# UTILIZING RESEARCH FOR EVIDENCE-BASED PRACTICE

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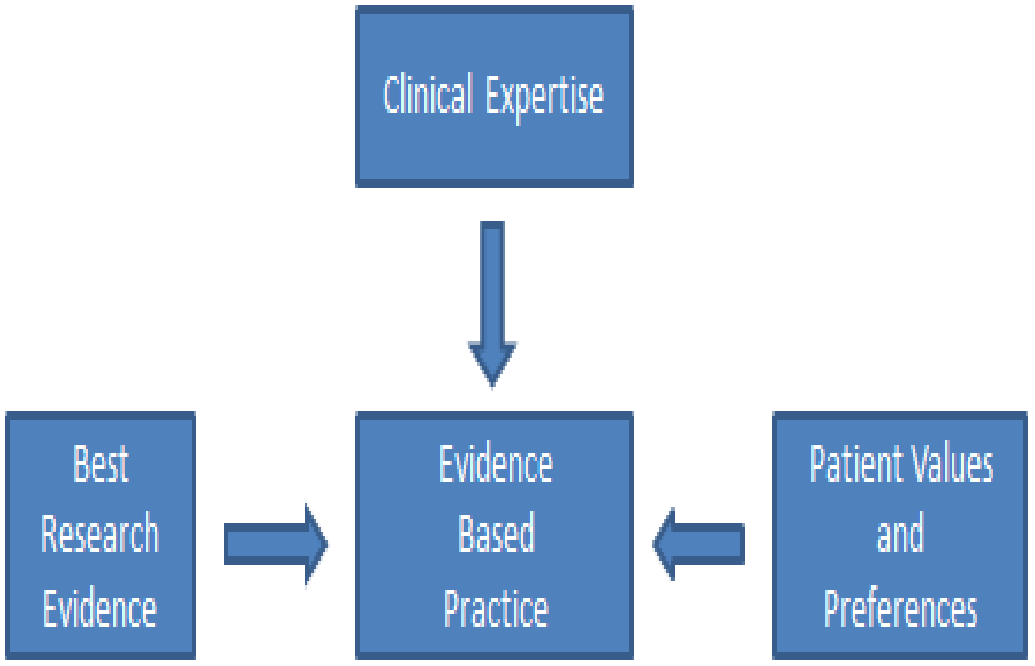
# OBJECTIVES

1. Identify the purpose of evidence-based practice
2. Discuss the levels of research evidence
3. Differentiate between research and quality improvement
4. Discuss the application of a evidence-based quality improvement project in the ED

# WHAT IS EVIDENCE BASED PRACTICE

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https://commons.wikimedia.org/wiki/File:Flowchart-sm.png

- EBP- high quality cost-effective care, improved outcomes,
- Collecting facts believed to be true to make decisions regarding patient care

(Melnyk & Fineout-Overholt, 2015)

