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Model of care knowledge among Northern Border Health Cluster staff at the Ministry of Health, Saudi Arabia

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Abstract

Background: The model of care is a fundamental framework that directs the provision of medical services and has a big impact on provider effectiveness and patient outcomes. **Objective**: the aim of this study is to evaluate the knowledge of staff (health workers and admin) about model of care working in Northern Border Health Cluster (N1C) of Saudi Arabia. **Methods:** This cross-sectional study was conducted in the Northern Border Health Cluster hospitals situated in the Northern border of Saudi Arabia. The questionnaire for the data collected was obtained from the previously published research. The questionnaire link was sent to all healthcare staff working at the N1C hospitals electronically until reach to the required sample size. **Results:** About 380 responded to the study's survey.About45.3% of participants were agreed and 33.4% were Strongly agree that Model of Care will improve the quality of healthcare services the patient is receiving. About (42.9%) of participants were agreed and about (33.2%) were Strongly agree that that Model of Care will have a positive impact on their career. About (43.4%) of participants were agreed and about (34.5%) were Strongly agree to participate in the implementation of Model of Care There is statistically significant association between Job function (p-value < .001) and type of work facility (p- value .022) regarding their awareness about outcomes is Model of Care aiming to achieve. There is statistically significant association between gender (P-value .030), job function (P-value .002) and type of work facility (P- value .039)and confidence levels with staff sharing their to explain what the MoC is to a colleague or a friend. About (43.4%) of participants were agreed and about (31.6%) were Strongly agree to convince colleagues and friends of the benefits of Model of Care.**Conclusion:** In this study, each dimension gave an promising assessment of the MoC expertise of Northern Border Health Cluster (N1C) staff. The Northern Border Health Cluster (N1C) staff who participated in this study had good knowledge of MoC.

Introduction:

The way of delivering the healthcare services is known as "model of care". The aim of model of care is to ensure that patients will receive the appropriate care at appropriate time from the right team and in the right place (1). In the Saudi Arabia, there are three main sectors which provide healthcare services: the Ministry of Health (MOH) network of hospitals, primary care centers and other governmental sectors and private institutions (2).

Health cluster is a single administrative structure that integrated and interconnected the healthcare providers with the aim to facilitate the beneficiaries to access the health services and move them between several types of care (3). The Saudi MOH devised a new model of care (MoC) in 2018 which is based on six care systems

which covers a person's needs throughout the life span (4). The model is called as six system of care (SoC): "Keep Well", "Planned Care", "Safe Birth", "Urgent Care", "Chronic Care" and "Last Phase" (5,6). The MoC is also adopted in other countries to facilitate the process of providing healthcare as well as to improve the workload. A study published from Australia aimed to implement the model of emergency nursing care at an Australian hospital that improved nursing workloads and promotes individual responsibility and accountability for patient care since a fastpaced, quick turnover rate characterized emergency departments alongside a highacuity workload (7). The study findings provided that after implementing the emergency nursing care model indicated improvement in staff satisfaction about workload and patient care (7).

A study published by Alomari NA et al. from Riyadh, Saudi Arabia in which authors assessed the knowledge of Riyadh first health cluster (C1) staff knowledge about MoC. The knowledge was assessed through awareness, understanding, acceptance and action, it was found that the C1 staff had good knowledge about the MoC in Saudi Arabia (4). The emergency care model was also adopted by the Makkah Health Affairs and began the pilot stage of the model at the Kedi and Al-Eskan health centers in 2018 to relieve the pressure on the emergency department (8).

Rational and importance of the study:

From the review of the literature, it was found that few studies have been conducted in Saudi Arabia to evaluate the knowledge of healthcare staff about the model of care. The MoH implemented a new model of care in 2018 however its knowledge among the staff (health workers and admin) was hardly evaluated. Especially the MoC knowledge among N1C healthcare staff working in Northern border was not evaluated. This provides the rationale for the present study to evaluate the N1C healthcare staff knowledge about MoC working in Northern border of Saudi Arabia.

Study objectives:

Aim of this study is to evaluate the knowledge of staff (health workers and admin) about model of care working in Northern Border Health Cluster (N1C) of Saudi Arabia.

Methods:

This cross-sectional study wasconducted in the Northern Border Health Cluster hospitals situated in the Northern border of Saudi Arabia. The questionnaire for the data collected wasobtained from the previously published research hence the validation of the questionnaire will not be required (4). The questionnaire link wassent to all healthcare staff working at the N1C hospitals electronically until reach to the required sample size.

