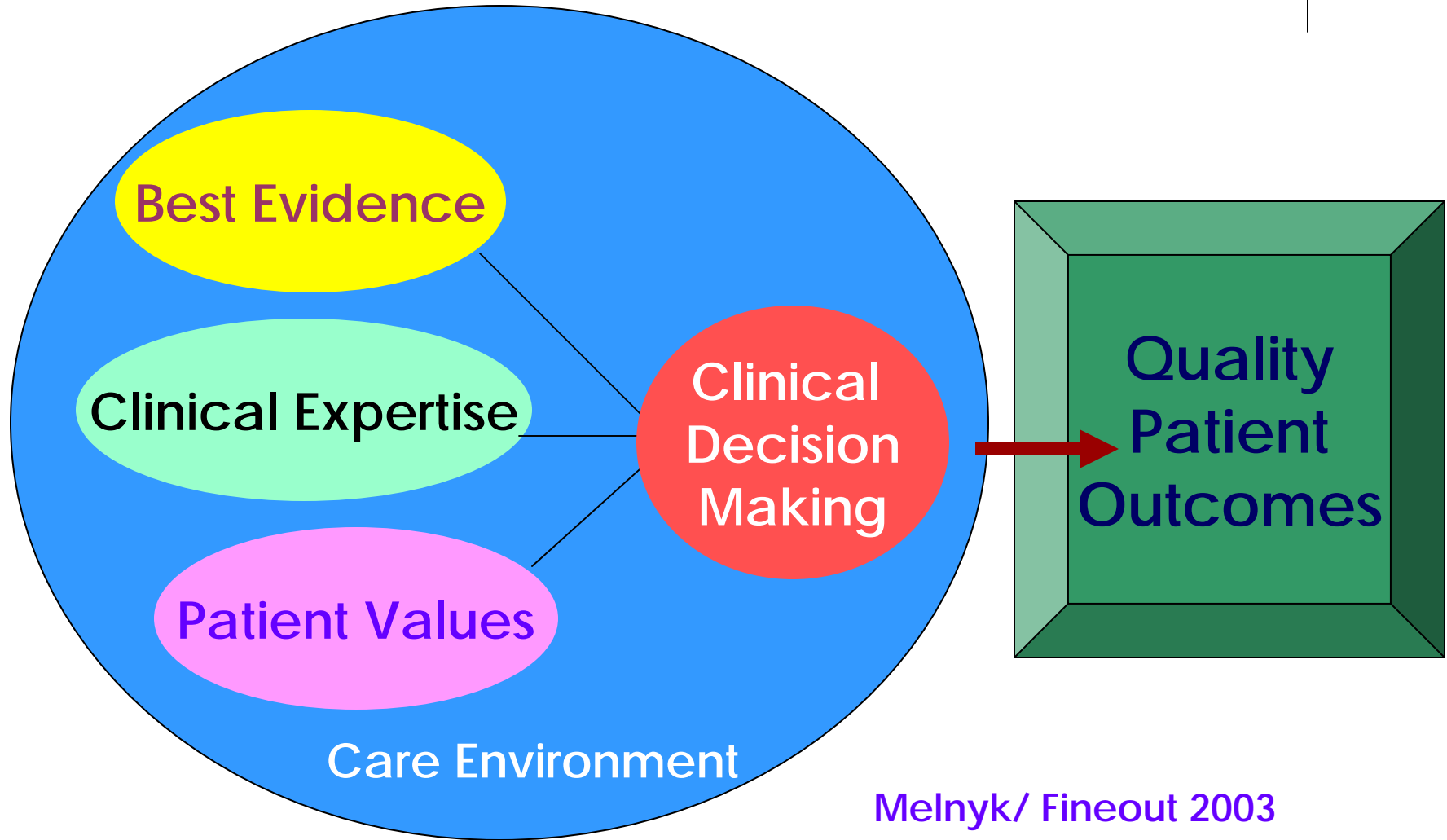


We No Longer Can Tolerate the Research-Practice Gap



- Methods for evaluating evidence are too accessible and compelling
- Our patients know the current research
- Findings very quickly get into the press
- Liability is an issue
- We don't have resources to spend doing the wrong thing, or the right thing wrong

Evidence-Based Practice: Merging Science and Art



Melnyk/ Fineout 2003

Evidence Based Practice- A Definition



- Evidence-based practice (EBP) “defines care that integrates best scientific evidence with clinical expertise, knowledge of pathophysiology, knowledge of psychosocial issues, and decision making preferences of patients”¹
- Evidence can include research, integrative reviews, practice guidelines, quality improvement data, and case studies.