# BEST RESEARCH EVIDENCE

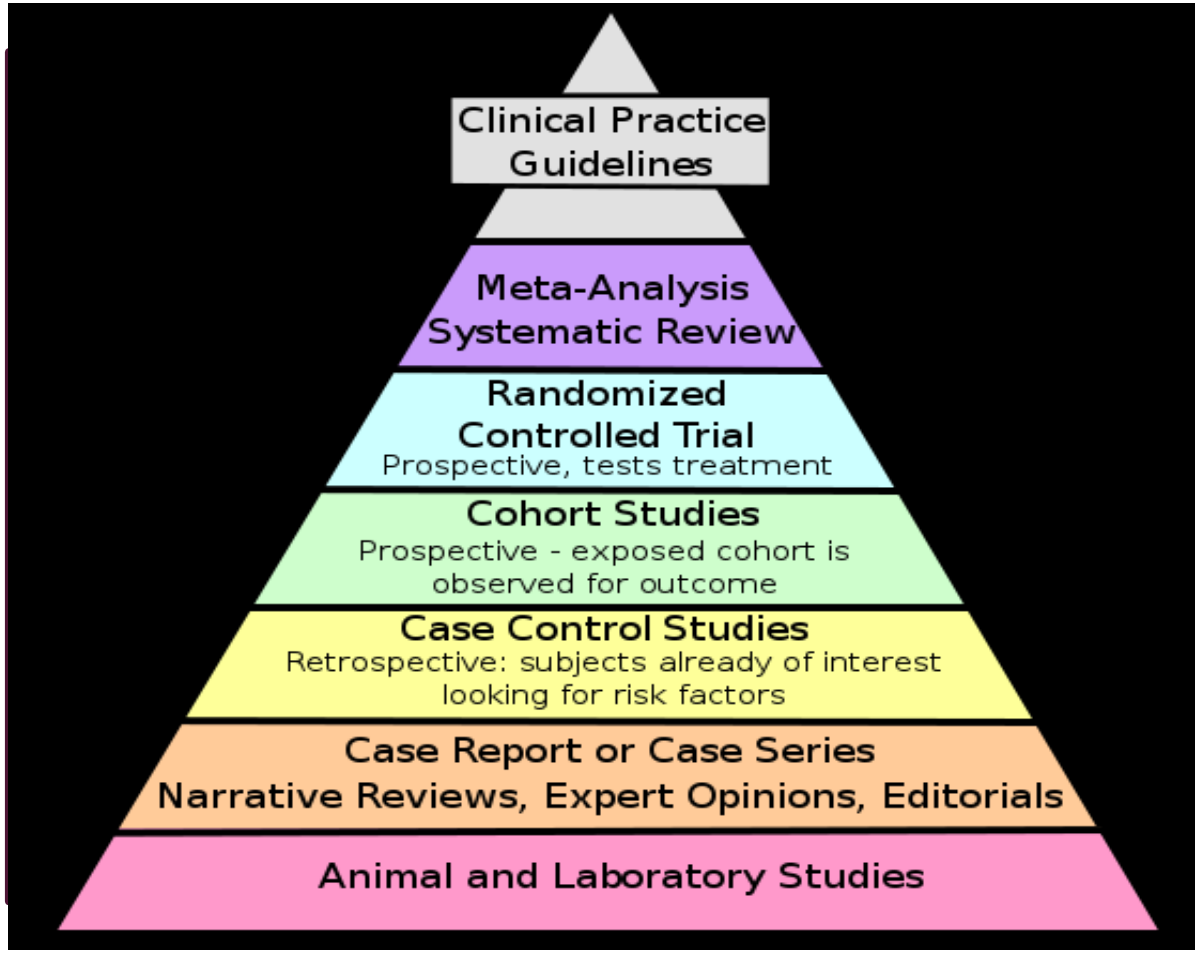



Photo source: Wikimedia commonshttps://en.m.wikipedia.org/wiki/File:Research_design_and_evidence.svg

