

A Five-Year Journey Towards Strengthening Nursing Professional Development Capabilities in Eastern Health Cluster, Saudi Arabia

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Abstract In alignment with Saudi Vision and Healthcare Transformation initiative aimed at improving service delivery, Nursing Professional Development (NPD) in Eastern Health Cluster (EHC) has a strategic plan to strengthen NPD capabilities in all health networks. This research **aims** to highlight the journey towards strengthening NPD capabilities in EHC and also serve as a guide for other regions striving to enhance the professional development of nursing professionals. **Methodology:** The study used a quantitative descriptive research design to identify the status of professional development departments and track their progress in strengthening capabilities through a gap assessment tool based on national and international standards. **Analysis:** The tool was used to assess all Eastern Health Cluster facilities to measure their progress between the years 2020-2023. Each facility was scored on a quarterly basis. **Results:** The project developed 58 Nursing Professional Development Leaders who led the strengthening of their department. Most facilities showed improvement in the majority of items. **Recommendations:** The project should be continued in order to strengthen all facilities irrespective of their level of development. There is a strong need to enhance communication and leadership accountability among NPD leaders and to continue mentoring and training NPD leaders in developing SMART goals for strategic plan with metrics and KPIs relevant to education and training including measuring the impact of training. Furthermore, support must be provided to Rural Health Network facilities that includes staffing resources and skill labs. Consideration can be given to replicating the study as a multi cluster project to strengthen PD capabilities nationally. **Limitations:** Small sample of PHC's included in the study means that it may therefore not be fully representative of EHC PHC's. **Conclusion:** Strengthening Nursing Professional Development in EHC has supported all NPD leaders to develop their leadership skills and also assisted them in improving their NPD to compete with national and international standards. It is important to continue this project in order to maintain and sustain the success. The ultimate impact of strengthening NPD capabilities is expected to have a positive influence on nurses to deliver high quality evident based patient care.

Keywords: nursing professional development, strengthening capabilities, health care transformation, saudi arabia

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1. Introduction

The journey towards strengthening Nursing Professional Development (NPD) capabilities in the Eastern Health Cluster (EHC) in Saudi Arabia over the past five years is a testament to the evolving landscape of healthcare and nursing education within the region. This progression is pivotal, given the critical role of NPD in enhancing healthcare quality, patient safety, and nurse

satisfaction Arabia [1,2]. Amidst the backdrop of Saudi Arabia's Vision 2030, the healthcare sector has embarked on transformative initiatives aimed at improving service delivery and elevating the nursing profession to international standards [3,4]. The convergence of these ambitious goals with the intrinsic challenges and opportunities of nursing professional development necessitates a comprehensive understanding of the current state, potential barriers, and facilitators to NPD [5].

The significance of NPD in Saudi Arabia is underscored by the dynamic nature of the healthcare

environment, characterized by technological advancements, shifting patient demographics, and the global push towards evidence-based practice [6,7]. Additionally, the introduction of Vision 2030, which aims to diversify the economy, develop public service sectors, and foster innovation in healthcare [8], has been the catalyst for a series of reforms across the health sector, including the development of the Eastern Health Cluster in 2017. Within this context, nursing, as the largest healthcare workforce segment is central to achieving these healthcare objectives, making the professional development of nurses a priority area for policymakers, educators, and healthcare leaders [9,10]. It is therefore important to explore how NPD capabilities can be strengthened in EHC and make tangible progress towards achieving this objective.

2. Literature Review

The challenges posed to NPD in Saudi Arabia are multifaceted, including the need to bridge the gap between education and practice, address the generational diversity within the nursing workforce, and create a culture of continuous learning and improvement [11,12]. Moreover, the transition of new graduate nurses into the workforce and the integration of advanced nursing roles into the healthcare system present additional layers of complexity to NPD efforts [13,14]. These challenges are compounded by the global shortage of nursing professionals, which places further pressure on the existing nursing workforce to meet the increasing demands for healthcare services [15].

The concerted effort to enhance NPD in Saudi Arabia has led to notable advancements, including the development of standardized frameworks for nursing competencies, the implementation of continuous professional development programs, and the establishment of leadership and mentorship initiatives aimed at supporting nurse practitioners through their professional journey [16,17]. These initiatives reflect a strategic approach to NPD, emphasizing the importance of a skilled, competent, and satisfied nursing workforce in achieving the broader healthcare goals of the nation [18,19].