To determine the sample size for the study, a simple random sampling technique wasused. Every healthcare worker or admin staff will have equal chances to be included in the study hence inclusion probability will be 50%, confidence interval will be set as 95% and estimated population of staff working in first health cluster in the Northern border is 6710. Hence, the calculated sample size for the study is 354. An online software called "OpenEPI" was used for the calculation of sample size (https://www.openepi.com/SampleSize/SSPropor.htm). The study providedthe level of knowledge of the healthcare workers working at the Northern border hospitals about the currently implemented model of care. By identification of the categories of staff who might have lack of knowledge about MoC, this study highlights the areas where increase in the level of knowledge is required.

Inclusion Criteria:

1. The healthcare staff must be working in N1C category institution.
2. The age must be at least 18 years.

Exclusion Criteria:

Any participant who does not work in the Northern border N1C category institution was excluded from the study.

Data collection tool:

The data collection tool which was used in the present for the data collection will be taken from the previously published study. Permission will be obtained from the authors to use the questionnaire and a translated version of the questionnaire will be taken. Hence, the Arabic version of the data collection tool will be obtained and was used in the study. If there are any modifications required in the questionnaire then validity testing was performed by conducting the pilot study first. Twenty-five to thirty responses was collected, and Cronbach's Alpha was computed for the validity testing.

The questions included in the questionnaire was demographics (age, gender etc.) and work-related questions (area of work, experience, hospital type, contract type, etc.). The questionnaire will proceed with the questions related to participants' knowledge about the model of care terminology. The preceding sections of the questionnaire will consist of the statements which can be responded with 5-point Likert scale. The responses was varied from strongly disagree to strongly agree. A detailed version of the questionnaire was provided in the appendix.

Statistical analysis:

An online software called "OpenEPI" was used for the calculation of sample size

The statistical package for social sciences (SPSS v.23) was used for data analysis. Frequency distribution tables was generated for the categorical variables. Mean and standard deviations will be computed for the responses of Likert scale questions. Normality of the data was tested by using Shapiro-Wilk test and insignificant results provide the normal distribution of the data otherwise data was not be normally distributed. Hence, to compare the average score with the categorical variables with two categories, independent samples T-test/Mann Whiteny U test will be used. For the comparison of average scores with categorical variables with three or more categories, one-way ANOVA/ Kruskal Wallis test was used. All p-values less than 0.05 will be considered statistically significant.

Results

Table (1) Characteristics of Participants

variable	**N (%)** **380 (100%)**
Gender	
Male	162 (42.6%)
Female	218 (57.4%)
	Job Function
Physician	87 (22.9%)
Pharmacist	16 (4.2%)
Nurse	184 (48.4%)
Management/ admin	38 (10)
Allied Health	55 (14.5%)
Years of experience	
0-1 years	6 (1.6%)
2-5 years	63 (16.6%)
6-10 years	111 (29.2%)
11-20 years	159 (41.8%)
More than 20 years	41 (10.8%)
Type of work facility	
Medical city	1 (.3%)
Primary health care (PHC)	135 (35.5%)
Hospital or specialized health center	244 (64.2%)
Type of working contract	
Hired directly under Self Operating Program	114 (30%)
Moved from Civil service to Self Operating Program	11 (2.9%)
Civil service	255 (67.1%)
Facility is part of a cluster	
Yes	368 (96.8%)
No	8 (2.1%)
I am not sure	4 (1.1%)

Table (1) Showscharacteristics of participants . About 380 responded to the study's survey.More than half of them (57.4%) were females . Based on jobs, nurses represented the highest percent of the respondents (48.4%) followed

by Physician (22.9%) . The staff with 11-20 of experience represented (41.8%) among participants . Nearly (64.2%) of participants reported working in Hospital or specialized health center. Regarding type of working contract about two thirds (67.1%) had Civil service. Majority of participants (96.8%) stated that their facility is part of a cluster

Table 2: Job function according to the gender

Job Function	Male n (%) 162(42.6%)	Female n (%) 218 (57.4%)	Total 380 (100%)
Physician	50 (13.2%)	37 (9.7%)	87 (22.9%)
Pharmacist	6 (1.6%)	10 (2.6%)	16 (4.2%)
Nurse	38 (10.0%)	146 (38.4%)	184 (48.4%)
Allied Health	40 (10.5%)	15 (3.9%)	55 (14.5%)
Management/ admin	28 (7.4%)	10 (2.6%)	38 (10.0%)

Table (2) According to job function of participants,Nurses represent the highest percent among them (48.4%).Based on gender ., 13.2% and 10.5% among males were physician and allied health respectively .About 38.4 % and 9.7% among females were nurses and physicianrespectively.

