Internal and External Data Needs

Sarah Fulton

University of Mary

Internal and External Data Needs

 In the ever changing and growing field of healthcare it’s imperative that research is continuous, implemented and evaluated. Implementation in healthcare does not occur lightly, and often includes years of planning, doing, studying, and acting. This Plan-Do-Study-Act (PDSA) cycle is widely used and considered a scientific method to be used in action-oriented learning and is really the core of local quality improvement and generation of internal evidence planned effort to test change and discover desired outcomes (Melnyk & Fineout-Overholt, 2019).

The initiation of the PDSA cycle often starts with assessing the need for change and by developing a PICOT (population-intervention-comparison-outcome-time frame) question and prompts an Evidence-Based Project (Melnyk & Fineout-Overholt, 2019). To move forward with this opportunity for improvement internal data is gathered, external data is collected, and a PICOT question is developed. Evidenced-based practice (EBP) has been recognized as a lifelong problem-solving approach that brings together the most relevant and best research that includes both internal and external evidence to promote the current best evidence to make decisions regarding patient care (Melnyk & Fineout-Overholt, 2019).

The objective of this assignment is to explore the difference with internal and external sources regarding EBP. Examples of both data sources along with sources utilized within healthcare organizations will be examined. This will include providing an independent PICO question, and including the internal and external data related to the specific question.

**PICO Question**

Initiating any EBP or PDSA cycle must first be initiated with a question or inquiry this is the first step of EBP and starts with a question in PICOT format. Applying this format creates an effective search that most likely will present the best, relevant information, in an efficient amount of time (Melnyk & Fineout-Overholt, 2019).

This assignment yielded an independent PICO question to spur my exploration of both internal and external data sources. I currently work as a nursing manager of three ambulatory clinics that yield approximately 40,000 visits a year. It is a very busy practice and is consistently growing. As we recruit more providers we in turn need to recruit more nurses, Licensed Practical Nurses (LPN) specifically. In my area we have a rapidly declining LPN population as the nursing schools in the area no longer promote this program. As a result, LPNS are rapidly obtaining their Registered Nurse (RN) licenses, and generationally are retiring. The clinics currently house a staffing model of 1:1 ratio, one nurse per one provider. Many facilities are promoting team nursing with one LPN per one to three providers. The LPNs have pushed back on the team approach for years as they are satisfied and comfortable with the 1:1 model. Promoting the team model could very well affect moral and present a retention issue, on top of our already current recruitment issues. Based on this information I am very interested in seeing if a team-based model would produce increased nursing satisfaction, as a means of alleviating both the recruitment and retention obstacles.

**PICO Formulated Question**

In the ambulatory care  setting, does the use of a team-based model versus a 1:1 nurse provider ratio lead to increased nursing satisfaction?

**Data Types**

As initially noted collecting both internal data and gathering external data is necessary to move forward with creating EBP. Unlike research utilization, which is based on single study, EBP pulls together evidence from multiple studies and blends it with the expertise of health care professionals as well as patients (Melnyk & Fineout-Overholt, 2019). Melnyk & Fineout-Overholt (2019) describe external evidence as research generated through rigorous exploration and inquiry with intent to be comprehensive and used in settings. In comparison, internal evidence is created through practice initiatives including, outcome management and quality improvement projects that drive clinical care improvement (Melnyk & Fineout-Overholt, 2019). Moving forward an in-depth review of both sources of evidence will be reviewed.

**Internal Data**

 As Melnyk & Fineout-Overholt (2019) describes internal evidence is produced from outcome management, quality improvement projects, EBP implementation projects and practice data found in healthcare records. The data pulled utilizing patient assessment and evaluation employed to achieve satisfactory patient outcomes and is intended to be used to enhance clinical practice and patient outcomes in the location that it was led.

 The National Quality Form (NQF) is healthcare quality measurement and reporting structure developed to look to view quality indicators pulled from internal evidence to create quality improvement, it (Melnyk & Fineout-Overholt, 2019). The goal of the NQF is to create change in health care quality, patient outcomes, workforce productivity and healthcare costs by endorsing nursing-sensitive measures (Melnyk & Fineout-Overholt, 2019). These measurements are studied by nursing contributions such as: pressure ulcers, falls, smoking cessation, voluntary turnover and nursing care hours per patient day. Another set of indicators was created by the American Nurses Association to influence nursing care, the National Database of Nursing Quality Indicators (NDNQI) quarterly and annual reports on structure, process, and outcome indicators to measure nursing care at the unit level (Mel). The NQF-15 and NDNQI are similar in their adaptation, but the NDNQI bring further research forward to quality improvement.