The nursing profession in Saudi Arabia faces several challenges that impact the quality and effectiveness of nursing education. AlShehri highlights the diverse challenges confronting nursing education and practice, emphasizing the need for systemic reforms to align with international standards [20]. Similarly, Alboliteh et al. provide a comprehensive profile of the Saudi nursing workforce, shedding light on demographic variables that influence education and training requirements [21]. Alsadaan discusses the pivotal role of transformational leadership in addressing nursing workforce challenges, suggesting that effective leadership is essential for the successful implementation of educational reforms [22].

The legitimacy of nurses in the Saudi healthcare system, as explored by Aldossary, further illustrates the need for enhanced educational programs that not only improve clinical skills but also elevate the professional status of nurses within the healthcare hierarchy [23]. The Institute of Medicine (2011) underscores the global perspective on the future of nursing, focusing on education as a

cornerstone for advancing nursing practice and ensuring high-quality patient care [24].

Al Mutair identifies specific challenges associated with clinical nursing teaching in Saudi Arabia, proposing solutions that emphasize the importance of practical experience and mentorship in nursing education [25]. Transitioning from nursing students to clinical teachers, as discussed by Aldawsari et al. highlight the complexities of preparing nurses for educational roles, necessitating targeted training programs that equip them with the necessary pedagogical skills [26].

Reilly and Oermann provide foundational insights into clinical teaching in nursing education, offering strategies for effective student engagement and learning outcomes [27]. The work of Morelock addresses the current and future educational challenges faced by nurse educators, pointing towards the need for innovative teaching methodologies that cater to the evolving healthcare environment [28].

Mezirows' transformative learning theory provides a framework to understand the process of perspective transformation in adult learners, which is particularly relevant for nursing education in facilitating critical thinking and reflective practice [29]. Zsohar and Smith explore the transition from classroom-based instruction to online learning, presenting successful strategies that can be adopted in nursing education to enhance flexibility and accessibility [30].

Research available emphasizes the importance of nursing education and the need for educational reform if nurses are to meet future healthcare needs. It focuses on teaching methodologies, the importance of nursing competencies, professional development activities and mentorship programs in developing nursing competence and the challenges which are faced by the nursing profession in order to support these initiatives. This study aims to add to the knowledge that exists by providing insight into how NPD capabilities in EHC Saudi Arabia can be strengthened overall. It also hopes to serve as a guide for other regions striving to enhance nursing professional development departments.

3. Research Methodology

The study used a quantitative descriptive research design to identify the status of professional development departments and track their progress in strengthening capabilities.

4. Research Setting

The study took place in the EHC, which is an integrated network of health care facilities situated in the Eastern province of Saudi Arabia. It consists of 22 hospitals: 5 Specialist, 5 Health Network and 12 Rural Health Network, and 120 Primary Health Care centers (PHC) that provide primary, secondary level and specialist care to Saudi nationals and citizens of the Gulf States.

The study was conducted over a three-year period from January 2021 until the end of December 2023 when 23 professional development departments were evaluated and monitored, in collaboration with respective Professional

Development Managers and Directors, with the aim of developing professional development capabilities.

5. Research Instrument

Aligned with the EHC strategic goals to promote governance and staff well-being, a gap assessment tool was developed in September 2018 by the principal author based on National [31], and International accreditation standards [32,33]. The tool, Table 1 below, which utilized Donabedian's Structure, Process and Outcome (SPO) framework [34], consisted of 21 items and aimed to

evaluate how well-established professional development departments in EHC facilities are and identify strategies that may be beneficial in strengthening structure, process, and outcome capabilities.

More recently, the tool was incorporated formally into a policy as part of a framework to assess compliance with the implementation of the EHC Nursing leadership strategies within five nursing domains, which include professional development. The Nursing Operations and Practice Strategy Assessment (NOPSA) for professional development is completed as an annual cycle, utilizing the gap analysis tool, within EHC facilities to continue to monitor and improve standards.