External evidence

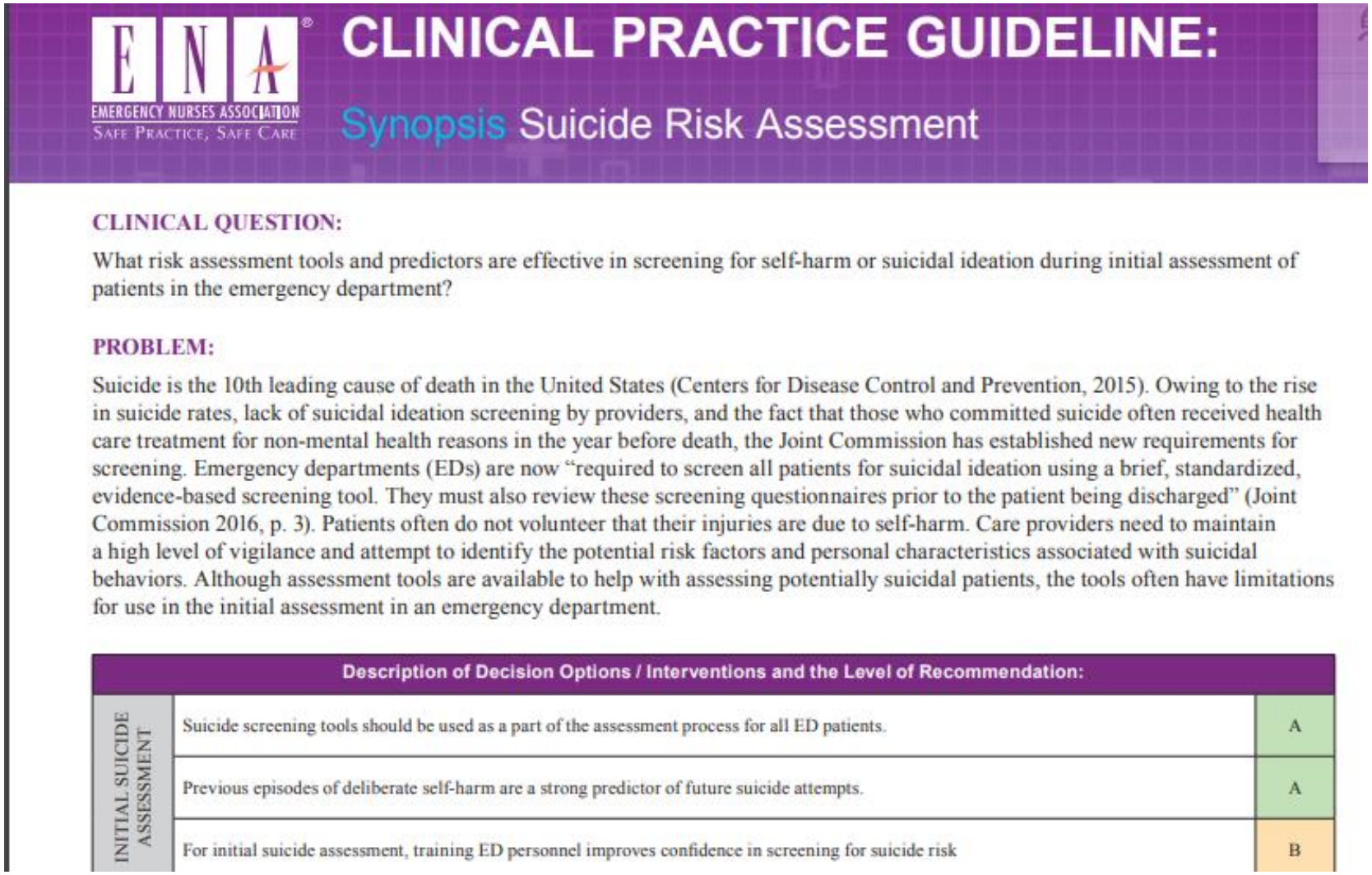
- Cochrane Database of Systematic Reviews (Cochrane Library, 2019)
- ENA CPG (ENA, 2014b; ENA, 2019a)
- National Clearinghouse archive (AHRQ, 2018)
- Articles
  - Journal of Emergency Nursing (ENA, 2019b)
  - American Journal of Nursing (Wolters Kluwer Health, 2019)
  - Advanced Emergency Nursing Journal (Wolters Kluwer, 2019)

# CPG AND QUALITY OF EVIDENCE

| | | |
|---|---|---|
| A | Level A (High) | Based on consistent and good quality of evidence; has relevance and applicability to emergency nursing practice. |
| B | Level B (Moderate): | There are some minor inconsistencies in quality of evidence; has relevance and applicability to emergency nursing practice. |
| C | Level C (Weak) | There is limited or low quality patient-oriented evidence; has relevance and applicability to emergency nursing practice. |
| NR | Not Recommended | Not recommended based upon current evidence. |
| I/E | Insufficient Evidence | Insufficient evidence upon which to make a recommendation. |
| N/E | No Evidence | No evidence upon which to make a recommendation. |

(Melnyk & Fineout-Overholt, 2015)

# CPG EXAMPLE



EMERGENCY NURSES ASSOCIATION
SAFE PRACTICE, SAFE CARE

## CLINICAL PRACTICE GUIDELINE:

### Synopsis Suicide Risk Assessment

**CLINICAL QUESTION:**

What risk assessment tools and predictors are effective in screening for self-harm or suicidal ideation during initial assessment of patients in the emergency department?