 Internal evidence or quality improvement data brings real patient experiences and stories forward from an authentic viewpoint and promote emotion into their motivation to create the practice change that can create a difference.

**Internal Evidence Search**

 Creating a table as if I was to conduct an actual research is displayed below in Table 1 the data I would gather to research my PICO question. Looking at my PICO question, I would evaluate the current nursing satisfaction scores and current internal staffing models. Along with looking at staff satisfaction I would also evaluate productivity and volumes. I would look at the staffing model based on patient acuity and daily census to the ambulatory setting.

Table 1

*Internal Sources of Data and Evidence*

|  |  |  |
| --- | --- | --- |
| Data | Special Considerations | Source |
| Staffing model based on patient acuity, census, and physical facility | Patient acuity and census may change daily. | Patient Access Services  |
| Overtime hours of nursing.  | Nursing ill calls may account for more overtime vs normal clinic volumes and adequate staffing. | Human Resources |
| Employee engagement survey | It has been endorsed as a measurement of quality of nursing practice, but literature does not describe it’s use in different practices | Electronic Database |
| Table 1. Cont.*Internal Sources of Data and Evidence* |  |
| Data | Special Considerations | Source |
| Staffing benchmarks based on support staff and physician productivity | Other factors need to be accounted for regarding increased nursing satisfaction.  | Unit Director |
| Number of nurses participating | Is participation mandatory? Are nurses aware that the change is being evaluated?  | Unit Director |
| Participant Evaluation | Are nurses aware the change is being evaluated? Are they allowed to provide feedback? If they are, is that information evaluated.  | Unit Director |
| Index of Work Satisfaction | Other job satisfaction components including patient acuity and staff mix | Electronic Database |
| Patient satisfaction surveys as distributed during clinic visits.  | Nursing may not be the only factor in how patients complete survey.  | Unit Director |

*Note*. Table represents the projected sources of internal data and evidence

**External Evidence Search**

 Exploring my PICO question I searched four databases including CINAHL, Cochrane, and Medline with full text I elected to use these databases as they are Nursing & Allied Health Database and are a comprehensive resource for students, instructors, researchers, and healthcare professionals including a diverse mix of scholarly literature, reference materials, and evidence-based resources. To initiate my search, I first needed to decide which key words or combination of words I was going to use to gain my information. Melnyk & Fineout-Overholt (2018) recommend using simple everyday language as some search databases are searched completely by keywords and keywords will yield the keyword in the title and/or abstract. The keywords I utilized for my search were team nursing, nursing satisfaction, staffing models, and clinics. (see Table 2).

In addition to using those key words I utilized Boolean search modes to broaden my search. Melnyk & Fineout-Overholt (2018) discuss how when controlled vocabulary or keywords are used that Booleans AND and OR are typically used. Using the term AND can be restrictive and reduce the size of the search, however I did elect to use this word as it I wanted to pull literature with a mixture of my search terms. I also limited my database search by limiting to research from 2009 to 2019 to have access to the most recent data and full access. Using those search filters, I found the top five of the highest quality research articles based on currency, relevancy, and validity. I wanted to ensure that I had the most recent up to date articles, which is why I limited the years to the last ten. I also wanted to ensure that I had the most relevant articles related to the topics I was searching, so that I would have research the most relevant to the topic. Validity was also important, as I wanted research that was not only pertinent to the topic, but is a reliable source of information.

Table 2 is a description of the top five external findings from the sources found during the search.

Table 2.

*External Data Search Terms, Databases, and Hits*

|  |  |  |  |
| --- | --- | --- | --- |
| Search Terms | CINAHL (# of hits) | Cochrane (# of hits) | Medline (# of hits) |
| 1. Team Nursing
 |  |  |  |
| 1. Nursing Satisfaction
 |  |  |  |
| 1. Staffing Models
 |  |  |  |
| 1. Clinic
 |  |  |  |
| 1. 1 and 2
 | 23 | 5 | 14 |
| 1. 1 and 3
 | 6 | 1 | 2 |
| 1. 1 and 4
 | 45 | 0 | 35 |
| 1. 2 and 3
 | 6 | 1 | 1 |
| 1. 2 and 4
 | 8 | 6 | 21 |
| 1. 3 and 4
 | 19 | 2 | 26 |

*Note*. The number of hits listed signifies the total number of hits represents the total number of hits produced on each search terms.

