QSENizing the Practice Setting: A Three-Part Presentation, Applying the QSEN Framework to Practice

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Children's Hospital Colorado

Sigma Theta Tau International Conference
November 10, 2015 - 8:30am to 9:45am

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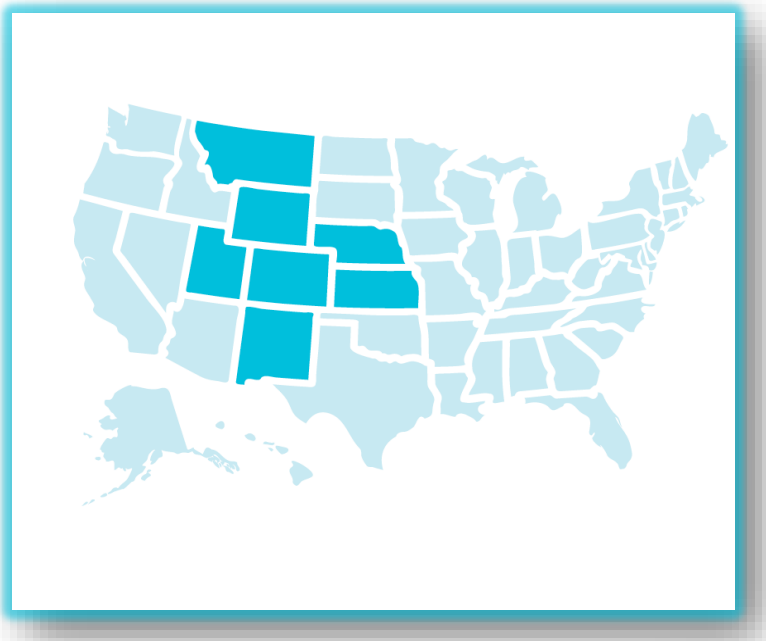
Children's Hospital Colorado

- ✓ Delivering pediatric health care since 1908
  - Affiliated with University of Colorado School of Medicine and College of Nursing
- ✓ 17 Locations throughout Colorado
  - Serving a 7 state region
- ✓ 534 Inpatient Beds
- ✓ 2,000 Registered Nurses
  - 90% Bachelors Degree or higher
  - 47% Direct care nurses certified
- ✓ 300 APRNs
- ✓ Admissions: 14,000
- ✓ Outpatient visits: 600,000



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5280 TOP DOCTORS

HealthCare's most wired WINNER 2014

MAGNET RECOGNIZED AMERICAN NURSES CREDENTIALING CENTER

BEST CHILDREN'S HOSPITALS U.S.News RANKED IN 9 SPECIALTIES 2015-16

Symposium Outline

QSEN Foundation

- Background
- Knowledge, Skills & Attitudes (KSA)
- Transition to Clinical Practice

Clinical Ladder

- Literature Search
- Revision
- Electronic Process
- Application

Competency Assessment

- Learning Gap
- Development of Tool
- Implement
- Sustain & Expand

EBP New Graduate Residency Program

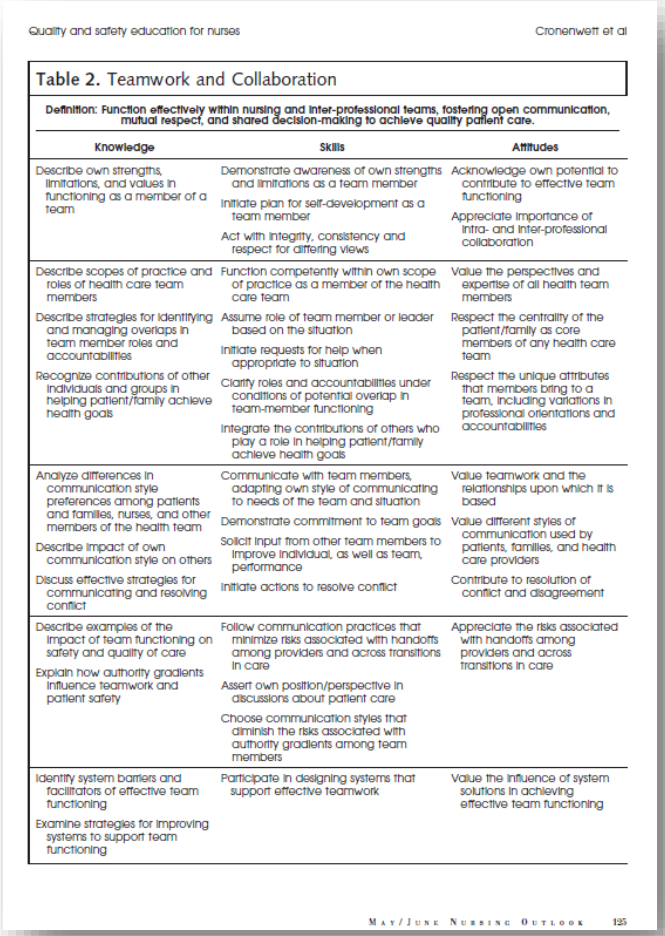
- Overview
- EBP Project
- Design & Pilot
- Outcomes

Learning Objectives

1. Describe the integration of Quality Safety Education for Nurses (QSEN) into the practice setting
2. Identify how to use QSEN competencies in redesigning a clinical advancement program
3. Outline the process of integrating knowledge, skills and attitudes into a competency assessment
4. Explain the development of an innovative tool to evaluate EBP knowledge, skills and attitudes of new graduate nurses using QSEN as a foundation

The Framework:
Quality & Safety Education for Nurses

- IOM recommendations
- Competency focused
- Identifies 7 domains of practice
  - Patient Centered Care
  - Teamwork & Collaboration
  - EBP
  - Quality Improvement
  - Safety
  - Informatics
  - (Leadership – Children's Hospital addition)



Quality and safety education for nurses — Cronenwett et al

Table 2. Teamwork and Collaboration

Definition: Function effectively within nursing and inter-professional teams, fostering open communication, mutual respect, and shared decision-making to achieve quality patient care.

Knowledge	Skills	Attitudes
Describe own strengths, limitations, and values in functioning as a member of a team	Demonstrate awareness of own strengths and limitations as a team member Initiate plan for self-development as a team member Act with integrity, consistency and respect for differing views	Acknowledge own potential to contribute to effective team functioning Appreciate importance of intra- and inter-professional collaboration
Describe scopes of practice and roles of health care team members Describe strategies for identifying and managing overlaps in team member roles and accountabilities Recognize contributions of other individuals and groups in helping patient/family achieve health goals	Function competently within own scope of practice as a member of the health care team Assume role of team member or leader based on the situation Initiate requests for help when appropriate to situation Clarify roles and accountabilities under conditions of potential overlap in team-member functioning Integrate the contributions of others who play a role in helping patient/family achieve health goals	Value the perspectives and expertise of all health team members Respect the centrality of the patient/family as core members of any health care team Respect the unique attributes that members bring to a team, including variations in professional orientations and accountabilities
Analyze differences in communication style preferences among patients and families, nurses, and other members of the health team Describe impact of own communication style on others Discuss effective strategies for communicating and resolving conflict	Communicate with team members, adapting own style of communicating to needs of the team and situation Demonstrate commitment to team goals Solicit input from other team members to improve individual, as well as team, performance Initiate actions to resolve conflict	Value teamwork and the relationships upon which it is based Value different styles of communication used by patients, families, and health care providers Contribute to resolution of conflict and disagreement
Describe examples of the impact of team functioning on safety and quality of care Explain how authority gradients influence teamwork and patient safety	Follow communication practices that minimize risks associated with handoffs among providers and across transitions in care Assert own position/perspective in discussions about patient care Choose communication styles that diminish the risks associated with authority gradients among team members	Appreciate the risks associated with handoffs among providers and across transitions in care
Identify system barriers and facilitators of effective team functioning Examine strategies for improving systems to support team functioning	Participate in designing systems that support effective teamwork	Value the influence of system solutions in achieving effective team functioning

May/June Nursing Outlook 125

Cronenwett, et.al, (2007). Quality and safety education for nurses, Nursing Outlook, 55:122-131.