**PROBLEM:**

Suicide is the 10th leading cause of death in the United States (Centers for Disease Control and Prevention, 2015). Owing to the rise in suicide rates, lack of suicidal ideation screening by providers, and the fact that those who committed suicide often received health care treatment for non-mental health reasons in the year before death, the Joint Commission has established new requirements for screening. Emergency departments (EDs) are now "required to screen all patients for suicidal ideation using a brief, standardized, evidence-based screening tool. They must also review these screening questionnaires prior to the patient being discharged" (Joint Commission 2016, p. 3). Patients often do not volunteer that their injuries are due to self-harm. Care providers need to maintain a high level of vigilance and attempt to identify the potential risk factors and personal characteristics associated with suicidal behaviors. Although assessment tools are available to help with assessing potentially suicidal patients, the tools often have limitations for use in the initial assessment in an emergency department.

| | Description of Decision Options / Interventions and the Level of Recommendation: | |
|---|---|---|
| INITIAL SUICIDE ASSESSMENT | Suicide screening tools should be used as a part of the assessment process for all ED patients. | A |
| | Previous episodes of deliberate self-harm are a strong predictor of future suicide attempts. | A |
| | For initial suicide assessment, training ED personnel improves confidence in screening for suicide risk | B |

Find the full CPG at: https://www.ena.org/docs/default-source/resource-library/practice-resources/cpg/cpgsuicide.pdf?sfvrsn=409a64fe_10

# CLINICAL EXPERTISE

Photo source: Wikimedia commons
https://commons.wikimedia.org/wiki/File:Health_Care_Delivery_System_Reform_and_The_Patient_Protection_%26_Affodable_Care_Act.pdf

Internal evidence

- Important to avoid mechanical application of the research evidence
- Needed to apply the evidence to practice
- Develop the PICOT question
- Compare evidence to available resources
- Explore patient preference

(Melnyk & Fineout-Overholt, 2015)

# PATIENT VALUES AND PREFERENCES

Photo source: Wikimedia Commons https://www.jba.af.mil/News/Photos/igphoto/2000076892/

- Patient centeredness
- Guides decision making
- Better engagement in their care
- Better perceived outcomes
- Patient Centered Outcomes Research Institute (PCORI)

(Melnyk & Fineout-Overholt, 2015)

# RESEARCH VS. QUALITY IMPROVEMENT

- Research: Is there "proof" that the intervention is effective to generate new knowledge?
- Quality improvement: Can the intervention that was "proven" to work pre and post test be sustained in the ED for continuous improvement of patient care?
- Evidence-based practice: using the research evidence to bridge the gap between the available evidence and current practice to develop quality improvement for change in practice.