**Literature Mix Grid**

Table 3.

*Literature Mix Grid*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **APA Citation** | **Research Purpose** | **Study Design**  | **Sample (Setting)** | **Data Collection/****Measures**  | **Analysis/****Outcomes** | **Strengths/****Limitations** | **Joanna Briggs Level of Evidence** | **Study Quality**  |
| De Pol, P., Dalgallo Zarpellon, L., & de Matia, G. (2014). Factors of (Dis)Satisfaction in the Work of the Nursing Team in Pediatric ICU. *Cogitare Enfermagem*, *19*(1), 116–131. Retrieved from https://search-ebscohost-com.ezproxy.umary.edu/login.aspx?direct=true&db=ccm&AN=104060117&site=ehost-live | The study’s goal was to investigate the factors that led to nursing team’s work satisfaction and dissatisfaction in the Pediatric ICU and to propose ideas to promote work satisfaction | Qualitative, of the exploratory-descriptive type | 18 professionals working in Pediatric ICU in two hospitals in the city of Curitiba in the state of Paraná between February and May 201 | results were analyzed using the technique of content analysis and show the perception of the complexity which is involved in being a nursing professional working in intensive care | Two context units emerged from the content analysis: A) the nursing team’s internal and external motivations relating to (dis-) satisfaction in their professional work in the Pediatric ICU; B) strategies which promote the nursing team’s satisfaction in their work, with six recording units. | The low salaries offered in hospital organizations result from the low value given to manual work and from the connotations of charity and religion which still accompany them(3). Satisfaction in the work involves the need for security related to the working conditions offered; another important factor which ends up demotivating the staff relates to the rest area for those who do 12-hour shifts and the schedule for days off. | Level 4 | Good |
| De Souza Moreira, M. G., Xavier Morais, B., de Lima Dalmolin, G., & Antunes Dorneles, A. J. (2018). Perception of Professional Satisfaction of Nursing Workers from a Hemato-Oncology Unit. *Journal of Nursing UFPE / Revista de Enfermagem UFPE*, *12*(5), 1281–1288.  | Purpose was to investigate the professional satisfaction of nursing professionals from a hemato-oncology unit. | Quantitativecross-sectional study | 46 nursing workers from a hemato-oncology unit | A sociodemographic and labor questionnaire and the Professional Satisfaction Index (PSI) was used. It was comprised of following variables: sex, age, professional category, schooling, time elapsed after graduation, time working in the institution and in the unit, work shift and weekly workload. | It was found that 80.4% of the workers reported good participation with planning care, 76.1% reported cooperation with the medical team and 93.5% agreed that cooperation with the nursing team existed.  | incomplete filling of the instruments and delay in their return existed. The study was conducted at a hospital school where professionals are often already tired of having to respond surveys. |  |  |
| https://doi-org.ezproxy.umary.edu/10.5205/1981-8963-v12i5a230534p1281-1288-2018 |  |  |  |  |  |  |  |  |
| Filgueira Martins Rodrigues, C. C., Cândido de Oliveira Salvador, P. T., Silveira de Assis, Y. M., de Lima Gomes, A. T., dos Santos Bezerril, M., & Pereira Santos, V. E. (2017). Stress among Nursing Team Members. *Journal of Nursing UFPE / Revista de Enfermagem*  | The research purpose was to identify the level of stress of members of the nursing team. | The study was a cross-sectional quantitative study. | The study population was composed of 184 nursing professionals, of both sexes, belonging to the staff of the hospital under study, in the various shifts (morning, afternoon and evening). | Data collection was performed in February 2015. Two self-administered questionnaires were used as instruments of data collection the sociodemographic questionnaire, aimed at characterizing the study subjects; and the Lipp's Inventory of Signs and Symptoms, 2000 (LISS) | The results of this study allow us to affirm that the studied sample has a low stress index; however, there is a somatization of signs and symptoms in these professionals’ bodies, which can trigger an illness process in these subjects. | Council (COFEN) in 2015 to characterize the profile of these workers in Brazil, which indicated that 80.7% of the professionals are female. This reflects a historical feature of this profession.10 The predominance of the female gender also has relevant implications for the stressors of nursing practitioners, because  | Level 4 | Good |
|  |  |  |  |  |  |  |  |  |
| *UFPE*, *11*(2), 601–608. https://doi-org.ezproxy.umary.edu/10.5205/reuol.10263-91568-1-RV.1102201715 |  |  |  |  |  | female workers need to ally work at home, married life, care of their children, and because they are of productive age, the fact that many |  |  |
| Nevidjon, B. (2018). Member Input: The challenge of staffing in ambulatory infusion settings. *Clinical Journal of Oncology Nursing*, *22*(2), 225–227. https://doi-org.ezproxy.umary.edu/10.1188/18.CJON.225-227 | The Oncology Nursing Society (ONS) increasingly has had questions sent to the clinical inquiry inbox about staffing for inpatient units and ambulatory settings, particularly chemotherapy treatment sites. This article  | ONS has conducted member surveys about inpatient and ambulatory staffing. | 1,842 of the ONS members  | Members were surveyed about inpatient and ambulatory staffing. Respondents could select any and all items from a list or add challenges. | Respondents reported that the nurse patient ratio was reasonable, no staffing tool was used, and patient volume and types of treatments were used for staffing decisions. One of the many recommendations from these survey responses  | Productivity measurement was briefly in discussions on the ONS Communities. How productivity is measured varied by organization.  | Level 5 | Fair |
|  | summarizes information that ONS has from surveys and forum discussions. |  |  |  | was to develop a tool or to test existing tools that help with staffing plans. |  |  |  |
| Ribeiro da Silva, V., de Souza Velasque, L., & Tonini, T. (2017). Job satisfaction in an oncology nursing team. *Revista Brasileira de Enfermagem*, *70*(5), 988–995. https://doi-org.ezproxy.umary.edu/10.1590/0034-7167-2016-0422 | The purpose of this study was to identify the level of job satisfaction of oncology nurses and their relationships between the level of satisfaction with these workers.  | descriptive, quantitative cross-sectional study | The study population comprised a total of 645 nursing staff of the above-mentioned oncology hospital, comprising 419 nursing technicians/auxiliaries and 226 nurses | Data collection was realized by means of self-applied questionnaires, between March and July 2015. | The data was processed after receiving the sealed envelopes then revised and typed into a databank. Statistical analysis of the data used the “Rproject i386 3.1.1” software. | Limitations due to the returning of questionnaires which were not fully completed, this rendered unviable a broader understanding of the nursing team under study | Level 4 | Fair |