Phases of QSEN Development

Phase I 2005-2007	Phase II 2007-2009	Phase III 2009-2012	Phase IV 2012-2015
• Developed 6 competencies from IOM	• Schools integrated competencies into their programs • qsen.org launched	• Continue to integrate QSEN • Develop faculty • Change certifications, NCLEX, exams	• Focused on promotion of advanced degrees

Innovation in Practice:

A QSEN Framework for Redesigning a Clinical Advancement Program

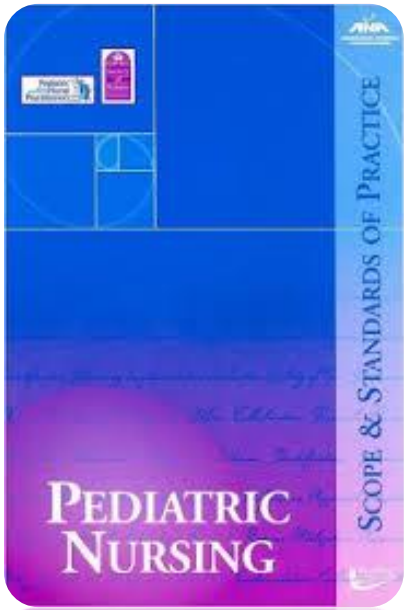
Steps 1, 2 & 3

1. Garner support from nursing leaders, the Nurse Credential Review Board (NCRB) & HR
2. Involve nurses at all levels in subcommittees to lead the design and process work
3. Complete a literature review & benchmark for current clinical ladders in healthcare

Purpose of a Clinical Ladder

- Advancement opportunities for nurses, while still providing patient care
- Encourage professional development
- Champion best practice in evidence based patient care
- Support CHCO's quality and safety initiatives

Review of Literature & Professional Standards



Quality and safety education for nurses

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Gwen Sherwood, PhD, RN, FAAN
Jane Barnsteiner, PhD, RN, FAAN
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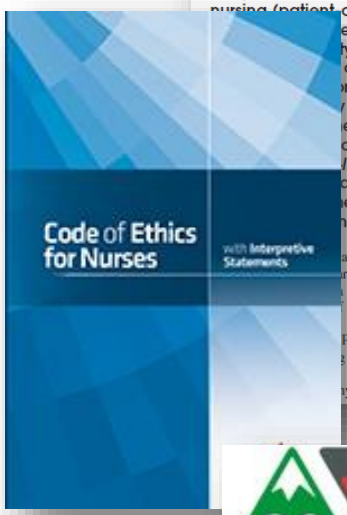
Judith Warren, PhD, RN, BC, FAAN, FACMI

Quality and Safety Education for Nurses (QSEN) addresses the challenge of preparing nurses with the competencies necessary to continuously improve the quality and safety of the health care systems in which they work. The QSEN faculty members adapted the Institute of Medicine[1] competencies for nursing (patient-centered care, teamwork and collaboration, evidence-based practice, quality improvement, and informatics), proposing definitions, and describe essential features of what it means to be competent and respected nurse. Using these definitions, the authors propose knowledge, skills, and attitudes (KSAs) for each competency that should be developed in *pre-licensure* nursing education. Quality and Safety Education for Nurses (QSEN) faculty and members invite the profession to comment on the competencies and their definitions and on whether the KSAs for pre-licensure education are appropriate goals for students preparing for basic practice as a registered nurse.

Professor and Dean at the School of Nursing, University of North Carolina at Chapel Hill.
Professor and Associate Dean for Academic Affairs, School of Nursing, University of North Carolina at Chapel Hill.
Professor and Director of Translational Research Center, and Hospital of the University of Pennsylvania,
Myrtle Aydelotte Lillehei Professor and Director, International Center for Nursing Leadership,



A series of signifi... the U... problems, re... cluded that i... be prepared ... developed in... fessionals, u... describe wha... good care ar... and know wh... to close any... other health... Institute of M... report[1] to mi... the basis for ... uates are ed... members of ... *evidence-base* ... and *informa*...

DORA
COLORADO
Department of Regulatory Agencies
Division of Professions and Occupations

Step 4 & 5

4 Draft the ladder in a categorized, competency-focused framework or "QSENizing" the design

5 Build new registered nurse job descriptions based on the clinical ladder

7 Categories of the Clinical Ladder

Patient Centered Care – provision of care, patient education, plan of care, Professional Practice Model (PPM), patient values

Teamwork & Collaboration – communicates effectively within team, improves team performance

EBP – identified EBP in practice, performs new EBP as new standard, identifies need for new Policy & Procedure

Quality Improvement – uses outcome data (patient & unit), quality improvement projects

Safety – used Policy &Procedures, bundles, identifies safety risks

Informatics – applies technology to prevent error, analyze information for improvement or patient care

Leadership – Scope of practice, shared governance, Professional development, precepting, community support

Children's Hospital Colorado

Clinical Nurse Ladder – Job Essential Functions

	CN I	CN II	CN III	CN IV
Patient & Family-Centered Care Recognize the patient or designee as the source of control and full partner in providing compassionate and coordinated care based on respect for patient's preferences, values, and needs.	Utilizes and documents the nursing process to provide developmentally appropriate, culturally sensitive, evidence based care. Identifies changes in patient outcomes in the provision of care. Care is guided by the Professional Practice Model in conjunction with preceptor and other clinical resources. Elicits patient values, preferences and expressed needs as part of implementation of care plan, evaluation of care and assessment of patient/family learning needs. Initiates and coordinates individualized care and education for patients/families across the continuum using an interdisciplinary approach.	Delivers patient and family centered care incorporating the nursing process while providing developmentally appropriate, culturally sensitive, evidence based care. Actively anticipates changes in patient outcomes/ unit needs in the provision of care. Care is guided by the Professional Practice Model throughout the continuum of care. Communicate and advocate patient values, preferences and expressed needs as part of implementation of care plan, evaluation of care and assessment of patient/family learning needs to the interdisciplinary team.	Assesses and evaluates unit delivery of family centered care incorporating the nursing process while providing developmentally appropriate, culturally sensitive, evidence based care. Role models and coaches patient and family care needs through assessing changes in patient outcomes/ unit needs in the provision of care. Care is guided by the Professional Practice Model throughout the continuum of care. Identifies and works to remove barriers in order to promote communication and advocacy of patient values, preferences and expressed needs as part of implementation of care	While providing expert family centered care, appraises and evaluates unit / organizational goals to improve delivery of developmentally appropriate, culturally sensitive, evidence based care in collaboration with organizational leadership. Mentors and leads interdisciplinary team in initiating, evaluating quality data to provide family centered care. Facilitates interdisciplinary care coordination with consideration of the individualized care and education needs for patients/families across the continuum guided by the Professional Practice Model.

Examples

Family Centered Care-

- CNII- Getting Child Life involved to help child with painful experiences
- CNIII- Helping to coordinate family with Clinical Social Work to get resources

Teamwork and Collaboration-

- CNIV- Example: Teaching asthma education to schools and primary care provider offices

EBP

- Examples: Bundles and Best Practice Alert, Maintaining Oral Glucose Tolerance List for CF patients

Quality

- CNII- Peer reviews
- CNIV- development of Telephone triage guidelines

Safety

- CNII- Med Rec, Learning Readiness Assessment
- CNIV- development of Best Practice Alert like Synagis, Flu shots

Informatics- Practice Act

- CNII- Bar code scanning
- CNIII Recognizes and Advocates for Timeliness of documentation

Step 6 & 7

6

Gain approval of the new ladder and process through various decision-making committees

7

Complete a comprehensive market evaluation for compensation practices

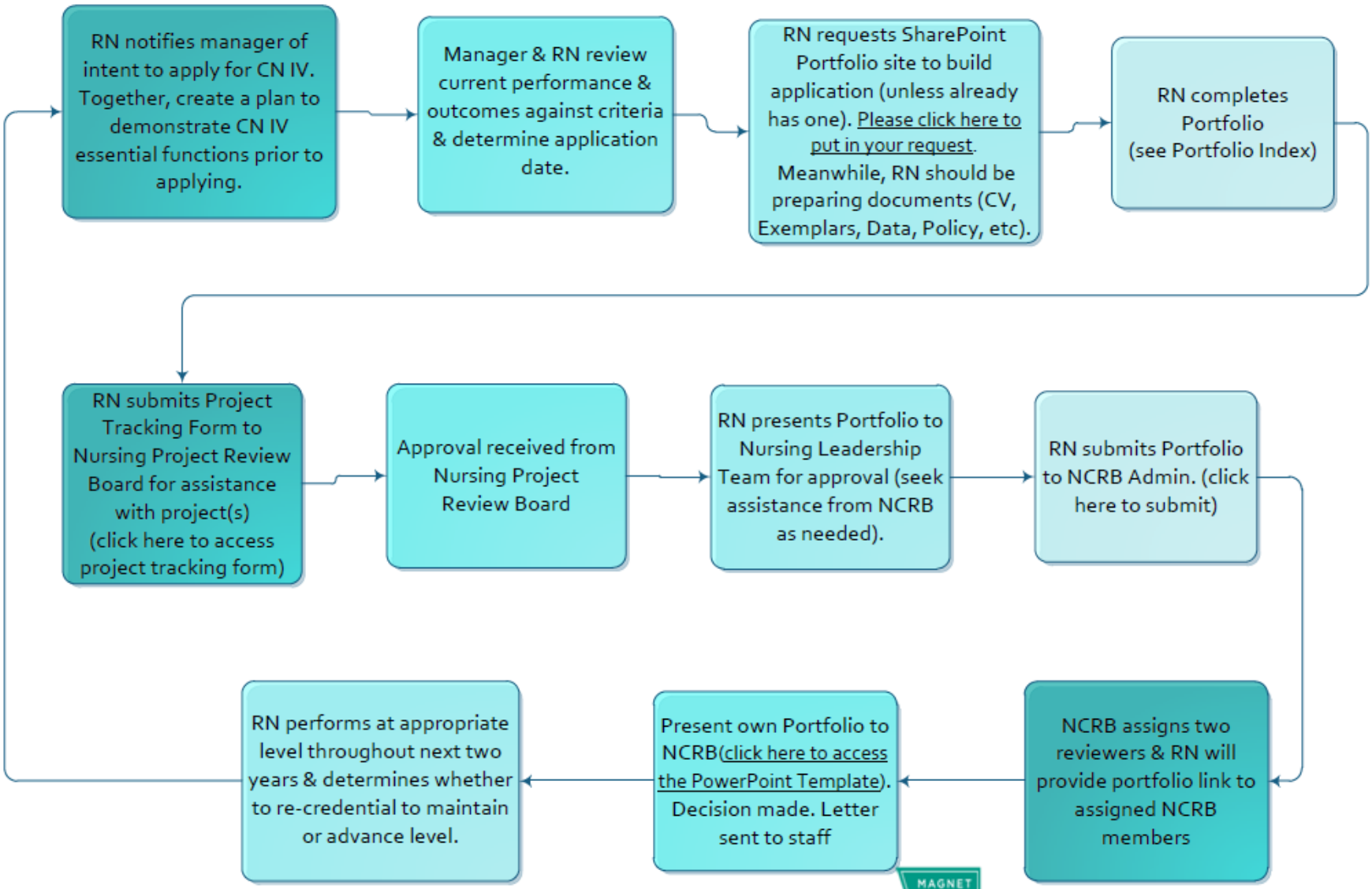
Steps 8, 9 & 10

8 Redesign the process for applications and credentialing within the NCRB

9 Build an education plan for rollout

10 Build the infrastructure for the electronic submission process of credentialing through portfolios

Process for Advancing or Maintaining CN IV Level



Education

Clinical Ladder

(1 hr. session)