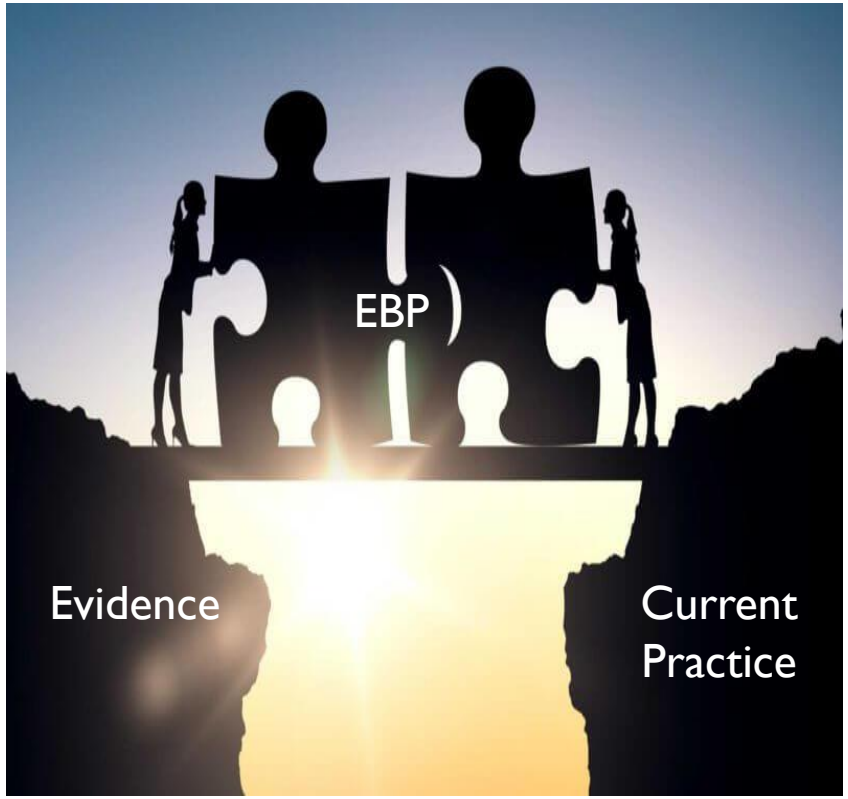



Photo source: Marketing Land https://marketingland.com/bridge-gap-brand-direct-response-marketing-220962

(Melnyk & Fineout-Overholt, 2015)

# START WITH A PRACTICE PROBLEM

- Behavioral health patient LOS in ED (ENA, 2013)
- ED Environment & ⬆ LOS= Patient agitation (Nicks & Manthey, 2012)
- Agitated patients restrained (Holloman & Zeller, 2012)
- Restraints=$$$ loss (Chan, Lebel, & Webber, 2012; SAMHSA, 2011)
- ED's need to rapid assess and manage (Gottlieb, Long, & Koyfman, 2018)
  - Lack of objective tools to assess

Note: Behavioral health is the various conditions characterized by impairment of an individual's normal cognitive, emotional, or behavioral functioning (ENA, 2014a)

# RESEARCH QUESTION & PICOT

Research question: Will implementing an agitation assessment tool in the ED help to improve early detection of agitation, reduce restraint use, and decrease violent episodes?

- **P**opulation: ED behavioral health (BH) patients
- **I**ntervention: Agitation assessment tool
- **C**omparison: Previous 15 week timeframe before agitation tool used (September to December 2017)
- **O**utcome: (1)Early detection of agitation, (2) Reduction of restraint use, (3) Prevent violence
- **T**ime: Fifteen weeks from September to December 2018

# A QI PROJECT: IMPLEMENTING AN AGITATION TOOL IN THE ED

Implement the Behavioral Activity Rating Scale (BARS) tool in the EMR of an urban ED in Baltimore to provide nurses with a validated tool to measure patient agitation.

**Goals:**

Better detection and management of agitation

Reduction of restraint use

Prevention of violence

# RANDOMIZED CONTROLLED TRIALS

BARS: Valid & Reliable Tool

- Pfizer (2001) & Swift et al., (2002) multi-study randomized controlled trials (n=>100)
  - Convergent validity found with other agitation scales* ($p=0.003$ & $p<0.005$)
  - Larger effect size=most responsive to treatment effect (Pfizer, 2001; Swift et al., 2002).
  - Near perfect (0.999) interrater reliability (Pfizer, 2001; Swift et al., 2002)

* Positive and Negative Syndrome Scale (PANSS) agitation scores, and the Clinical Global Impression-Severity of Illness (CGI-S)

# UTILIZATION OF RESEARCH EVIDENCE TO SUPPORT THE PROJECT

Valid & Reliable Tool in the ED

- Simpson, Pidgeon, & Nordstrom (2017)
  - Quality improvement project in psychiatric emergency services (PES) unit (n=21)
  - Unit safer (85% versus 100%, p=.03)
  - Agitation was acknowledged & rapidly treated ($r_T$ =.34, p=.005).