Table 1. Gap Assessment Tool

No.	Recommendations	Availability (Yes/Partial/ No)	Mentor's Feedback
STRUCTURE			
1.1	Mission, Vision and Core Values	Yes ☐ Part ☐ No ☐	
1.2	Scope of Services	Yes ☐ Part ☐ No ☐	
1.3	Nursing PD Organizational Structure	Yes ☐ Part ☐ No ☐	
1.4	Nursing PD Framework/Model	Yes ☐ Part ☐ No ☐	
1.5	Learning Needs Assessment (Annually)	Yes ☐ Part ☐ No ☐	
1.6	Nursing PD Policies (Education Programs, Orientation, Cross-Training & Competency Assessment)	Yes ☐ Part ☐ No ☐	
1.7	Strategic Plan for PD & Action Plan based on Mission, Vision, SOS, SWOT Analysis and Needs Assessment	Yes ☐ Part ☐ No ☐	
1.8	Availability of Individualized Development Plan for all nurses at different Levels	Yes ☐ Part ☐ No ☐	
PROCESS			
2.1	General Nursing Orientation Program (Standard)	Yes ☐ Part ☐ No ☐	
2.2	Orientation Program Manual for Nurses at all levels	Yes ☐ Part ☐ No ☐	
2.3	Calendar of Events (Yearly) with mandatory and Professional development courses/ programs	Yes ☐ Part ☐ No ☐	
2.4	Unit In-Service Program	Yes ☐ Part ☐ No ☐	
2.5	Cross Training Program in and within E1 Cluster	Yes ☐ Part ☐ No ☐	
2.6	Practice Transition Accreditation Program based on Resource and SOS	Yes ☐ Part ☐ No ☐	
2.7	Nursing Research and Journal Club for EBP	Yes ☐ Part ☐ No ☐	
2.8	Simulation and Skills Lab	Yes ☐ Part ☐ No ☐	
2.9	Performance Appraisal Methods (Self, Peer and 360 Degree Appraisal)	Yes ☐ Part ☐ No ☐	
2.10	Support Nursing Services with CBAHI Nursing Standards	Yes ☐ Part ☐ No ☐	
OUTCOME			
3.1	Nursing Competency Assessment Elsevier & Leadership	Yes ☐ Part ☐ No ☐	
3.2	Measurement Tool Post PD Events- Kirkpatrick	Yes ☐ Part ☐ No ☐	
3.3	Evaluate Outcome of PD through KPIs	Yes ☐ Part ☐ No ☐	
COMPLIANCE			

6. Data Collection

In October 2018, members of the EHC Professional Development Council as expert practitioners assessed the construct validity of the gap assessment tool to ensure that it met its objectives in measuring professional development capability.

The Nursing Professional Development department in Cluster headquarters initiated the gap assessment process

at the end of 2018 following approval of the tool.

The journey towards developing NPD Capabilities commenced in January 2019 when visits were conducted over a period of several months to explain the tool and clarify each item against the national and international standards taking in consideration the infrastructural and governance challenges including limited resources. All facilities were well educated and prepared for the project. Although COVID-19 has a negative impact on the project by restricting the visits during 2020 which were then continued virtually.

The official assessment process was commenced in the 1st Quarter of 2021 and completed in the 4th quarter of 2023. The assessment was repeated on a quarterly basis in each facility where twenty-three assessments were conducted in collaboration with professional development managers and directors in each EHC facility with the aim of understanding gaps in capabilities and developing effective strategies to reduce or eliminate them.

7. Data Analysis / Findings

A total of 20 hospitals were included in the study and three groups of PHC's distributed within EHC. Two hospitals were not included in the study as they shared the same professional department as two other hospitals included in the study. The facilities included in the study were therefore representative of the Eastern Health Cluster. All facilities included were visited as part of the EHC Nursing Operations and Practice Strategy Assessment process which oversees implementation of strategic initiatives for all nursing domains and includes the gap assessment to strengthen PD capabilities. Data analysis was performed by ranking data and using frequency counts and percentages to determine the level of compliance and improvement.

Overall Strengthening of Professional Development Capabilities

Table 2. Overall Strengthening of PD Capabilities 2021-2023

Facility	2021 (%)	2022 (%)	2023 (%)
Maternity & Children Hospital-Dammam	90	97.5	98.75
Dammam Medical Complex	90	97.5	97.56
Qatif Central Hospital	97.5	97.5	97.56
Jubail General Hospital	84	83	97.5
Safwa Hospital	83.4	90	96.25
Saud Al-Babtain Cardiac Center	77.5	90.5	95.31
Dhahran Eye Specialist Hospital	87.5	90.5	95.30
Erada Complex and Mental Health	87.5	98	95.17
Abqaiq General Hospital	79	97.4	95
Qaryat Al Olya Hospital	71	90	95
Ras Tanura General Hospital	71	90	95
Nairiyah General Hospital	68.4	90	95
Rafiyah Hospital	23.7	90.5	95
King Fahd Specialist Hospital-Dammam	97.5	97.5	93.75
Salwa Hospital	75	97.4	93.75
Mulaijah Hospital	73.7	87.5	92.5
Primary Health Care-Qatif	64	87.5	92.5
Anak Hospital	64	90	92.5
Primary Health Care-Ras Tanura/Safwa	30.5	90	92.5
Prince Sultan Hospital-Urairah	76	86.8	91.25
Khafji General Hospital	71	92.1	90
Primary Health Care-Al-Khobar	63	82.5	82.5
Batha General Hospital	33.34	27.5	27.5

The analysis showed a wide range of Professional Development capabilities within EHC facilities at the end of 2023 ranging from 98.75% to 27.5% of required standards met.