1. Rutledge & Grant (2002). Introduction. Seminars in Oncology Nursing, 18, 1-2.



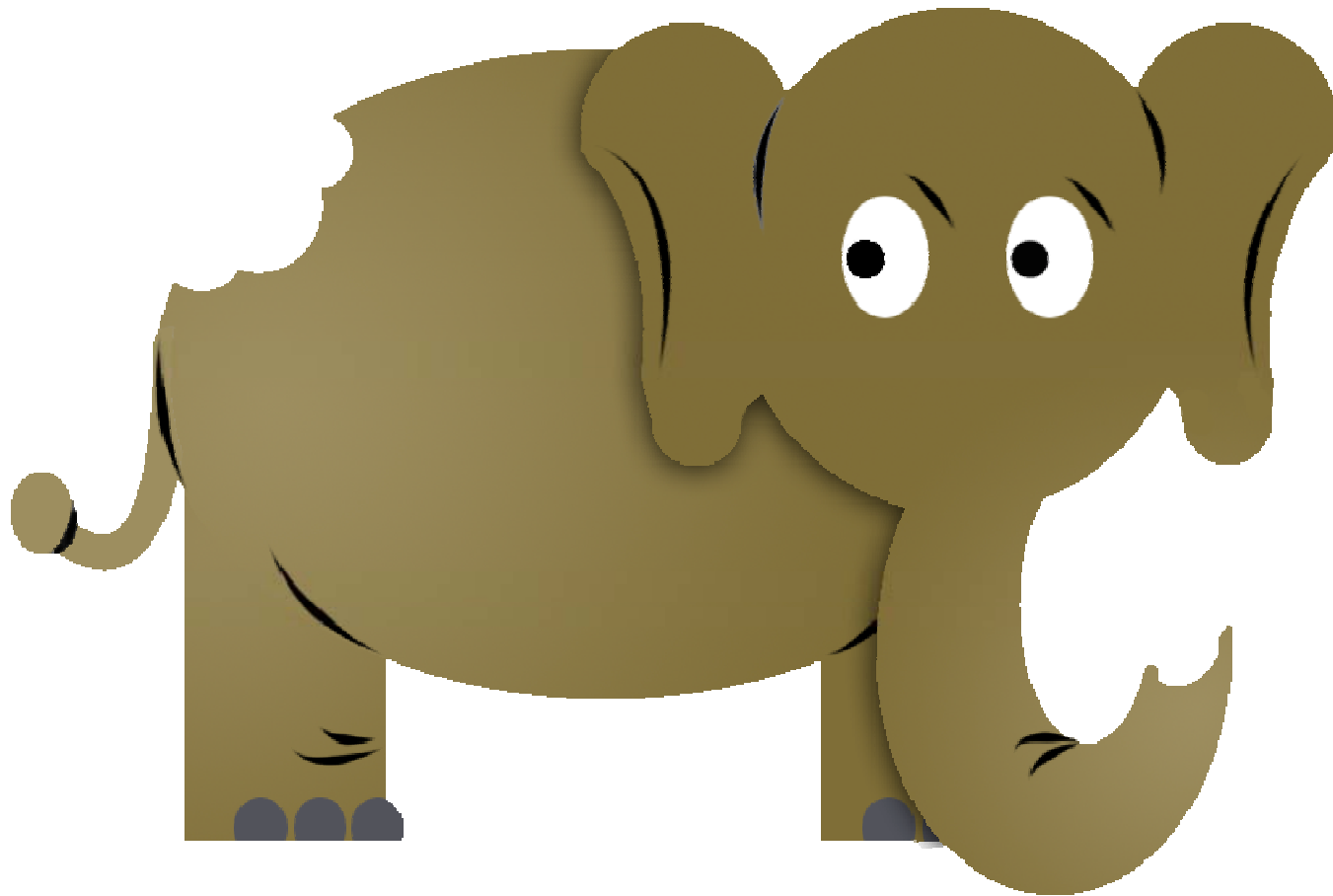
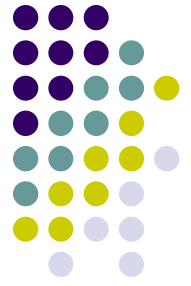
Another EBP Definition