- Schumacher, Gleason, Holloman, & McLeod (2010)
  - Retrospective chart review of ED patients assessed with BARS (n=126)
  - BARS use= Patients more likely to receive behavioral management-**13x**
    (z = 26.09, P < .001, OR = 12.79, 95% CI =4.81-34.02)

# BEHAVIORAL ACTIVITY RATING SCALE (BARS)

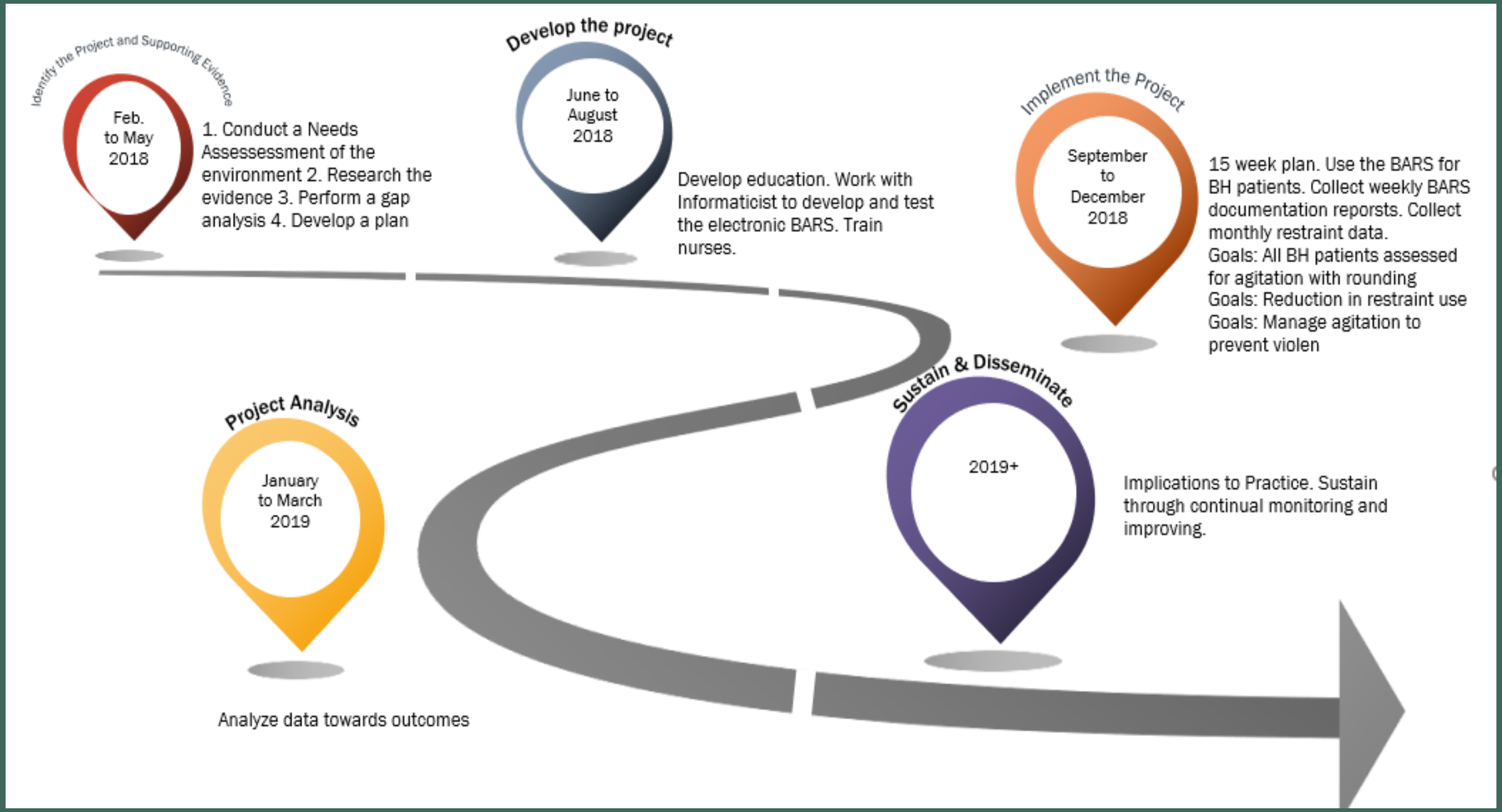
| | |
|---|---|
| 1 | Difficult or unable to rouse |
| 2 | Asleep but responds normally to verbal or physical contact |
| 3 | Drowsy, appears sedated |
| 4 | Quiet and awake (normal level of activity) |
| 5 | Signs of overt (physical or verbal) activity, calms down with instructions |
| 6 | Extremely or continuously active, not requiring restraint |
| 7 | Violent, requires restraint |