- **Objectives:**
  - **Identify the components of the clinical ladder**
  - **Describe the process for clinical ladder application and progression**

Portfolio Workshop

(1 hr. session)

- **Objectives:**
  - **Describe how to access and build a nursing professional portfolio in SharePoint**
  - **Discuss components of the portfolio index**

Portfolio Party

(4 hr. session)

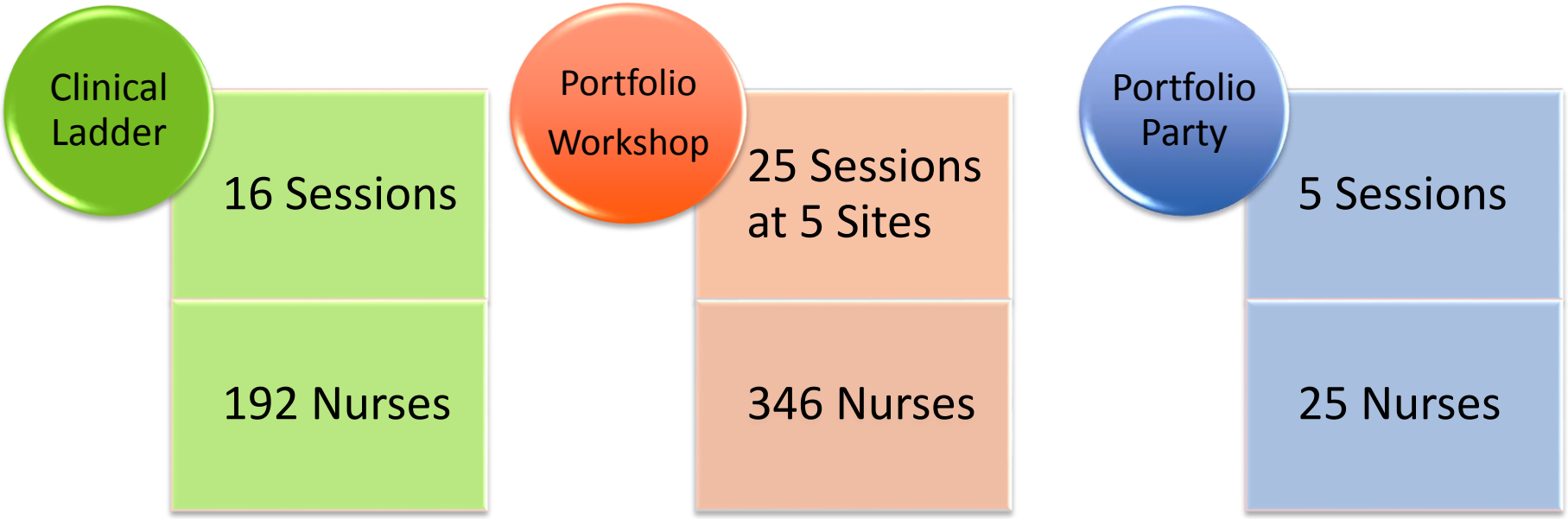
- **Objective:**
  - **Demonstrate and build a nursing professional portfolio in SharePoint**

Steps 11 & 12

11 **Educate leadership and nursing staff on the competency focused clinical ladder**

12 **Build professional portfolios for over 500 nurses**

Education



- ✓ Website Created
- ✓ NCRB Member Support
- ✓ Various One-on-One sessions
- ✓ Sustainability-Future Sessions Quarterly in 2016 & Beyond

Portfolio Goals

Develop a career plan that promotes a life-long commitment to professional nursing

Documentation of growth & development

- What you know & have learned/experienced
- Your plan in moving forward

Tool to guide professional nurses through the clinical ladder at Children's Hospital Colorado

Portfolio Considerations

- ANA Scope and Standards of Practice: Pediatric Nursing
- Quality Safety Education for Nurses (QSEN) Competencies
- Colorado Nurse Practice Act
- Magnet ® Model Components
- Professional Practice Model at CHCO
- Nursing Code of Ethics
- (CCNE) Standard for Accreditation of Post-Baccalaureate Nurse Residency Programs
- Nursing Annual Requirements
- Clinical Ladder Requirements

Portfolio Index

PROFESSIONAL GOALS	• All QSEN Competencies
RESUME/ CURRICULUM VITAE	• All QSEN Competencies
LICENSE/DEGREE/ CERTIFICATIONS	• Leadership
PROFESSIONAL ORGANIZATION	• Leadership

Portfolio Index

SHARED GOVERNANCE	• Teamwork & Collaboration • Leadership
PROFESSIONAL PRACTICE MODEL/MAGNET	• Safety
FAMILY CENTERED CARE	• Safety • Family Centered Care
PROFESSIONAL CONTRIBUTIONS & DEVELOPMENT	• Evidence-Based Practice • Quality Improvement • Informatics

Portfolio Index

COMMITMENT TO LEARNING AS A LIFE-LONG LEARNER	• Leadership • Informatics
SERVICE TO COMMUNITY	• Leadership
AWARDS/HONORS/ SCHOLARSHIPS	• All QSEN Competencies
LETTERS OF RECOMMENDATION	• Leadership

Nicole Shonka

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Nicki Shonka

Helpful Documents

Type	Name	Modified	Modified By
	How to Navigate Your Portfolio Site	4/16/2014 8:40 AM	SUFerguson, Mitch

My Professional Documents

Type	Name	Modified	Document Type

Document Type : _1. PROFESSIONAL GOALS (1)

Document Type : _2. RESUME/CURRICULUM VITAE (2)

Document Type : _3. LICENSE/DEGREE/CERTIFICATIONS (8)

Document Type : _4. PROFESSIONAL ORGANIZATION (4)

Document Type : _5. SHARED GOVERNANCE (8)

Document Type : _6. PROFESSIONAL PRACTICE MODEL/MAGNET (1)

Document Type : _7. CARE AND EDUCATION OF PATIENT/FAMILY (1)

Document Type : _8. PROFESSIONAL CONTRIBUTIONS AND DEVELOPMENT (9)

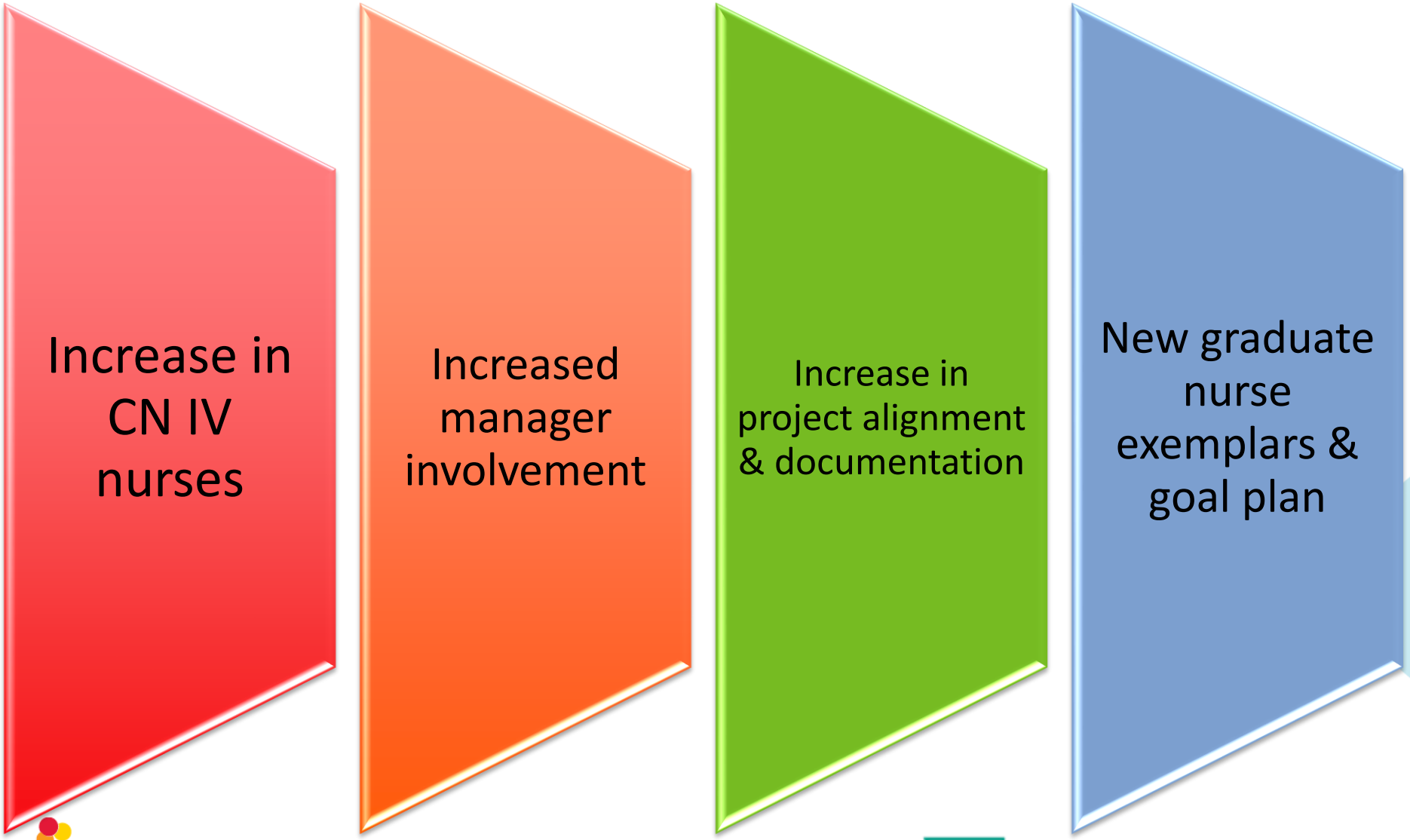
Document Type : _9. COMMITMENT TO LEARNING AS A LIFE-LONG LEARNER (4)