Table 3: Staff who answer which outcomes is Model of Care aiming to achieve

Variables	Detecting diseases early	Ensuring patient has a clear path through healthcare system	Preventing healthy people from getting sick	Not sure	Two aims	All three aims	p-value*
	16 (4.2%)	74 (19.5%)	23 (6.1%)	39 (10.3%)	44 (11.6%)	184 (48.4%)	
Gender							
Male	4 (1.1%)	32 (8.4%)	9 (2.4%)	16 (4.2%)	19 (5.0%)	82 (21.6%)	.778
Female	12 (3.2%)	42 (11.1%)	14 (3.7%)	23 (6.1%)	25 (6.6%)	102 (26.8%)	
Job function							
Physician	0	11 (2.9%)	6 (1.6%)	2 (0.5%)	5 (1.3%)	63 (16.6%)	**<.001**
Pharmacist	0	3 (0.8%)	1 (0.3%)	4 (1.1%)	2(0.5%)	6 (1.6%)	
Nurse	13 (3.4%)	37 (9.7%)	8 (2.1%)	17 (4.5%)	24 (6.3%)	85 (22.4%)	
Management	2 (0.5%)	13 (3.4%)	1 (0.3%)	3 (0.8%)	4 (1.1%)	15 (3.9%)	
Allied Health	1 (0.3%)	10 (2.6%)	7 (1.8%)	13 (3.4%)	9 (2.4%)	15 (3.9%)	
Years of experience							
0-1 years	1 (0.3%)	1 (0.3%)	0	0	0	4 (1.1%)	.211
2-5 years	2 (0.5%)	14 (3.7%)	5 (1.3%)	8 (2.1%)	7 (1.8%)	27 (7.1%)	
6-10 years	6 (1.6%)	16 (4.2%)	8 (2.1%)	15 (3.9%)	7 (1.8%)	59 (15.5%)	
11-20 years	4 (1.1%)	30 (7.9%)	10 (2.6%)	15 (3.9%)	24 (6.3%)	76 (20.0%)	
≥ 20 years	3 (0.8%)	13 (3.4%)	0	1 (0.3%)	6 (1.6%)	18 (4.7%)	
Type of work facility							
Medical city	0	1(0.3%)	0	0	0	0	**.022**
PHC	4 (1.1%)	25 (6.6%)	7 (1.8%)	6 (1.6%)	11 (2.9%)	82 (21.6%)	
Hospital	12 (3.2%)	48(12.6%)	16 (4.2%)	33 (8.7%)	33 (8.7%)	102 (26.8%)	

***Chi-square**

Table 3 Shows the respondents' answers to "which outcome is the MoC aiming to achieve?" and were intended to measure staff 's understanding by comparing across genders, jobs, years of experience, and facility type . Participants answered this question as follows. • "Detecting diseases early": (4.2%) • "Ensuring the patient has a clear path through the healthcare system": (19.5%) •"Preventing healthy people from getting sick": (6.1%) • "Not sure ": (10.3%) . •

"Two aims": (11.6%) • "All three aims": (48.4%).There is statistically significant association between Job function (p-value < .001) and type of work facility (p- value .022) regarding their awareness about outcomes is Model of Care aiming to achieve.

Table 4: Staff who can confidently explain what Model of Care is to a colleague or a friend

Variables	Agree	Strongly agree	Disagree	Strongly disagree	Neutral	p-value*
	157 (41.3%)	95 (25.0%)	16 (4.2%)	3 (0.8%)	109 (28.7%)	
Gender						
Male	65 (17.1%)	47 (12.4%)	11 (2.9%)	0	39 (10.3%)	**.030**
Female	92 (24.2%)	48 (12.6%)	5 (1.3%)	3 (0.8%)	70 (18.4%)	
Job function						
Physician	48 (12.6%)	24 (6.3%)	1 (0.3%)	0	14 (3.7%)	**.002**
Pharmacist	6 (1.6%)	1 (0.3%)	2 (0.5%)	0	7 (1.8%)	
Nurse	72 (18.9%)	51 (13.4%)	6 (1.6%)	2 (0.5%)	53 (13.9%)	
Management	15 (3.9%)	8 (2.1%)	0	0	15 (3.9%)	
Allied Health	16 (4.2%)	11 (2.9%)	7 (1.8%)	1 (0.3%)	20 (5.3%)	
Years of experience						
0-1 years	3 (0.8%)	0	0	0	3 (0.8%)	.785
2-5 years	24 (6.3%)	14 (3.7%)	3 (0.8%)	0	22 (5.8%)	
6-10 years	43 (11.3%)	26 (6.8%)	7 (1.8%)	1 (0.3%)	34 (8.9%)	
11-20 years	68 (17.9%)	42 (11.1%)	4 (1.1%)	2 (0.5%)	43 (11.3%)	
≥ 20 years	19 (5.0%)	13 (3.4%)	2 (0.5%)	0	7 (1.8%)	
Type of work facility						
Medical city	1 (0.3%)	0	0	0	0	**.03**
PHC	54 (14.2%)	48 (12.6%)	4 (1.1%)	1 (0.3%)	28 (7.4%)	
Hospital	102 (26.8%)	47 (12.4%)	12 (3.2%)	2 (0.5%)	81 (21.3%)	