(Pfizer, 2001; Swift et al., 2002)

# BEHAVIORAL ACTIVITY RATING SCALE

**Behavior Activity Rating Scale - Tabitha Legambi 06/17/18 1718**

| **BARS Assessment** | |
|---|---|
| BARS (Behavioral Activity Rating Scale) | ○ 7-Violent ○ 6-Extremely Agitated ○ 5-Mild Agitation/Calms<br>○ 4-Calm/No Agitation ○ 3-Drowsy/Awakens ○ 2-Asleep/Responds<br>○ 1-No Response |
| | 7=Imminent Danger. Violent, requires restraint, verbally/physically aggressive to self/others.<br>6=Potential Danger. Agitated, pacing, distressed, non-specific threats.<br>5=Not Dangerous. Verbal abuse, oppositional behaviors. Calms with instructions.<br>4=Quiet and Awake. Normal level of activity.<br>3=Drowsy. Arouses to verbal stimuli/gentle shaking, follows simple commands.<br>2=Asleep. Awakens to verbal or physical stimuli to follow commands, may move spontaneously.<br>1=Minimal or no response to noxious stimuli, does not communicate or follow commands. |
| Notes | ☐ Text |
| | List any de-escalation steps taken, interventions implemented, notifications made due to assessment results, etc. |


Identify the Project and Supporting Evidence
Feb. to May 2018
1. Conduct a Needs Assessment of the environment 2. Research the evidence 3. Perform a gap analysis 4. Develop a plan
Develop the project
June to August 2018
Develop education. Work with Informaticist to develop and test the electronic BARS. Train nurses.
Implement the Project
September to December 2018
15 week plan. Use the BARS for BH patients. Collect weekly BARS documentation reporsts. Collect monthly restraint data.
Goals: All BH patients assessed for agitation with rounding
Goals: Reduction in restraint use
Goals: Manage agitation to prevent violen
Project Analysis
January to March 2019
Analyze data towards outcomes
Sustain & Disseminate
2019+
Implications to Practice. Sustain through continual monitoring and improving.

# RESULTS

- RN assessed for agitation (4,447 times) on patient visits (n=780)
- Agitated patients detected (n=206)
- Restraint use
  - First two months= decrease; Last two months= increase
    - Overall 11% increase
- Days in Restraints
  - Decreased by 7 days

# SURVEY RESULTS

System Usability Scale (SUS) average= 68 (Usability.gov, 2017)
Project ED SUS results =83.46 (n=30)

**N=25**

| **Questions** | Yes (N) | % | No (N) | % | Unsure (N) | **%** |
|---|---|---|---|---|---|---|
| 1. BARS and early detection/management | 13 | 52.00 | 6 | 24.00 | 6 | 24.00 |
| 2. Unit Safety with BARS | 7 | 28.00 | 7 | 28.00 | 11 | 44.00 |
| 3. BARS Reminder to Document Helpful | 24 | 96.00 | 1 | 4.00 | 0 | 0.00 |

*RN Survey of Unit Safety with the BARS Assessment. Note.* Five surveys did not have the Unit Safety questions answered.

# CONCLUSION

- EBP is vital for improved patient outcomes
- Understanding the EBP process to practice change is important
- Recognizing each component of EBP is essential
- What can you do to improve EBP on your unit?

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