Most facilities (91.3%) strengthened their capabilities with the exception of two, King Fahad and Batha. Although no facilities were able to meet all standards, most facilities (91.3%) met 90% or more of the standards required by the end of the three-year period, compared to 17.4% of facilities by the end of 2021, with the exception of Al Khobar PHC and Batha hospital. However, five facilities strengthened their PD department capabilities by the end of 3 years but the number of standards met had decreased by 2.1% to 3.76% compared to those in the second year. The overall compliance percentages over the three- year period from 2021 to 2023 are ranked in the below table (Table 2).

Percentage Increases in Strengthening PD Capabilities 2021-2023

The percentage increases in standards required to strengthen PD capabilities ranged from 300.8% to -17.5% over the three- year period which was reflected in 21 of 23 facilities (91.3%), shown below in Table 3. Ten hospitals in the Rural Health Network and three groups of PHC's which account for 57% of facilities in the group strengthened their PD capabilities by more than 20%. Notably, Rafiyah hospital strengthened its capabilities by 300.8% which was a marked increase of 256% compared to other hospitals in EHC.

Table 3. Percentage Increases in Strengthening PD Capabilities 2021-2023

Facility	2021 (%)	2022 (%)	2023 (%)	% increase
Maternity & Children Hospital-Dammam	90	97.5	98.75	9.7
Dammam Medical Complex	90	97.5	97.56	8.4
Qatif Central Hospital	97.5	97.5	97.56	0.6
Jubail General Hospital	84	83	97.5	16.1
Safwa Hospital	83.4	90	96.25	15.4
Saud Al-Babtain Cardiac Center	77.5	90.5	95.31	28.1
Dhahran Eye Specialist Hospital	87.5	90.5	95.30	8.9
Erada Complex and Mental Health	87.5	98	95.17	8.8
Abqaiq General Hospital	79	97.4	95	20.3
Qaryat Al Olya Hospital	71	90	95	33.8
Ras Tanura General Hospital	71	90	95	33.8
Nairiyah General Hospital	68.4	90	95	38.9
Rafiyah Hospital	23.7	90.5	95	300.8
King Fahd Specialist Hospital-Dammam	97.5	97.5	93.75	-3.8
Salwa Hospital	75	97.4	93.75	25
Mulaijah Hospital	73.7	87.5	92.5	25.5
Primary Health Care-Qatif	64	87.5	92.5	44.5
Anak Hospital	64	90	92.5	44.5
Primary Health Care-Ras Tanura/Safwa	30.5	90	92.5	203.3
Prince Sultan Hospital-Urairah	76	86.8	91.25	20.1
Khafji General Hospital	71	92.1	90	26.8
Primary Health Care-Al-Khobar	63	82.5	82.5	31
Batha General Hospital	33.34	27.5	27.5	-17.5

Compliance with PD structure related standards in facilities 2021-2023

EHC facilities met 121 items, partially met 19 items and did not meet 21 from a total of 161 items relating to 8

structure standards in 2021. The compliance increased to 162 met, 15 partially met and 7 unmet items by the end of 2023 from a total of 184 following the implementation of an additional standard relating to Individualized development plans. By the end of 2023, seven facilities were fully compliant with all eight standards, thirteen facilities met 7 standards, one met six and the remaining facility met 2 standards. At the end of the three-year period, the standards which showed the most improvement were Nursing PD organizational structure, and Nursing PD framework /model.