**Literature Synthesis**

Nursing may be an individual or team sport depending on the department or organization that the work is being done in. Often working in teams more tasks get accomplished, but it may not always lead to nursing satisfaction. One study investigate professional satisfaction of nurses working in a hemato-oncology unit with a medical team, with observation it was found that the interaction was positive and that 93.5% of the participants recognized the help of others and perceived cooperation with working in teams (Moreira, Morais, Dalmolin, & Dorneles, 2018). De Pol, Zarpellon, & Matia (2014) completed a study to look for satisfaction and dissatisfaction in working with nursing teams, they recognized that working in teams the role of the nurse was very important and that the attitudes in which team members have play a huge role in team members and their roles. The same study also recognized that teamwork was not the only satisfaction or dissatisfaction in work and that there are many other factors including, salary, hierarchy, patients, and work environment. Another study focused specifically the stress amongst team members and addressed the psychic, physical, and emotional side effects of the nursing professionals, but it also brought together the importance of prevention and coping and overall safety of working as a team (Rodrigues, Cândido, Salvador, et al., 2017). This a great example of how working as a team and not individually is more favorable for nursing and patient health. The Oncology Nursing Society (ONS) has conducted many member surveys through the years, early on the focus was on salary, staffing, and professional practice. Almost a decade later the focus has moved from environment to staffing in both inpatient and outpatient settings. What they found was that members asked for ratios and benchmarks, but the ONS did not produce any, because what they found was with the complexity of variables and advised not to recommend specific nurse-patient staffing ratios for practice (Nevidjon, 2018). Another study looked specifically at the perceived and real job satisfaction with the relationships of team nursing.