The integration of best research evidence with clinical expertise and patient values into clinician practice

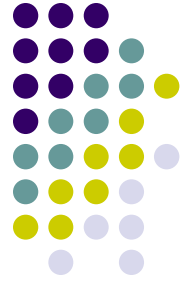
(Sackett, 2000)



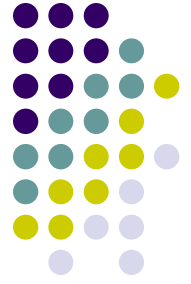
EBP – Bite by Bite



Evidence Based Practice: Steps in the Process



- **Problem Identification**: Converting information needs into an answerable question
- **Evidence Search**: Finding, with maximum efficiency, the best evidence with which to answer the question
- **Critique**: Determining the merit, feasibility and utility of evidence
- **Synthesis**: Combining findings from all evidence to make a practice recommendation
- **Implementation**: Incorporating the recommendation into a clinical setting or organization
- **Evaluation**: Determining the effectiveness of the practice change over time

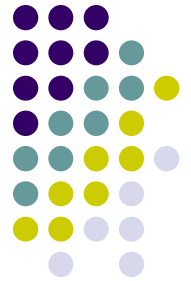


Formulating the Question

Essential Components of a Question: PICO¹

1. **P**atient or situation being addressed
2. **I**ntervention (or **I**nterest area)
3. **C**omparison intervention or comparison group
4. **O**utcome(s) of interest

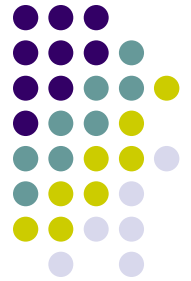
1. Nollan, Fineout-Overholt & Stephenson (2005). Asking compelling clinical questions. In B. Melnyk & E. Fineout-Overholt (Eds). *Evidence Based Practice in Nursing and Healthcare*.



Examples of PICO

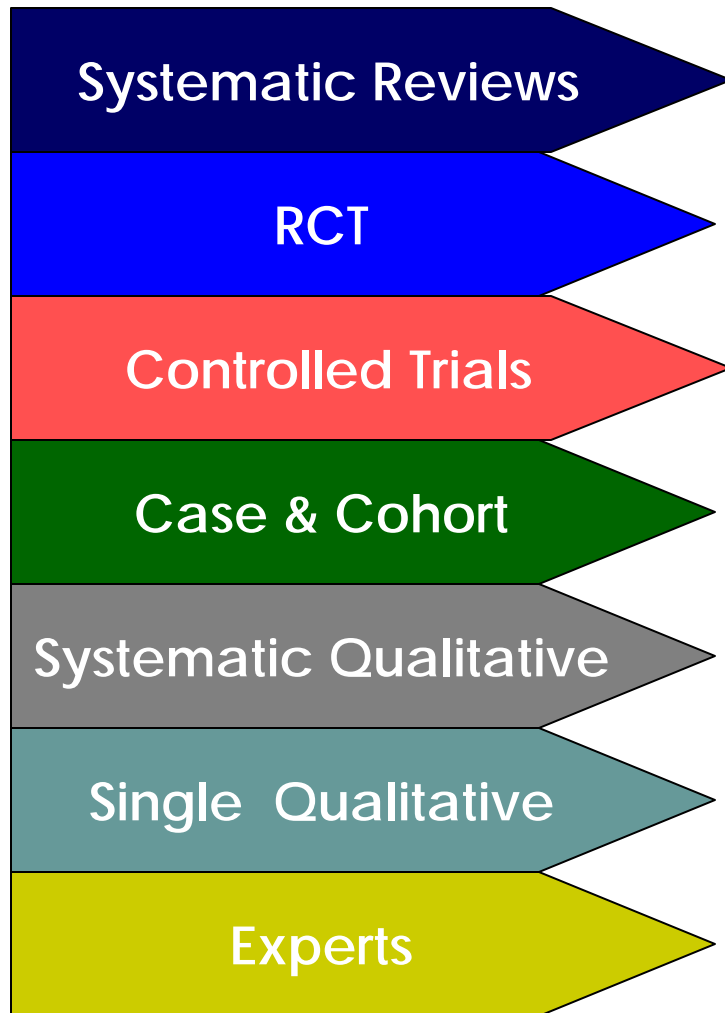
- Is limit setting with consequences more effective than clear expectations with positive choices in behaviorally ill children?
- Are bleach baths more effective than cortisone cream for skin rashes in HIV patients?
- Is a visual analog scale more accurate in assessing dyspnea than asking the patient if they are short of breath?
- Do distracters in clinic waiting rooms reduce the dissatisfaction of long waiting times?
- What is the most effective teaching strategy to educate clinical staff on evidence-based practice?
- Is a surgical 2 minute hand wash as effective as a 4minute hand wash?

