Indicators to measure implementation and sustainability of nursing best practice guidelines: A mixed-methods analysis

Janet E. Squires, RN, MN, PhD, FAAN, FCAN*[1], Laura D. Aloisio, RN, MScN*[1], Shanoja Naik, BSc, BEd, MSc, MPhil, PhD[2], Stephanie Voong, BSc, MHI[2], Heather McConnell, RN, MA(Ed)[2], Anne Sales, RN, MSN, PhD[3], Christina Medeiros, RN, BScN, PHD(c)[2], Oliwia Klej[2], Susan McNeil, RN, BScN, MPH[2], and Doris Grinspun, RN, MSN, PhD, LLD(hon), Dr(hc), FAAN, FCAN, O.ONT.[2]

*Presenting Author; 1. Clinical Epidemiology Program, Ottawa Hospital Research Institute, Ottawa, ON, Canada; 2. Registered Nurses Association of Ontario, Toronto, ON, Canada; 3. University of Michigan, Ann Arbor, Michigan, United States

INTRODUCTION

The Registered Nurses' Association of Ontario (RNAO) launched the Best Practice Spotlight Organization (BPSO) program 18 years ago to support healthcare and academic organizations implement, sustain, and evaluate the use of RNAO best practice guidelines (BPGs). The program counts with 1,300 BPSOs worldwide and its impact on clinical and health outcomes is robust.
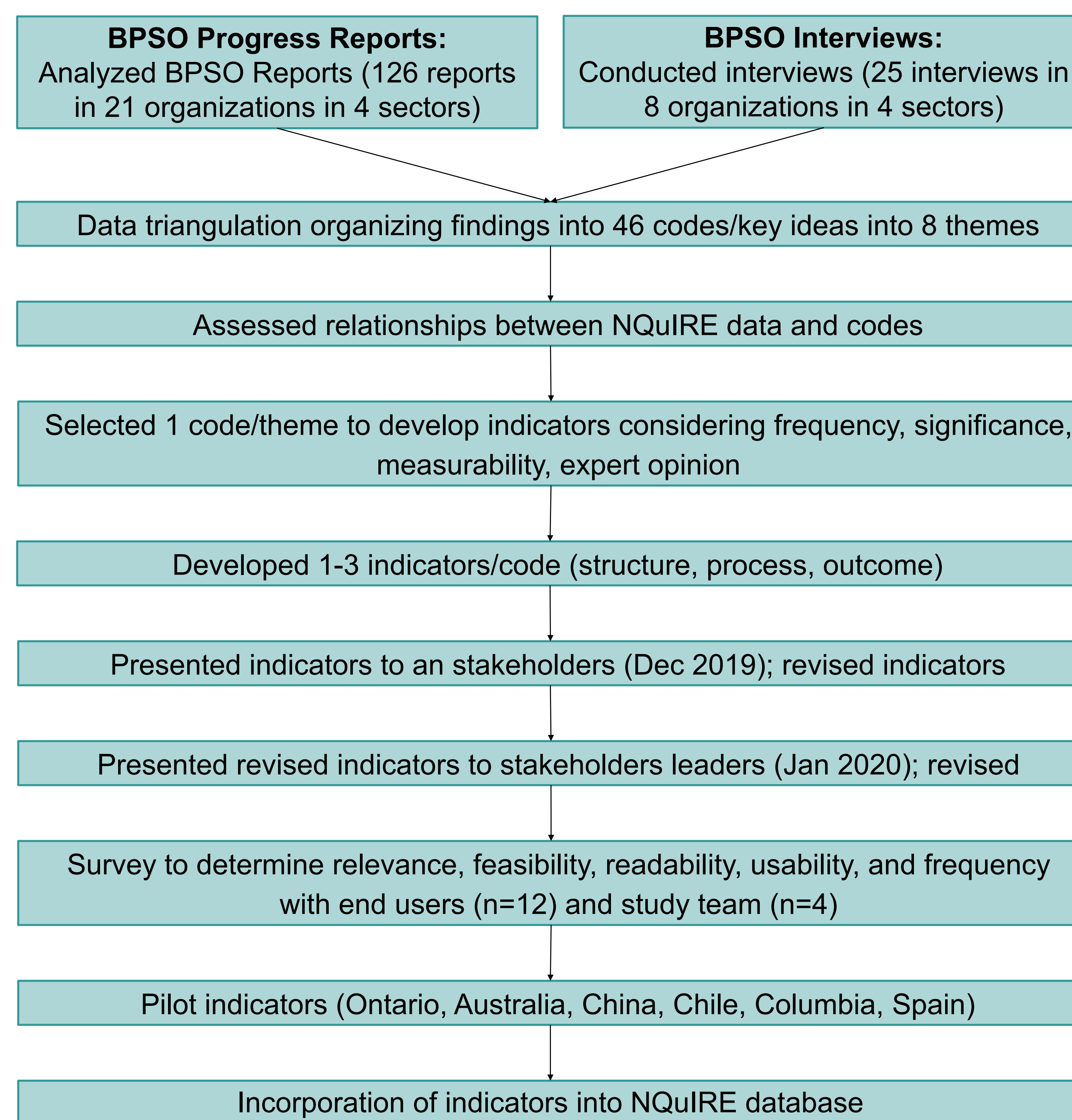
In the Collaboratory, we are developing infrastructure for a Centre of Implementation Science, which will contribute key indicators and strategies related to uptake and sustained guideline implementation.