Document Type : 10.SERVICE TO COMMUNITY (1)

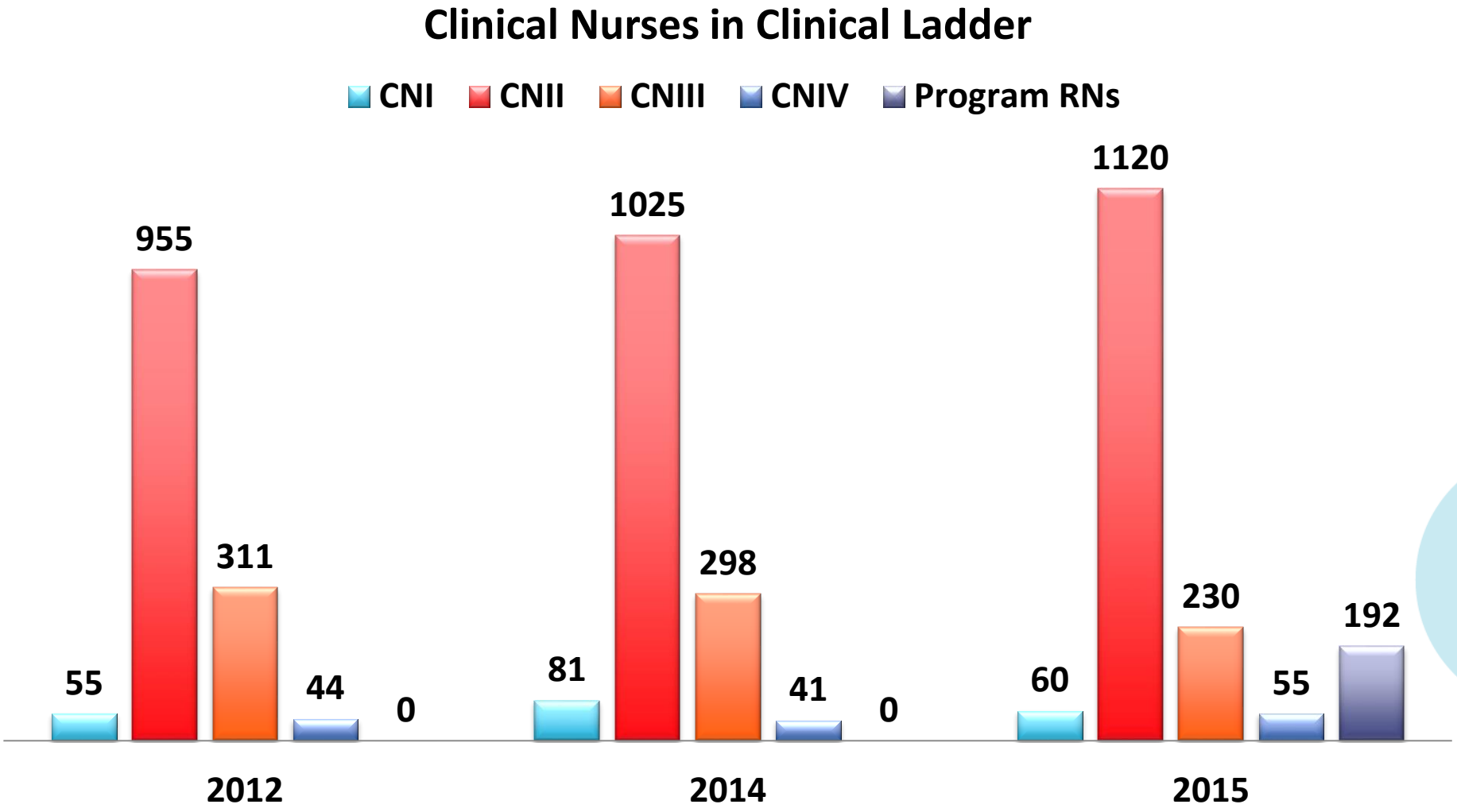
Document Type : 11. AWARDS, HONORS, SCHOLARSHIPS, LETTERS OF APPRECIATION (3)

Document Type : 12. LETTERS OF RECOMMENDATION (3)

Outcomes


Increase in CN IV nurses
Increased manager involvement
Increase in project alignment & documentation
New graduate nurse exemplars & goal plan

Outcomes


Clinical Nurses in Clinical Ladder
CNI
CNII
CNIII
CNIV
Program RNs
55
955
311
44
0
81
1025
298
41
0
60
1120
230
55
192
2012
2014
2015

Strategies to Grow and Sustain a Competency Assessment Model Utilizing the Quality Safety Education (QSEN) for Nurses in the Clinical Setting

So, What is Competency?

"Competency is an expected level of performance that integrates, knowledge, skills, abilities and judgment."

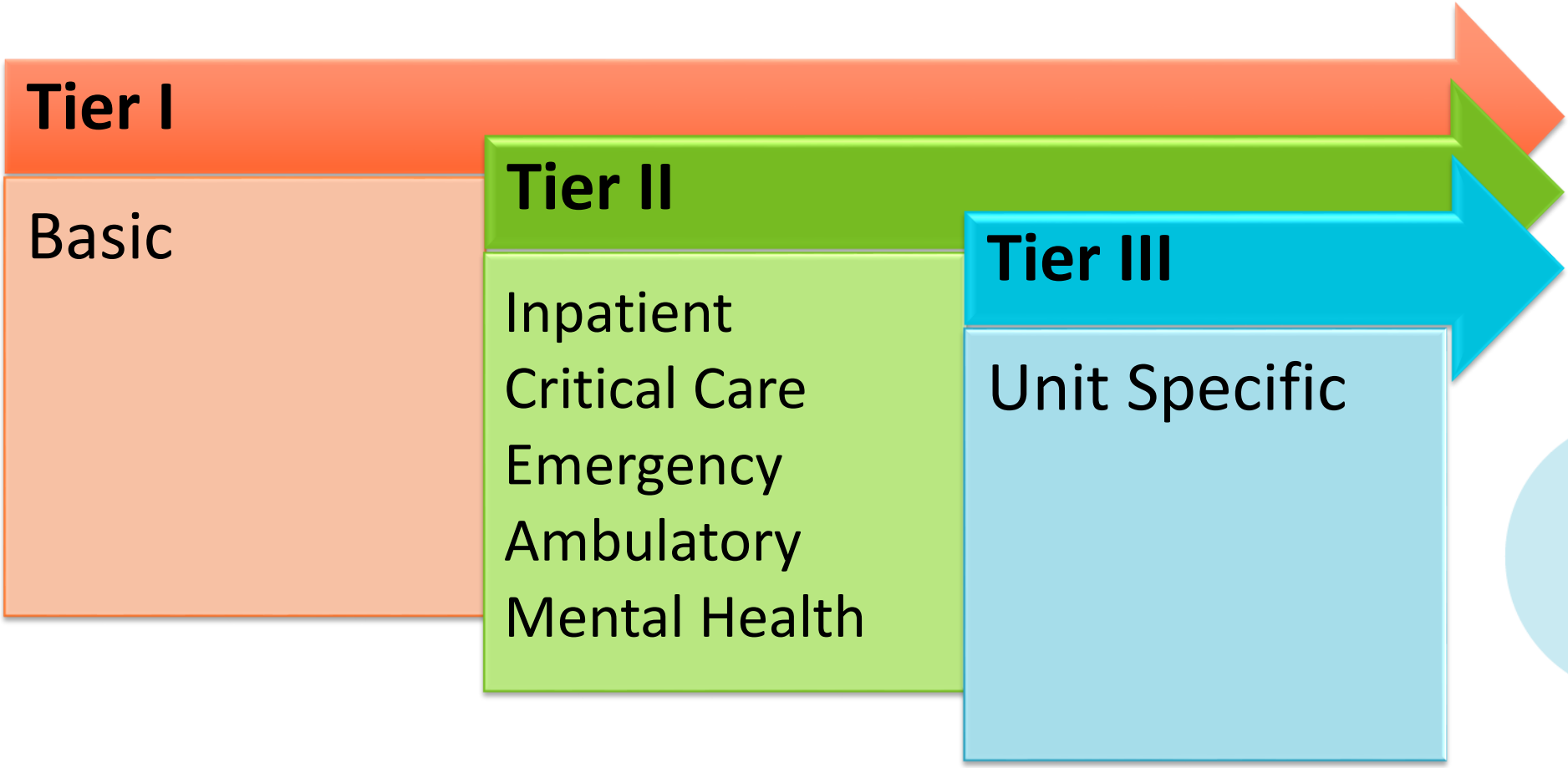
(ANA,2008)

"Habitual and judicious use of communication, knowledge, technical skill, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and the community being served."