Mission, vision and values and scope of service were available in all facilities. The Nursing PD organizational structure, Nursing PD framework / model, learning needs assessment, Nursing PD policies, and strategic plan were available in most facilities. The majority of partially met (15) and not met items (7), were due to lack of availability of individualized development plan for all nurses at different levels where fifteen facilities failed to fully implement them in specialist health networks, rural health networks and PHC's. The remaining 7 items were in the rural health network and PHC's where there were 2 partially met standards relating to organizational structure and 5 unmet standards in one rural health network hospital

Compliance with PD process related standards in facilities 2021-2023

EHC facilities met 122 items, partially met 47 items and did not meet 61 from a total of 230 items relating to 10 process standards in 2021. The compliance increased to 192 met, 11 partially met and 27 unmet items within facilities by the end of 2023. At the end of 2023, no facilities were fully compliant with all ten standards, fifteen facilities met 9 standards, five met 8, two met 7 and the remaining facility met 2 standards. At the end of the three-year period, the standards which showed the most improvement were the orientation program manual, Nursing research and journal club, simulation skills lab.

and performance appraisal method.

General Nursing orientation programs, and calendars of events were available in all facilities. The orientation program for nurses at all levels, unit in-service program, cross-training program, practice transition accreditation program, Nursing research and journal club, simulation and skills lab, performance appraisal methods, and CBAHI Nursing standards to support Nursing services were available in the majority of facilities. The 11 partially met items which related to the orientation program manual, cross-training program, practice transition accreditation program, Nursing research and journal club, simulation & skills lab, and performance appraisal method were distributed in the rural health network hospitals with the exception of 1 in a specialist hospital and 1 the PHC. The majority of not met items (22) were due to lack of availability of the practice transition accreditation program which was a partially met standard in one facility. The remaining 5 items were in the rural health network where 4 standards were not met in one hospital and 1 standard was not in one PHC.

Compliance with PD outcome related Standards in facilities 2021-2023

EHC facilities met 36 items, partially met 19 items and did not meet 6 from a total of 69 items relating to 3 outcome standards in 2021. The compliance increased to 52 met, 14 partially met and 3 unmet items within facilities by the end of 2023. At the end of 2023, eight facilities were fully compliant with all 3 standards, fourteen facilities met 2 standards, and one facility failed to meet any of the standards. Outcome standards relating to Nursing competency assessment and the evaluation of PD outcomes through key performance indicators were fully met in all but one hospital located in the rural health network. The partially met items all related to the post-PD event measurement tool: 10 in the rural health network hospitals, 2 in specialist hospitals and 2 in the PHC's.

Table 4. Compliance with PD Structure Standards in Facilities and Networks 2021-2023

[illegible]

Standards: M = Met PM = Partially Met NM = Not Met NA = Not Applicable		Mission, Vision and Core Values		Scope of Service		Nursing PD Organizational Structure		Nursing PD Framework/ Model		Learning Needs Assessment		Nursing PD Policies (Education Programs, Orientation, Cross Training & Competency Assessment)		Strategic Plan for PD & Action Plan based on Mission, Vision, SOS, SWOT Analysis and Needs Assessment		Availability of Individualized Development Plan for all nurses at different Levels	
		2021	2023	2021	2023	2021	2023	2021	2023	2021	2023	2021	2023	2021	2023	2021	2023
NETWORK HOSPITALS	Qaryat Al Olya	M	M	M	M	PM	M	NM	M	M	M	M	M	NM	M	NA	PM
	Ras Tanura	M	M	M	M	PM	M	NM	M	M	M	M	M	PM	M	NA	PM
	Nairiyah	M	M	M	M	M	PM	M	M	M	M	PM	M	M	M	NA	M
	Rafiyah	PM	M	NM	M	PM	M	NM	M	NM	M	PM	M	NM	M	NA	PM
	Salwa	M	M	M	M	PM	M	M	M	M	M	M	M	M	M	NA	PM
	Mulaijah	M	M	M	M	PM	M	M	M	M	M	M	M	M	M	NA	PM
	Anak	M	M	M	M	PM	M	M	M	M	M	M	M	NM	M	NA	PM
	Urairah	M	M	M	M	M	M	M	M	M	M	M	M	M	M	NA	PM
	Khafji	M	M	NM	M	PM	M	M	M	M	M	M	M	M	M	NA	PM
	Batha	M	M	M	M	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NA	NM
PHC's	Qatif	M	M	M	M	M	M	NM	M	M	M	PM	M	M	M	NA	M
	Ras Tanura/Safwa	NM	M	NM	M	NM	M	NM	M	M	M	NM	M	M	M	NA	PM
	Al-Khobar	M	M	M	M	PM	PM	M	M	M	M	NM	M	M	M	NA	NM

Table 5. Compliance with PD process standards 1-5, in Facilities and Networks 2021-2023