RCT's: the Gold Standard?





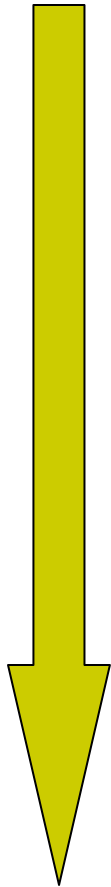
Hierarchy of Evidence



Levels of Evidence



Strongest



Weakest

- **Research Based Evidence**

- Meta-analysis of multiple controlled clinical trials
- Experimental studies such as well controlled randomized clinical trials
- Systematic reviews of all types of research
- Multiple non-experimental studies, including descriptive, correlational, and qualitative research
- Published evidence-based practice guidelines, for example, those developed by professional organizations

- **Non- Research Based Evidence**

- Case studies
- Program evaluation, quality improvement data, or case reports
- Opinions of experts-standards of practice, practice guidelines

Strongest



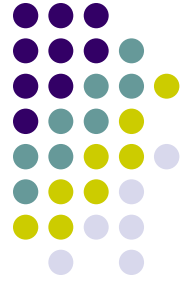
Weakest

Appraise the Evidence for:



- Strength
- Quality
- Applicability
- Validity
- Reliability



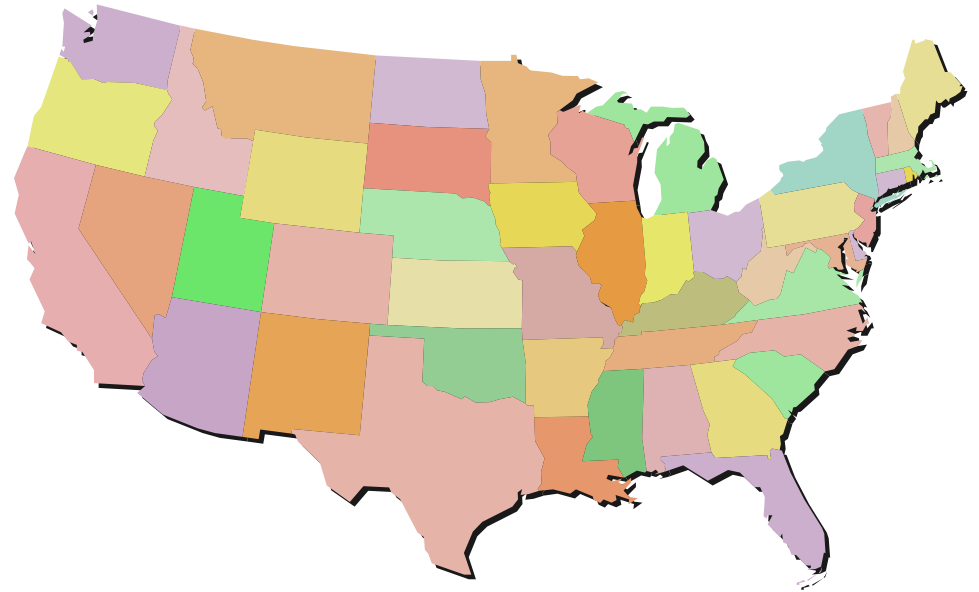
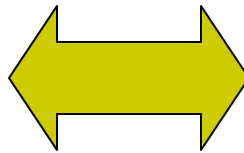
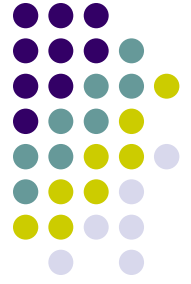