(Epstein, 2002)

Process of Integrating QSEN into Competency

3 Tiers of Competencies



Example of previous skills format

SKILLS LIST	Not Applicable	Previous Experience / Read P & P	Discussed with Preceptor	Performed Correctly
• Plugged ETT/trach				
• BPD				
• Diaphragmatic hernia				
• Hypercarbia				
• Tachypnea				
• Atelectasis				
• Pulmonary edema				
• Meconium aspiration				
• Hypoxia				
• Hyperoxia				
• Respiratory acidosis				
• Respiratory alkalosis				
• Pneumothorax				
• Tracheal decannulation				
• PPHN				

Basic Nursing Competency Assessment-Tier I

Children's Hospital Colorado

Employee Name_____ Date of Hire_____

Position_____

Competency is the measurement of knowledge, skills, and attitudes that demonstrate an expected level of performance. Quality safety education for nurses (QSEN) delineates the standard of expected knowledge, skills and attitudes for the professional nurse.

Competency Assessment Criteria	Self-Assessment Learner to Complete		Validation of Competency Preceptor to Complete			
	Needs review/ practice	Competent	Method of Instruction P = Policy/Procedure Review E = Education Class C = Computer Based Learning D= Demonstration V = Verbal discussion	Date	Initials	Evaluation Method O = Observation RD = Return Demonstration T = Written Test V= Verbalize D = documentation
A. Patient/Family Centered Care						
1. Assessment Performs physical, psychosocial, spiritual, cultural, pain and learning assessment						
2. Identifies immediate patient needs based upon assessment data, developmental level, diagnosis specific priorities in collaboration with family						
3. Identifies patient/family communication needs and accommodates for different modes of communication						
4. Evaluates outcomes of care ar plan of care as appropriate						
5. Effectively and efficiently mana patient care assignment						
6. Collaborates with patient/fam education plan						
B. Teamwork Collaboration						
1. Participates in care coordination and						

1

2. Identifies immediate patient needs based upon assessment data, developmental level, diagnosis specific priorities in collaboration with family

Tier I

1. Performs **eyes, ears, nose and throat** assessment and implements interventions to promote positive outcomes					
2. Performs **cardiovascular** assessment and implements interventions to promote positive outcomes					
• Demonstrates phlebotomy skills					
Peripheral Line Care • Provides peripheral line care including insertion and maintenance • Calculates and administers IV fluids					
Central line care • Provides central line care including access, maintenance and removal					
Performs care of IV extravasations • Calculates % and drug fluid risk ca for extravasation					
Arterial line care • Provides care of patient with arte including: calibration, monitoring, troubleshooting, drawing specime removal					
Central venous pressure line care • Provides care of patient with central venous lines including: calibration, monitoring, troubleshooting, drawing specimens and removal					
• Performs care principles of the patient with a cardiac monitor					

Peripheral Line Care
- Provides peripheral line care including insertion and maintenance
- Calculates and administers IV fluids

Tier II

Ownership of the Learner

Competency Assessment Criteria	Self-Assessment Learner to Complete		Validation of Competency Preceptor to Complete			
	Needs review/ practice	Competent	Method of Instruction P = Policy/Procedure Review E = Education Class C = Computer Based Learning D= Demonstration V = Verbal discussion	Date	Initials	Evaluation Method O = Observation RD = Return Demonstration T = Written Test V= Verbalize D = documentation
8. Document correct charting, correct patient						

In signing this competency assessment, I agree I have been oriented as documented above. I recognize my own limitations, will seek resources when I am unsure of a planned action and agree to perform according to CHCO policy/procedures, Nurse Practice Act and Professional Standards of Practice.

Signature of Employee _____ **Employee Number** _____ **Date** _____

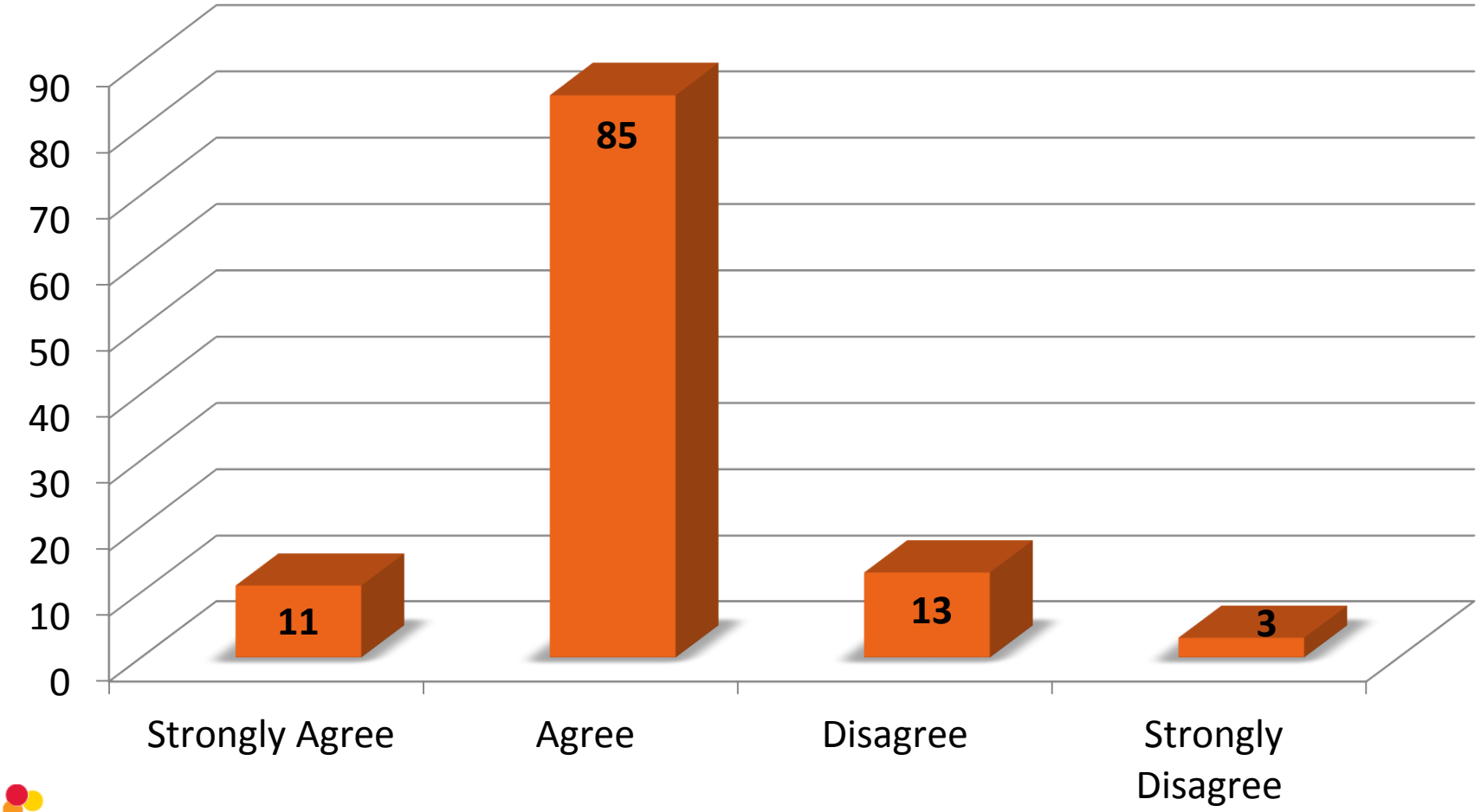
Preceptor signature	Preceptor Employee number	Preceptor Unit	Date