Standards: M = Met PM = Partially Met NM = Not Met NA = Not Applicable		General Nursing Orientation Program (Standard)		Orientation Program Manual for Nurses at all levels		Calendar of Events (Yearly) with Mandatory & Professional Development Courses/Programs		Unit In- Service Programs		Cross-training Program in & within Eastern Health Cluster	
		2021	2023	2021	2023	2021	2023	2021	2023	2021	2023
SPECIALIST HEALTH NETWORK HOSPITALS	Maternity & Children Hospital	M	M	PM	M	M	M	M	M	M	M
	Saud Al-Babtain Cardiac Center	M	M	PM	M	M	M	M	M	M	M
	Dhahran Eye Specialist	M	M	PM	M	M	M	M	M	M	M
	Erada Mental Health Complex	M	M	M	M	M	M	M	M	M	M
	King Fahd Specialist	M	M	M	M	M	M	M	M	M	M
HEALTH NETWORK HOSPITALS	Dammam Medical Complex	M	M	PM	M	M	M	M	M	M	M
	Qatif Central Hospital	M	M	M	M	M	M	M	M	M	M
	Jubail General Hospital	M	M	NM	M	M	M	M	M	M	M
RURAL HEALTH NETWORK HOSPITALS	Safwa	M	M	NM	M	M	M	M	M	M	M
	Abqaiq	M	M	NM	M	M	M	M	M	M	M
	Qaryat Al Olya	M	M	NM	M	M	M	M	M	M	M
	Ras Tanura	M	M	NM	M	M	M	M	M	M	M
	Nairiyah	M	M	NM	M	M	M	M	M	NM	M
	Rafiyah	NM	M	NM	M	M	M	NM	M	PM	M
	Salwa	M	M	NM	M	M	M	M	M	M	M
	Mulaijah	M	M	NM	M	M	M	M	M	M	M
	Anak	NM	M	NM	M	M	M	M	M	PM	M
	Urairah	M	M	NM	M	M	M	M	M	NM	M
	Khafji	M	M	NM	M	M	M	M	M	M	M
	Batha	M	M	NM	PM	M	M	M	M	M	M
PHC's	Qatif	M	M	NM	NM	M	M	NM	NM	PM	PM
	Ras Tanura/Safwa	M	M	NM	M	NM	M	NM	M	NM	M
	Al-Khobar	M	M	NM	M	M	M	M	M	M	M

Table 6. Compliance with PD Process Standards 6-10, in Facilities and Networks 2021-2023

Standards: M = Met PM = Partially Met NM = Not Met NA = Not Applicable		Practice Transition Accreditation Program based on Resource and SOS		Nursing Research & Journal Club for EBP		Simulation & Skills Lab		Performance Appraisal Methods (Self, Peer & 360 Degree Appraisal)		Supports Nursing Services with CBAHI Nursing Standards	
		2021	2023	2021	2023	2021	2023	2021	2023	2021	2023
SPECIALIST HEALTH NETWORK HOSPITALS	Maternity & Children Hospital	NM	NM	PM	M	M	M	M	M	M	M
	Saud Al-Babtain Cardiac Center	NM	NM	M	M	M	M	M	M	M	M
	Dhahran Eye Specialist	NM	NM	M	PM	M	M	PM	M	M	M
	Erada Mental Health Complex	NM	NM	PM	M	PM	M	PM	M	M	M
	King Fahd Specialist	PM	PM	M	M	M	M	M	M	M	M
HEALTH NETWORK HOSPITALS	Dammam Medical Complex	NM	NM	PM	M	M	M	PM	M	M	M
	Qatif Central Hospital	NM	NM	M	M	M	M	M	M	M	M
	Jubail General Hospital	NM	NM	PM	M	M	M	PM	M	M	M
RURAL HEALTH NETWORK HOSPITALS	Safwa	NM	NM	NM	M	PM	M	PM	M	M	M
	Abqaiq	NM	NM	NM	M	PM	M	PM	M	M	M
	Qaryat Al Olya	NM	NM	PM	M	PM	M	PM	M	M	M
	Ras Tanura	NM	NM	NM	M	PM	M	PM	M	M	M
	Nairiyah	NM	NM	NM	M	PM	M	PM	M	M	M
	Rafiyah	NM	NM	NM	M	PM	M	PM	M	PM	M
	Salwa	NM	NM	NM	M	PM	PM	PM	M	M	M
	Mulaijah	NM	NM	NM	M	PM	M	PM	M	M	M
	Anak	NM	NM	NM	M	PM	PM	PM	M	NA	M
	Urairah	NM	NM	NM	M	PM	PM	PM	M	M	M
PHC's	Khafji	NM	NM	NM	M	M	M	PM	PM	M	M
	Batha	NM	NM	NM	NM	PM	PM	PM	PM	NM	NM
	Qatif	NM	NM	NM	M	PM	M	PM	M	M	M
	Ras Tanura/Safwa	NM	NM	NM	M	NM	M	PM	M	M	M
	Al-Khobar	NM	NM	NM	M	NM	NM	PM	PM	M	M