What does it mean to “use evidence based practice to improve public health outcomes?”

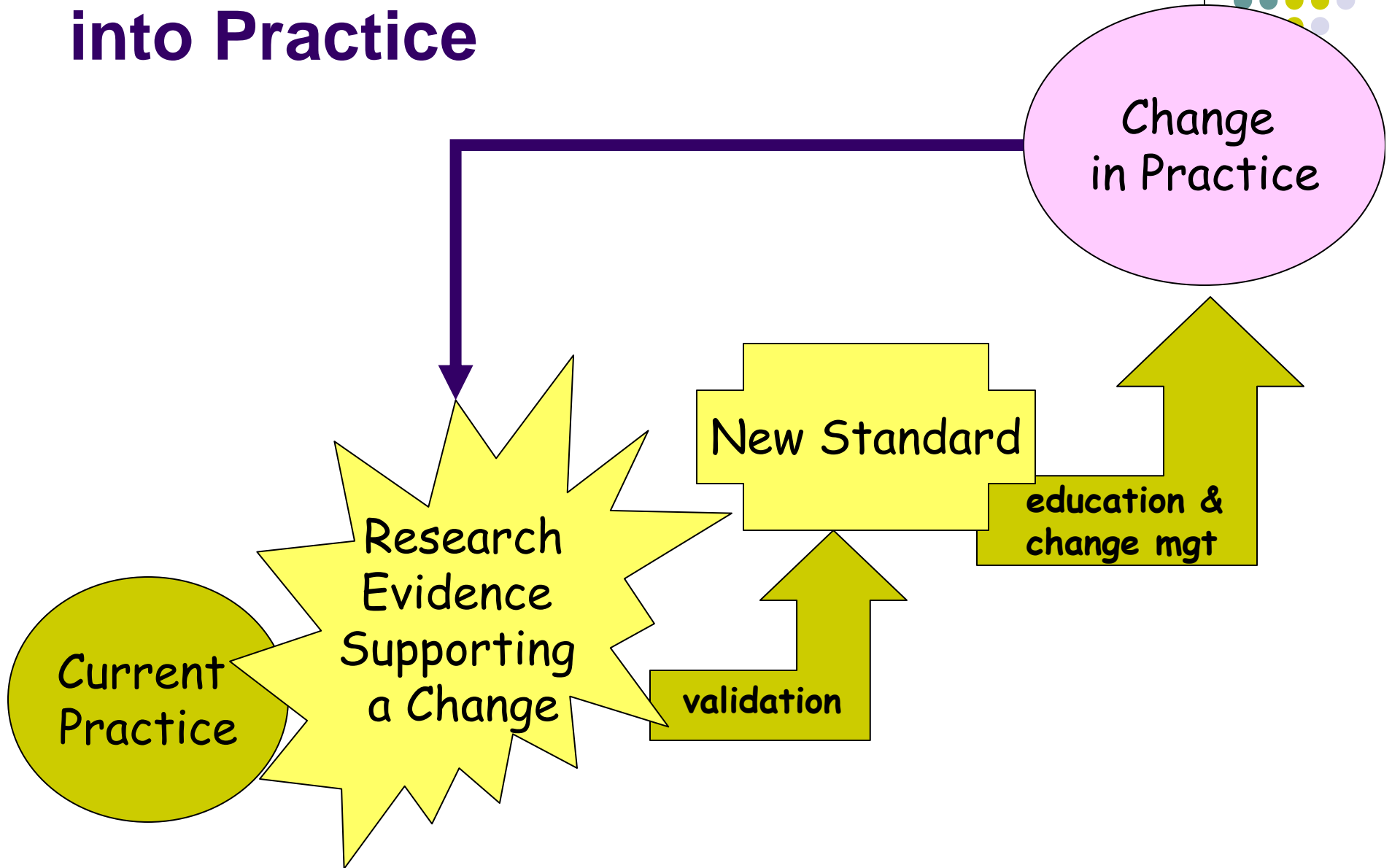
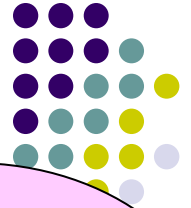
It's not as simple as it seems...