Signature of Edu

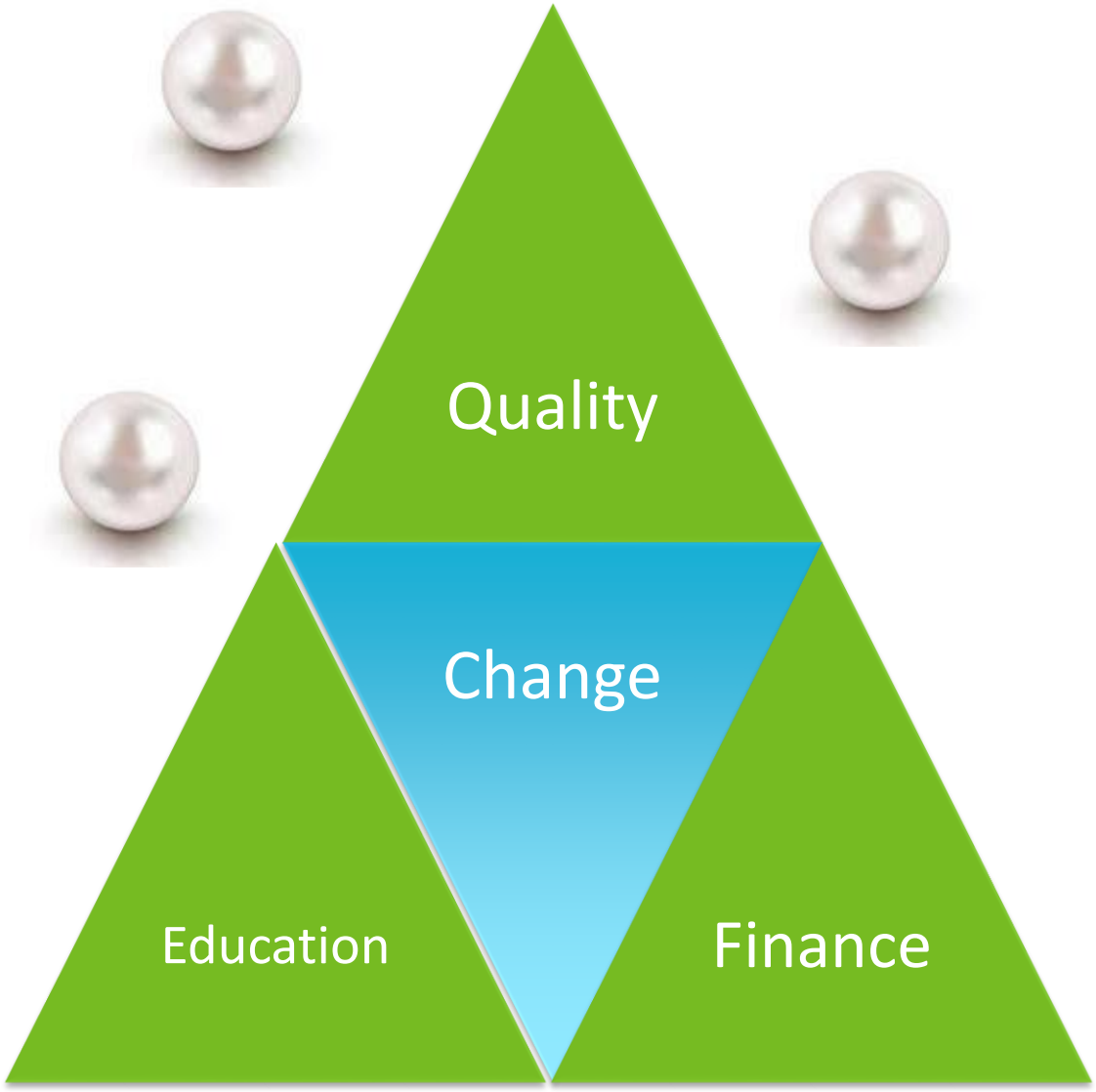
In signing this competency assessment, I agree I have been oriented as documented above. I recognize my own limitations, will seek resources when I am unsure of a planned action and agree to perform according to CHCO policy/procedures, Nurse Practice Act and Professional Standards of Practice.

Evaluation

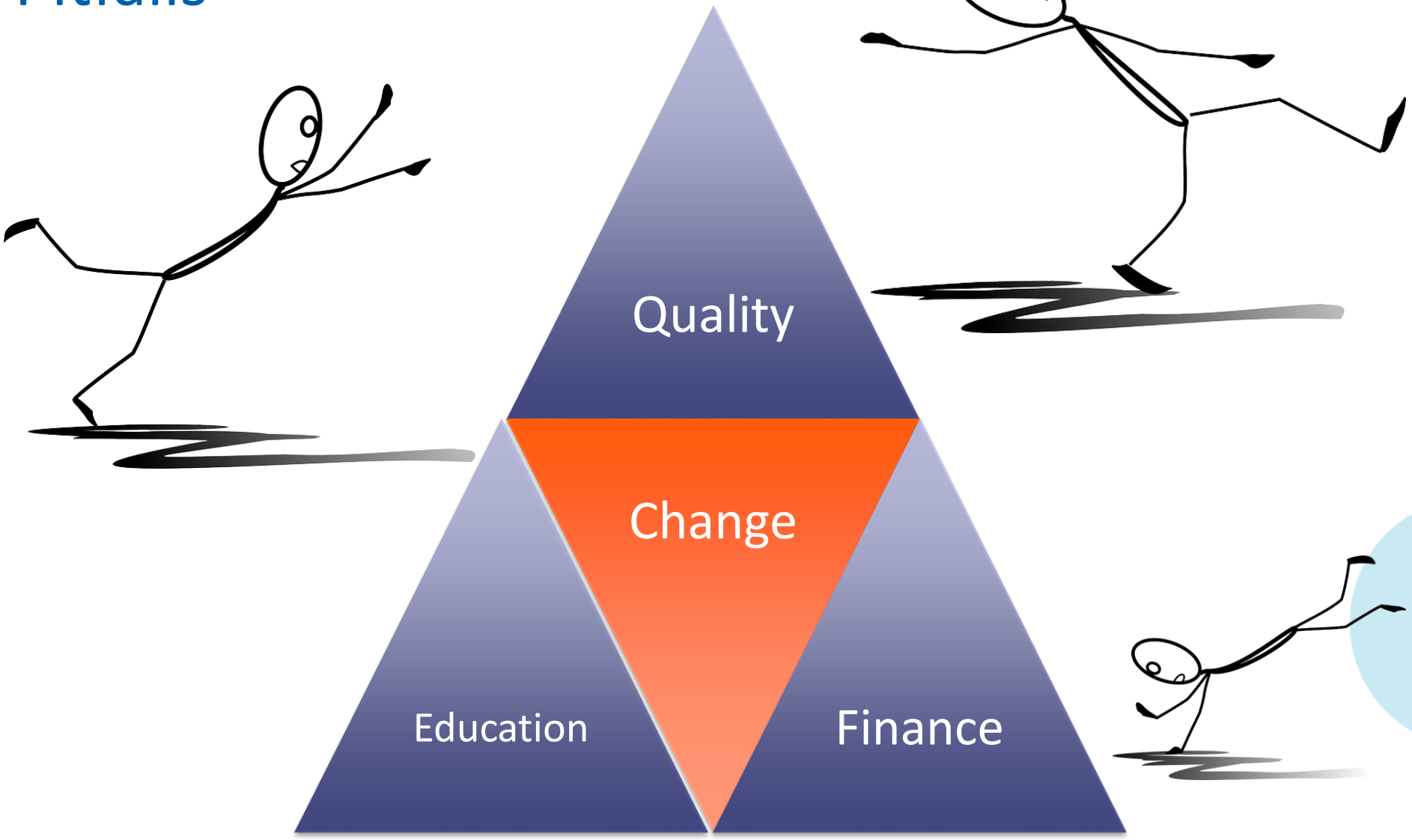
Overall, the competency assessment forms measure nursing competency for newly hired nurses.



Pearls



Pitfalls



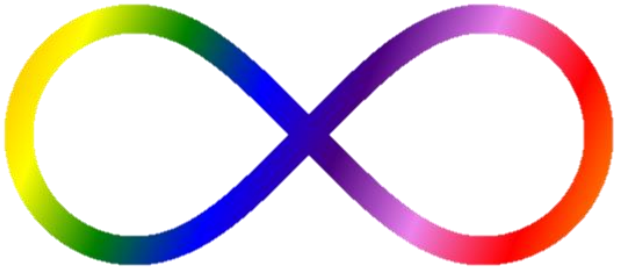
Outcomes

- ✓ Standardized format
- ✓ Enhanced comprehensive assessment tool
- ✓ Tier I-III provide a clear method to orient staff to a variety of roles

Interprofessional Expansion

Respiratory Therapy	Pharmacy	Medical Assistant
Clinical Assistant (CNA)	Research Assistant	Mental Health Counselor
Inpatient Service Specialist	Surgical Technologist	Care Coordinator Role

Review/Revision Process



3 Year Cycle

- Professional Development Specialists
- Collaborate with Clinical Nurse Educators
- Stakeholder feedback

Review Criteria

- Current evidence in literature
- Nursing practice
- Regulatory standards and hospital policies

Sustainability

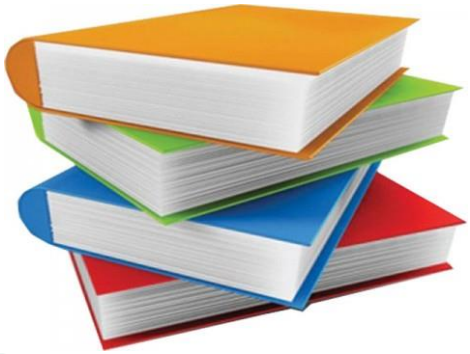
How to Excel at Evaluating a New Graduate Nurse Residency Evidence Based Practice Program

Purpose of New Graduate Nurse Residency

The New Graduate Nurse Residency Program is designed to facilitate integration of new graduate nurses in their first professional role and bridge their transition into practice to improve patient safety.