Table 7. Compliance with PD Outcome Standards in Facilities and Networks 2021-2023

Standards: M: Met PM: Partially Met NM: Not Met NA: Not Applicable		Nursing Competency Assessment (Elsevier) & Leadership		Measurement Tool Post-PD Events (Kirkpatrick Model)		Evaluates Outcome of PD through Key Performance Indicators (KPIs)	
		2021	2023	2021	2023	2021	2023
SPECIALIST HEALTH NETWORK HOSPITALS	Maternity & Children Hospital	PM	M	PM	M	M	M
	Saud Al-Babtain Cardiac Center	NM	M	PM	PM	NM	M
	Dhahran Eye Specialist	M	M	PM	M	M	M
	Erada Mental Health Complex	M	M	PM	M	M	M
	King Fahd Specialist	M	M	PM	PM	M	M
HEALTH NETWORK HOSPITALS	Dammam Medical Complex	M	M	PM	M	M	M
	Qatif Central Hospital	M	M	M	M	M	M
	Jubail General Hospital	M	M	PM	M	M	M
RURAL HEALTH NETWORK HOSPITALS	Safwa	M	M	M	PM	M	M
	Abqaiq	PM	M	PM	PM	M	M
	Qaryat Al Olya	M	M	PM	PM	M	M
	Ras Tanura	M	M	PM	PM	M	M
	Nairiyah	PM	M	NM	PM	M	M
	Rafiyah	NM	M	NM	PM	NM	M
	Salwa	M	M	NM	M	M	M
	Mulaijah	PM	M	NM	PM	M	M
	Anak	M	M	NM	PM	M	M
	Urairah	PM	M	NM	PM	M	M
PHC's	Khafji	PM	M	NM	PM	M	M
	Batha	PM	NM	NM	NM	NM	NM
	Qatif	M	M	PM	PM	M	M
	Ras Tanura/Safwa	PM	M	NM	PM	M	M
	Al-Khobar	M	M	M	M	M	M

8. Discussion

This study aims to strengthen EHC NPD capabilities to ensure that all departments are able to provide optimal support to nurses so that they can perform their jobs to the best of their ability and achieve best care outcomes.

The findings show that most facilities have strengthened their capabilities as they were able to meet more than 90% of standards by the end of the three-year period. The largest percentage increases are in the rural health network hospitals and PHC's. These facilities faced many challenges prior to the formation of the EHC due to relatively weak infrastructures, lack of leadership strength and continuity, and limited resources and therefore had the most opportunities for improvement.

Concurrent with the literature, the PD strategic plan to strengthen capabilities is aligned with international standards in order to improve the quality and effectiveness of nursing education [20]. The development and Implementation of the gap assessment tool, as a standardized framework for reform within EHC facilities, provides comprehensive standards [33] that can be applied collectively to maximize the capability of PD departments and ensure their efficiency. Consistent with Mezirow's theory [29], the tool facilitates the development of new knowledge and amongst PD leaders as they incorporate the structure, process, and outcome standards necessary to strengthen PD departments in EHC facilities [34]. PD leaders in all facilities are supported through the monthly EHC Nursing PD council meeting where the EHC PD Director oversees and guides the implementation of strategies required and to strengthen capabilities. Additionally, council members are able to learn from PD leaders in larger EHC facilities whose PD departments are already well established.

Structural standards have significantly improved in EHC PD departments, by the end of 2023, the compliance rate is 88% with fully met standards, There is a new found sense of purpose, direction, and unity following the standardization and implementation of governance frameworks within departments which include the mission, vision and core values, scope of service, organizational structure, and nursing PD framework. The development and implementation of EHC PD policies and competencies provides a standardized approach to train and educate nurses in order to achieve a competent Nursing workforce in all EHC facilities [18,19]. Additionally, standardization and implementation of the learning needs assessment tool ensures that educational needs are identified and met within the diverse nursing workforce. The requirement for individualized development plans was introduced as a new standard in 2023. Although this is the main area of non-compliance, it was due to misunderstanding in PD departments as they believed that a learning plan rather than a development plan should be implemented. This misperception has since been corrected and emphasizes the importance of improved communication with feedback to confirm understanding. The remaining unmet standards are in one rural health network hospital which faces many challenges due to its remote location: lack of leadership continuity, assignment of new leaders without training, minimal

staffing resources in terms of quantity and experience, greatly hamper any progress. Clearly, a competent, committed and supported nursing leadership is essential if capabilities are to be effectively strengthened.