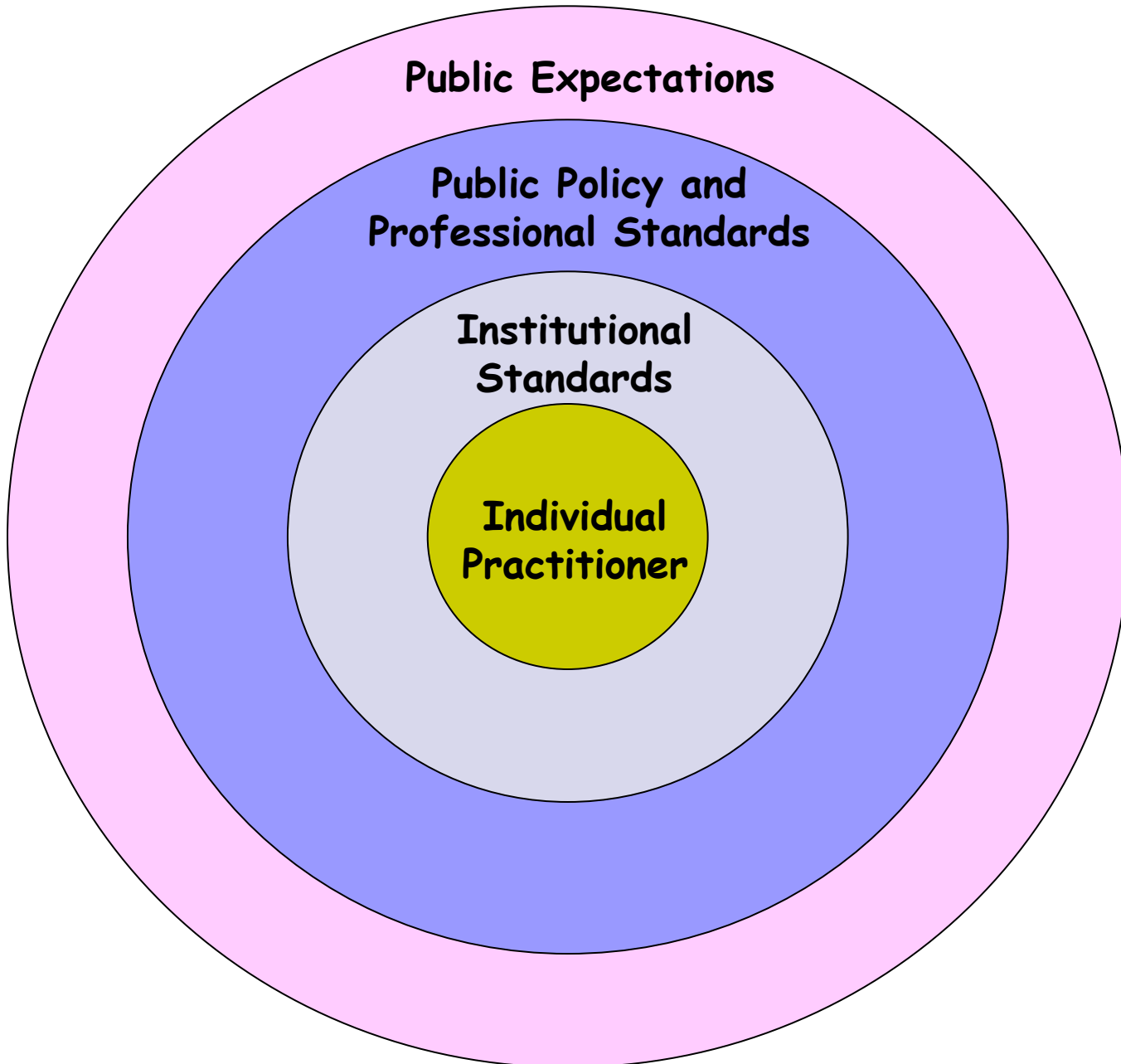
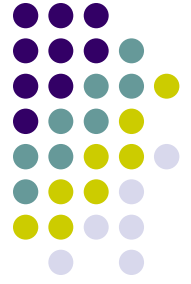
Nurses in the Public Health Service are in the business of generating research evidence and applying evidence to practice