Program Overview

- Recruitment and hiring
- Year long program
- 10 + weeks of 1:1 preceptor
- Provides 34 classes (80 hours) over 12 months
- EBP project required
- Portfolio with exemplars
- Feedback and evaluation
- Mentoring



Demographics

Turnover and Retention Data for 2009-2014							
Department	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Inpatient	57	31	47	20	44	43	33
NICU	15	7	6	6	11	14	9
Critical Care(PICU/CICU)	3	0	3	2	8	2	3
Float	18	10	4	0	4	1	5
Peri Op	1	1	2	1	6	2	0
Mental Health	1	1	1	0	0	0	0
Network of Care	0	0	0	2	0	4	0
Ambulatory	0	0	0	0	2	2	0
Memorial					3	9	15
Emergency Dept.	2	3	2	1	2	0	3
Number of Residents	N=97	N=55	N=65	N=32	N=80	N=77	N=68
Turnover	*19	7	6	1	4	6	
2 year Turnover %	19.50%	12.70%	9%	3%	5%	**7.7%	
Retention Rate	**80.5**	**87.5**	**91**	**97**	**95**	**92.3**	

*2009 reflects a 5 year rate

** 1 year turnover

Curriculum

Leadership

QSEN

- Safety
- Teamwork & Collaboration
- Patient Centered Care

- Management of Patient care
- Resource Management
- Communication
- Conflict Management

Patient Outcomes

QSEN

- Patient Centered care
- Safety
- Teamwork & Collaboration
- Quality Improvement
- Informatics
- EBP

- Escalation of Care
- Patient & Family Education
- Pain Management
- Skin Care
- Fall Prevention
- Medication Safety
- Infection Control

Professional Role

QSEN

- Patient Centered Care
- Informatics
- EBP
- Quality Improvement

- Ethical Decisions
- End-of Life Care
- Cultural Responsive Care
- Stress Management
- EBP
- Professional Development

Program Evaluation Plan

- Casey Fink Graduate Nurse Experience Survey©
- Class Evaluation
- End-of-year Program Satisfaction Survey
- 2 year Retention Rate
- Mentoring

Gap identified
EBP Program Evaluation

Literature Review

EPB Evaluation Tools

Evaluation of New Graduate Nurses Knowledge of EBP

What did our findings lead to?

Design of the tool

- QSEN Framework
- EBP steps
- Likert Scale 1-4
- 30 question with a comment section
- Developed in secure data collection system

Project Approval

Organizational Review

Nursing Project Review

Pilot

Children's Hospital Colorado

www.childrenscolorado.org

Organizational Research Risk & Quality Improvement Review Panel (ORRQIRP)

August 28, 2014

Notice of Approval

Investigator:	Donnya Mogensen, MS, RN-BC
Approval Date:	August 27, 2014
Title:	Evaluation of New Graduate Nurse Residents Knowledge, Skills and Attitudes of EBP
QI #:	1408-2

The above-titled project was reviewed on August 27, 2014 and determined to be "not human-subject" research and qualifies for approval by this panel as Program Evaluation. Your project is approved for a one-year period, ending August 26, 2015. If the scope of your project should change to include human subjects, you will need to resubmit to this committee for re-determination of approval status.

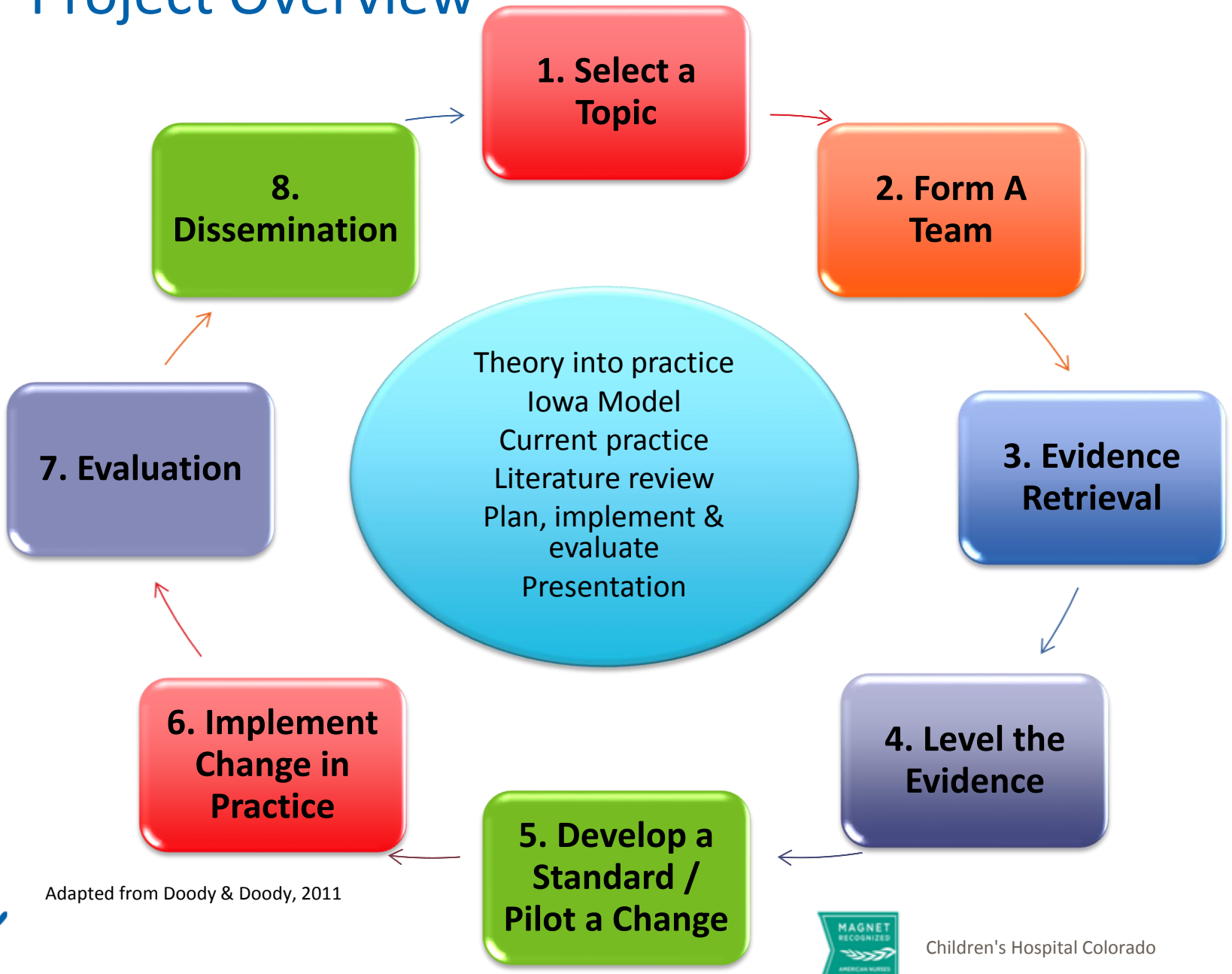
Your project will need to be renewed prior to the expiration date. You will be sent a reminder letter for continuing review. Should you present your work or submit for publication, you should not reference it as research.

If you have any questions or concerns, please contact me at (720) 777-4781.

Sincerely,

David Staley, MA
ORRQIRP Chair

EBP Project Overview



Adapted from Doody & Doody, 2011

Prevalence of Central Line Infections After the Implementation of Alcohol Impregnated Port Protectors

Allison Duchman, RN BSN & Megan Knudson, RN BSN-
Mentor: Mary Bolling, RN BSN CCRN, Clinical Nurse Educator

Background

2010 Joint Commission National Patient Safety Goal: Prevention of Bloodstream Infections
Current Cost of CLABSI at CHCO: $39,000
Average Cost of CLABSI: $3,700- $36,441[6]
Additional antibiotics, blood cultures, and increased hospital stay
Additional Hospital Days: 16.9[8]
Mortality Rate: 12-25%[8]
Preventable CLABSI: 65-70%[6]

CLABSI Risk Factors

- Femoral or Internal Jugular Access Sites[6]
- Duration of Use[8]
- Emergent Placement (ED or ICU)[6]
- Prolonged Hospitalization Prior to Central Line Placement[6]
- Frequency of Lumen Access[7]
- Number of Catheter Lumens[6]
- Skill of Inserter[8]
- Skin Antisepsis[8]
- Parental Nutrient[6]

PICOT Question

In pediatric patients with vascular access, how does the use of alcohol impregnated caps compared to the absence of alcohol impregnated caps, affect the central line-associated bloodstream infection rate during inpatient hospitalization?