The first research project within the Collaboratory focuses on identifying, refining, validating and operationalizing indicators and sub-indicators of best practice guideline implementation and sustainability.

PURPOSE

To identify, refine, validate, & operationalize indicators of best practice guideline implementation and sustainability.

METHODS

BPSO Progress Reports: Analyzed BPSO Reports (126 reports in 21 organizations in 4 sectors)

BPSO Interviews: Conducted interviews (25 interviews in 8 organizations in 4 sectors)

Data triangulation organizing findings into 46 codes/key ideas into 8 themes

Assessed relationships between NQuIRE data and codes

Selected 1 code/theme to develop indicators considering frequency, significance, measurability, expert opinion

Developed 1-3 indicators/code (structure, process, outcome)

Presented indicators to an stakeholders (Dec 2019); revised indicators

Presented revised indicators to stakeholders leaders (Jan 2020); revised

Survey to determine relevance, feasibility, readability, usability, and frequency with end users (n=12) and study team (n=4)

Pilot indicators (Ontario, Australia, China, Chile, Columbia, Spain)

Incorporation of indicators into NQuIRE database

Themes and Definitions

Theme	Definition
Building Capacity	Process by which individuals and/or organizations obtain or improve skills, knowledge, resources, etc. to meet performance expectations required to implement and sustain BPGs
Communication	Transfer of information related to BPG implementation and sustainability
Evaluation/ Monitoring	Processes by which the progress of implementation and sustainability of BPGs are observed, tracked and/or measured over time
Evidence-Based Culture	Collective identity which is grounded in the principles of use of best available research evidence to guide clinical decision making.
Governance	Mechanisms by which the governing body of an organization provide a framework of rules and/or monitors practice of its stakeholders, including BPG implementation and sustainability
Leadership	Individuals or groups of individuals within an organization who provide direction, oversight of BPG implementation and sustainability or inspires, encourages, and motivates others to engage in BPG implementation and sustainability
Practice Interventions	Any modifications to structures or process that impact the practice of front-line staff related to the implementation or sustainability of BPGs.
Stakeholder Engagement	Processes by which individuals are involved in and influenced to buy-in to implementation or sustainability of BPGs

Indicator Development

One code was selected for indicator development for each of the 8 themes.
Selection was based on:
- Measurable: Is this code measurable?
- Quantitative analysis: Is this code significantly correlated with NQuIRE data ($p < .05$)?
- Qualitative analysis: Is this code more frequent in interviews and reports?
- Consensus: Based on expert opinion that this code was important to measure