Integration of Research Evidence into Practice



Integration of evidence occurs at multiple levels





Levels of Integration

- Individual practitioners are aware of research findings
- They use critical thinking to determine appropriateness and apply in practice
 - Planning care
 - Delivering care
- Institutional standards reflect current research findings
- Professional standards reflect current research findings
- Public policy reflects current research
- Patients are informed about findings relative to their condition and expect practice to be concurrent

How We Can Partner



NIH/CC, NCMHD, IHS and NANAINA



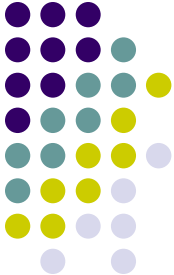
Creating a Clinical Research Infrastructure to Address Health Disparities in American Indians/Alaska Natives: Expanding Nursing Research Capabilities

Proposal Writing Workshop

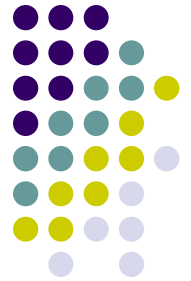
**April 11-13, 2007
Bethesda, Maryland**



What does an organizational culture that supports evidence based practice look like?



How do we create such a culture?



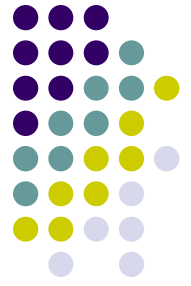
- Foster an environment that values inquiry and continual personal learning
- Focus on data as the deciding factor in making clinical and administrative decisions
- Create developmental systems for staff interested in pursuing research as a long term direction

Integrating Research into Practice at the NIH



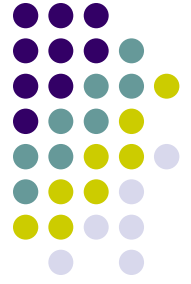
- Daily and weekly interdisciplinary team discussions
- Standards development within the shared governance process
- Use of library and online resources
- Multiple staff participating in posters, presentations and writing projects
- Multiple staff participating on nursing research teams
- Staff mentoring research trainees and students

What resources are needed for this challenge?



- Time
- Patience
- Freedom from desperation related to budget, staffing and census
- Executive leadership
- Clinical leadership
- Funds to seed project and support education / dissemination activities

Where do we get such resources?



- We cobble them together from what we have
- Start small, present BIG
- Link all activities back to primary mission of the institution
- Magnet program has helped
- Success attracts resources
- External funding is there

Integrating EBP into **YOUR** Practice



- Try questioning the norm
- Challenge the “way we always done it”
- Speak DATA
- Reach out to colleagues and collaborators

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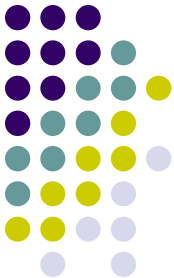


Words of an NIH Clinical Center Nurse

*“I want to make a difference.
And I want to make a
difference in something big.
I find that nurses in general
come to nursing because
they want to make a
difference for someone. And
here, they come because
they might be making a
difference for everyone.”*



Thanks to Our Team





And thank you!

Presentation slides and
references will be on
the Clinical Center
Nursing website

www.cc.nih.gov/nursing/