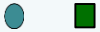
Measurement Plan

Prevalence: Number of CLABSIs per 1,000 central line days
Mortality Rate
Additional Hospital Days
Cost: Comparative cost of CLABSIs pre-intervention of alcohol caps to post-intervention of alcohol caps

Search Strategy

- **Search Engines:** CINAHL & Pubmed
- **Key Words/Phrases:**
  - Central Line Infection
  - Alcohol Impregnated Caps/Port Protectors
  - CLABSI Bundles
  - Risks for Central Line Infections
  - Needless access in Central Lines
  - Central Line Passive Disinfection

Evaluation/Summary Table

Article	Conclusion	Interventions implemented	Outcome
1. Impact of universal disinfectant cap implementation on central line–associated bloodstream infections[2]	The use of alcohol- impregnated caps along with current bundles are associated with a decrease CLABSI rates, decrease of 68 patient hospital days, prevention of one death, and hospital savings of 282,840/yr.		
2. Impact of alcohol-impregnated port protectors and needleless neutral pressure connectors on central line-associated bloodstream infections and contamination of blood cultures in an inpatient oncology unit[4]	Significant reduction in CLABSIs and CBCs rates. Rates decreased from 2.3/1,000 central line-days prior to intervention to 0.3/1,000 central line-days post-intervention.		
3. Continuous passive disinfection of catheter hubs prevents contamination and bloodstream infection[7]	Alcohol-impregnated caps reduce line contamination, organism density, and a CLABSI reduction rate of 20%.		
4. Beyond the intensive care unit bundle: Implementation of a successful hospital-wide initiative to reduce central line-associated bloodstream infections[1]	CLABSI events decreased from 2.3/1,000 central line-days to 0.9/1,000 central line days.		
5. Reducing PICU Central Line-Associated Bloodstream Infections: 3-Year Results[3]	Decrease in CLABSI rates due to maintenance bundle. No significant reduction in PICU CLABSI rates with the addition of chlorhexidine entry scrub or chlorhexidine-impregnated sponges		
6. Up for the Challenge: Eliminating Peripherally Inserted Central Catheter Infections in a Complex Patient Population[5]	Decrease in CLABSI prevalence from 1.67/1,000 central line days and 1.2/1,000 following year to 1.09/1,000 central line days post implementation.		

Key:

 **Alcohol impregnated port protectors**

 Bundle focused on multiple CLABSI interventions

 Positive - Interventions improved outcome, Decreased CLABSI rates

 **Equal - Interventions did not benefit or hurt outcome, No effect on CLABSI rates**

Conclusion

The use of alcohol-impregnated caps on IV needleless connectors in addition to current central line bundles is associated with a decrease in central line-associated bloodstream infections and hospitalization costs.

Dissemination Plan

1. CHCO Oncology/BMT floor in process of trialing alcohol impregnated caps
2. In-depth cost-benefit analysis
3. Product evaluation team to assess appropriate current market product for CHCO
4. Hospital-wide education on alcohol-impregnated caps and continued use of our current CLABSI bundle
5. Addition of alcohol impregnated caps to current CHCO CLABSI bundle
6. Evaluation and analysis of all data

References

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2. Merrill, K., Sumner, S., Linford, L., Taylor, C., & Macintosh, C. (n.d.). Impact of universal disinfectant cap implementation on central line–associated bloodstream infections. *American Journal of Infection Control*, 1274-1277.

3. Miller MR, Niedner MF, Huskins WC, et al. (2011) National Association of Children's Hospitals and Related Institutions Pediatric Intensive Care Unit Central Line-Associated Bloodstream InfectionQuality Transformation Teams. Reducing PICU central line-associated bloodstream infections: 3-year results. Pediatrics. 2011;128(5).

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5. Tavianini, H., et al. (2014). Up for the Challenge: Eliminating Peripherally Inserted Central Catheter Infections in a Complex Patient Population. *The Journal of the Association for Vascular Access*, 19 (3) , 159 – 164

6. The Joint Commission. Preventing Central Line–Associated Bloodstream Infections: A Global Challenge, a Global Perspective. Oak Brook, IL: *Joint Commission Resources*, May 2012. http://www.PreventingCLABSIs.pdf

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8. Kallen, A., Patel, P. Central Line-Associated Bloodstream Infections in Non-Intensive Care Unit Settings Toolkit. Centers for Disease Control and Prevention. 2009. http://www.cdc.gov/HAI/pdfs/toolkits/CLABSItoolkit_white020910_final.pdf.

Pilot of the tool

EBP Mogensen Tool										
	*Cohort March 2014-2015				Cohort August 2014-2015				Cohort March 2015-2016		
Questions	Baseline Tool in development	6-month N=35	1-year N=33		Baseline N=30	6-month N=33	1-year		Baseline N=19	6-month	1-year
1. I can articulate the definition of evidence based practice		3.42	3.39		3.43	3.39			3.22		
15. I can articulate the definition of research		3.16	3.15		3.21	3.27			3.11		
16. I can synthesize multiple research studies to											
project											
30. A component of EBP is dissemination		3.20	2.82		2.97	3.13			3.00		

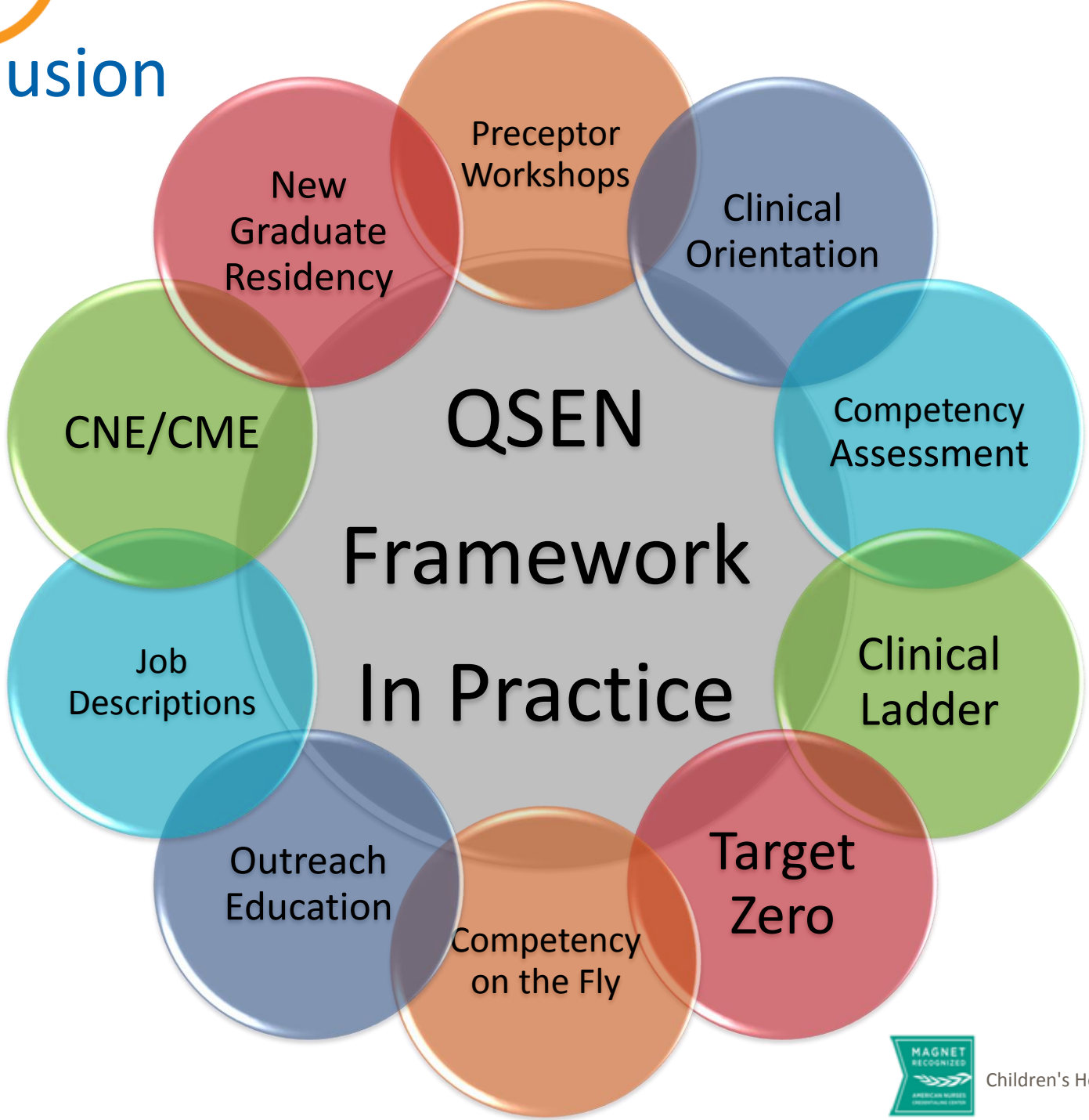
16. I can synthesize multiple research studies to determine the clinical applicability

29. Utilizing a mentor enhanced my ability to do an EBP project

Future Plans for Tool

- Validation of Tool
- Reliability
- Data Analysis
- Program Modification

Conclusion


QSEN
Framework
In Practice
Preceptor Workshops
Clinical Orientation
Competency Assessment
Clinical Ladder
Target Zero
Competency on the Fly
Outreach Education
Job Descriptions
CNE/CME
New Graduate Residency

Interprofessional Scope

- Audiology
- Case Management
- Child Life
- Social Work
- Nutrition
- Nursing
- Medical Interpreters
- Mental Health
- Pharmacy
- Radiology
- Respiratory
- Research
- Speech & Learning
- Spiritual Care
- Physical Therapy
- Occupational Therapy Technicians
- Trainers
- Medical Assistants
- Emergency Medical Technicians
- Unlicensed Assistive Personnel

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Acknowledgement

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QUESTIONS?