Code	P < .05 Falls	P < .05 PFCC	Interview (N=8)	Report (N=21)	Notable Feature
Building Capacity of Staff & Education of Councils	✓	✓	6	21	Only code in theme with significance in either BPG
					Significance in both guidelines & highest frequency in reports
External Dissemination	-	-	5	19	Deemed critically important by expert panel
Monitoring Progress	✓	-	7	20	Significance in either BPG & high frequency in reports
Interprofess. Collaboration	-	-	8	15	Highest frequency in qualitative analysis of those determined to be measurable in this theme
Policy Changes	✓	-	1	19	Only code in theme with significance in BPG
Champions	-	-	7	17	High frequency in qualitative analysis
Practice Changes	✓	✓	7	19	Significant in both BPGs & High frequency in reports
Staff Engagement	-	-	6	-	High frequency in qualitative analysis

Themes, Codes, and Definitions

Theme: Code	Definition of Code
Capacity Building: Monitoring Progress/ Tracking Outcomes	Reviewing data collected to evaluate the progress of implementation
Communication: Practice Changes	Changes made to practice and day-to-day operations in a given organization related to the implementation of BPSO/BPG
Evaluation/Monitoring: Champions	Identifying & using BPG champions (promote use of BPGs in practice)
Evidence-Based Culture: Interprofessional Collaboration	Involving multiple professional groups and promoting collaboration as an approach to BPG implementation
Governance: Staff Engagement	Fostering buy-in to the BPSO and BPG programs. The level to which staff (ex. employee, volunteer, physician, etc.) are engaged or means by which staff are being engaged to participate
Leadership: Policy Changes	Changes made to policies related to BPG implementation
Practice Interventions: External Dissemination	Any dissemination (presentation, newsletter, website, etc.) to audiences outside of the organization
Stakeholder Engagement: Building Capacity of Staff & Education of Councils	More than education alone includes attending workshops or other activities that strengthen skills and abilities of staff to better implement/sustain BPG & training, education modules, etc. to educate staff of BPGs/implementation methods related to implementation

RESULTS: INDICATOR LIST

Theme: Code	Indicator	Indicator Answer Options
Building Capacity: Building Capacity & Education of Councils	Number of staff that attended internally scheduled BPSO-related educational sessions (i.e. capacity building sessions)	Prompted to enter numerical value
Communication: External Dissemination	Which of the following dissemination activities did you conduct/present in the last measurement period related to your BPSO work that were offered to audiences outside of the organization?	• Open houses • Webinars • Conference presentation/posters • Newsletters • Publications (peer reviewed vs. non peer reviewed) • Other (free text) After selection, users will be prompted to enter the approximate number of dissemination activities related to the category selected.
Evaluation and Monitoring: Monitoring progress & Tracking outcomes	Were details from myBPSO reports (e.g. outcomes, successes and/or lessons) shared and/or discussed with frontline staff?	• Yes • No
Evidence Based Culture: Interprofessional Collaboration	Do you have scheduled interprofessional meetings that occur on a regular basis with the deliberate purpose of discussing BPSO work?	• Yes • No
Governance: Policy Changes	Is there a formal structure that enables ongoing reporting for BPSO work? If yes, where does your BPSO work get reported to? (Check all that apply)	• Decision makers/Senior management • Patient/Resident and Family Advisory Council • Professional practice • Quality and safety committee • Regional Council of Long Term Care • Steering Committee • The Board of Directors • Other (free text)
Leadership: Champions	How are BPG champions involved in champion activities? Check all that apply:	• Facilitating educational sessions • Roll out of policies • Peer support • Facilitating the change process • Evaluating and monitoring outcomes • Other (free text)
Practice Interventions: Practice Changes	In addition to policy changes, were there any other practice changes in your organization related to RNAO BPG implementation?	• Yes • No If yes, provide an example (free text) If no, provide additional context (free text)
Stakeholder Engagement: Staff Engagement	In which ways does your staff engage in the BPSO program?	• Staff meetings • Being part of the BPG implementation team • Using BPG Order Sets • Education and training on practice changes • Evaluation and monitoring • Other (free text)

CONCLUSION

Indicators tested positively with end users and BPSO leaders suggesting they can be integrated into the NQuIRE and other researchers' databases for easy data collection of factors impacting implementation and sustainability.

Future work will examine the data collected by indicators to correlate them to patient outcomes, further validate these indicators in other settings, and ultimately advance the field of implementation science.