Compliance with process standards has significantly improved to 83.5% in PD departments by the end of 2023. An annual calendar of events is available at EHC centrally and in all facilities which provides an enhanced educational program to meet the needs of nurses throughout the Cluster and raise their professional standing [22,23,24]. Strengthening PD capabilities through availability and accessibility to courses is important for all facilities but especially the rural health network hospitals and PHC's where spaces are allocated to ensure proportionate representation. Underpinned by the Transformative Learning Theory [29], a broad spectrum of workshops and courses are provided on an annual basis. The provision of a competency framework for all workshops, aligned with international standards and supported by a mentorship program, ensures that nurses can return to their clinical areas and continue to develop competence by learning from experience [25,35]. Although simulation and skill labs are now available in most facilities there are challenges in some rural health network hospitals and one PHC due to lack of space and resources. In order to address these issues, the plan is to equip a mobile skills lab in the near future so that nurses will be engaged in education with an improved learning outcome. The EHC Nursing research and Evidence Based Practice Council plays an important role in establishing journal clubs within facilities to improve research skills, job satisfaction and raise the standing of nurses as professionals in the healthcare system [23]. As nurses in most facilities are now familiar with research standards and critiquing, the next step will be to implement evidence-based standards into practice. The main area of non-compliance with process standards is the implementation of the practice transition accreditation program. However, it is expected that compliance will be low. As the program is aligned with Magnet standards, one facility with Magnet accreditation was able to partially meet the standard. The remaining facilities are starting the Magnet journey and this will be a long-term goal.

Outcome standards have significantly improved in EHC PD departments, by the end of 2023, the compliance rate is 75.4% with fully met standards. Nursing competency assessments have been successfully implemented and PD outcomes are being evaluated in all facilities except one rural health hospital which is under resourced. The main area of non-compliance with outcome standards is the implementation of the post PD measurement tool. Although the Kirkpatrick model is advocated, which uses four levels of evaluation, there is a lack of clarity to suggest how it should be implemented. A standardized tool must be developed and PD leaders educated about how to apply it if it is to provide accurate data about PD events.

EHC PD capabilities have been strengthened in relation to structure, process, and outcome standards identified in the gap assessment tool. Although some facilities are not able to meet standards at this current time due to a lack of resources, the tool provides a comprehensive framework which can be applied within all facilities to strengthen their PD capabilities.

Recommendations and Implications for Nursing practice

All facilities found the assessments to be beneficial in raising the nursing education standards and preparing them for national and international accreditation. Further to the requirement for excellence in healthcare to meet the 2030 vision, it is important to continue the project to strengthen and maintain capabilities in all facilities irrespective of their level of development.

It is recommended to:

- Enhance communication and leadership accountability among NPD leaders
- Provide support to Rural Health Networks that includes staff, resources and skill labs
- Continue mentoring and training NPD leaders to develop SMART goals for strategic plan with metrics and KPIs relevant to education and training including measuring the impact of training

Additionally, EHC headquarters has revised the gap assessment tool to raise the standards and expectations in 2024-2025. In relation to this, Nursing Research and Journal Club standards will require that evidence is provided through policy development to continue to improve nursing care through the implementation of evidence-based practice. Secondly, evidence will be required to validate that nurses' performance pertaining to knowledge, skills, or attitude has improved due to competency assessment.

Consideration should be given to replicating the study and conducting it as a multi cluster project at national level in order to strengthen PD capabilities in all Ministry of Health facilities.

Limitations

Although PHC's were included in the study, the sample size may not have been large enough to ensure that the results were representative of all PHC's and can therefore be generalized to all PHC's in EHC.

Conclusion

Strengthening Nursing Professional Development capabilities in EHC has supported all NPD leaders to develop their leadership skills and also assisted them in improving their NPD departments to compete with national and international standards. This project is advised to be continued in order to maintain and sustain the success. The ultimate impact of strengthening NPD capabilities is the expected positive impact on nurses to deliver high quality evident based patient care to the best of their ability.

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Conflict of Interest Disclosure

There are no conflicts of interest

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