**Conclusion**

Concluding this assignment, it is evident that utilizing both internal and external resources is a beneficial way to produce data that can help provide leadership with information to proceed with the most appropriate data. With the unlimited amount of resources, it’s imperative that leaders realize the accessibility to the most valid, current, and evident resources. Forming PICO questions helps to taper and shorten the information leaders are looking for. When leaders are efficient at forming PICO questions, searching for valuable resources, and recognizing relevant research then implementing the most evidence-based changes becomes easier and often times more successful.

**Key Sources of External Data**

De Pol, P., Dalgallo Zarpellon, L., & de Matia, G. (2014). Factors of (dis)satisfaction in the

work of the nursing team in pediatric ICU. *Cogitare Enfermagem*, *19*(1), 116–131. Retrieved from https://search-ebscohost-com.ezproxy.umary.edu/login.aspx?direct=true&db=ccm&AN=104060117&site=ehost-live

De Souza Moreira, M. G., Xavier Morais, B., de Lima Dalmolin, G., & Antunes Dorneles, A. J.

(2018). Perception of professional satisfaction of nursing workers from a hemato-oncology unit. *Journal of Nursing UFPE / Revista de Enfermagem UFPE*, *12*(5), 1281–1288. <https://doi-org.ezproxy.umary.edu/10.5205/1981-8963-v12i5a230534p1281-1288-2018>

Filgueira Martins Rodrigues, C. C., Cândido de Oliveira Salvador, P. T., Silveira de Assis, Y.

M., de Lima Gomes, A. T., dos Santos Bezerril, M., & Pereira Santos, V. E. (2017). Stress among nursing team members. *Journal of Nursing UFPE / Revista de Enfermagem UFPE*, *11*(2), 601–608. <https://doi-org.ezproxy.umary.edu/10.5205/reuol.10263-91568-1-RV.1102201715>

Nevidjon, B. (2018). Member Input: The challenge of staffing in ambulatory infusion settings.

*Clinical Journal of Oncology Nursing*, *22*(2), 225–227. <https://doi.org.ezproxy.umary.edu/10.1188/18.CJON.225-227>

Ribeiro da Silva, V., de Souza Velasque, L., & Tonini, T. (2017). Job satisfaction in an oncology

nursing team. *Revista Brasileira de Enfermagem*, *70*(5), 988–995. https://doi-org.ezproxy.umary.edu/10.1590/0034-7167-2016-0422

References

De Pol, P., Dalgallo Zarpellon, L., & de Matia, G. (2014). Factors of (dis)satisfaction in the

work of the nursing team in pediatric ICU. *Cogitare Enfermagem*, *19*(1), 116–131. Retrieved from https://search-ebscohost-com.ezproxy.umary.edu/login.aspx?direct=true&db=ccm&AN=104060117&site=ehost-live

De Souza Moreira, M. G., Xavier Morais, B., de Lima Dalmolin, G., & Antunes Dorneles, A. J.

(2018). Perception of professional satisfaction of nursing workers from a hemato-oncology unit. *Journal of Nursing UFPE / Revista de Enfermagem UFPE*, *12*(5), 1281–1288. https://doi-org.ezproxy.umary.edu/10.5205/1981-8963-v12i5a230534p1281-1288-2018

Filgueira Martins Rodrigues, C. C., Cândido de Oliveira Salvador, P. T., Silveira de Assis, Y.

M., de Lima Gomes, A. T., dos Santos Bezerril, M., & Pereira Santos, V. E. (2017). Stress among nursing team members. *Journal of Nursing UFPE / Revista de Enfermagem UFPE*, *11*(2), 601–608. <https://doi-org.ezproxy.umary.edu/10.5205/reuol.10263-91568-1-RV.1102201715>

Melnyk, B. M., & Fineout-Overholt, E. (2019). Evidence-based practice in nursing &

healthcare: A  guide to best practice. (2nd ed.). Philadelphia, PA: Wolters Kluwer Health Lippincott Williams &Williams.

Nevidjon, B. (2018). Member Input: The challenge of staffing in ambulatory infusion settings.

*Clinical Journal of Oncology Nursing*, *22*(2), 225–227. https://doi.org.ezproxy.umary.edu/10.1188/18.CJON.225-227

Ribeiro da Silva, V., de Souza Velasque, L., & Tonini, T. (2017). Job satisfaction in an oncology

nursing team. *Revista Brasileira de Enfermagem*, *70*(5), 988–995. https://doi-org.ezproxy.umary.edu/10.1590/0034-7167-2016-0422