***Chi-square**

Table (4) The question "I am confident that I can " was issue to staff reactions and confidence levels with staff sharing their understandings. The respondents' total agreement was about 41.3% were agreed and one quarter of them (25%) were strongly agreed . There is statistically significant association between gender (P-value .030), job function (P-value.002) and type of work facility (P- value .039)and confidence levels with staff sharing their toexplain what the MoC is to a colleague or a friend.

Table 5: Staff agreed that Model of Care will improve the quality of healthcare services the patient is receiving *Chi square

Variables	Agree	Strongly agree	Disagree	Strongly disagree	Neutral	pvalue*
	163 (42.9%)	126 (33.2%)	8 (2.1%)	3 (0.8%)	80 (21.1%)	
Gender						
Male	65 (17.1%)	60 (15.8%)	6 (1.6%)	1 (0.3%)	30 (7.9%)	.186
Female	98 (25.8%)	66 (17.4%)	2 (0.5%)	2 (0.5%)	50 (13.2%)	
Job function						
Physician	40 (10.5%)	34 (8.9%)	1 (0.3%)	0	12 (3.2%)	**< .001**
Pharmacist	9 (2.4%)	2 (0.5%)	0	0	5 (1.3%)	
Nurse	86 (22.6%)	64 1(16.8%)	1 (0.3%)	2 (0.5%)	31 (8.2%)	
Management	10 1(2.6%)	5 (3.9%)	0	0	13 (3.4%)	
Allied Health	18 (4.7%)	11 (2.9%)	6 (1.6%)	1 1(0.3%)	19 (5.0%)	
Years of experience						
0-1 years	2 (0.5%)	1 (0.3%)	0	0	3 (0.8%)	.186
2-5 years	26 (6.8%)	19 (5.0%)	2 (0.5%)	0	16 (4.2%)	
6-10 years	46 (12.1%)	34 (8.9%)	6 (1.6%)	2 (0.5%)	23 (6.1%)	
11-20 years	75 (19.7%)	53 (13.9%)	0	1 (0.3%)	30 (7.9%)	
≥ 20 years	14 (3.7%)	19 (5.0%)	0	0	8 (2.1%)	
Type of work facility						
Medical city	1 (0.3%)	0	0	0	0	**.015**
PHC	47 (12.4%)	63 (16.6%)	3 (0.8%)	1 (0.3%)	21 (5.5%)	
Hospital	115 (30.3%)	63 (16.6%)	5 (1.3%)	2 (0.5%)	59 (15.5%)	

Table (5) About 45.3% of participants were agreed and 33.4% were Strongly agree that Model of Care will improve the quality of healthcare services the patient is receiving. There is statistically significant association between job function p-value < .001 and type of facility p-value - .004 regarding respondents' opinion about Model of Care will improve the quality of healthcare services the patient is receiving.

Variables	Agree	Strongly agree	Disagree	Strongly disagree	Neutral	p-value*
	172 (45.3%)	127 (33.4%)	7 (1.8%)	2 (0.5%)	72 (18.9%)	
Gender						
Male	68 (17.9%)	62 (16.3%)	5 (1.3%)	0	27 (7.1%)	.121
Female	104 (27.4%)	65 (17.1%)	2 (0.5%)	2 (0.5%)	45 (11.8%)	
Job function						
Physician	42 (11.1%)	34 1(8.9%)	1 (0.3%)	0	10 (2.6%)	**< .001**
Pharmacist	8 (2.1%)	2 (0.5%)	0	0	6 (1.6%)	
Nurse	91 (23.9%)	63 (16.6%)	1 (0.3%)	1 (0.3%)	28 (7.4%)	
Management	12 (3.2%)	15 (3.9%)	0	0	11 (2.9%)	
Allied Health	19 (5.0%)	13 (3.4%)	5 (1.3%)	1 (0.3%)	17 (4.5%)	
Years of experience						
0-1 years	2 (0.5%)	1 (0.3%)	0	0	3 (0.	.120
2-5 years	25 (6.6%)	20 (5.3%)	2 (0.5%)	0	16 (4.2%)	
6-10 years	47 (12.4%)	34 (8.9%)	5 (1.3%)	1 (0.3%)	24 (6.3%)	
11-20 years	83 (21.8%)	53 (13.9%)	0	1 (0.3%)	22 (5.8%)	
≥ 20 years	15 (3.9%)	19 (5.0%)	0	0	7 (1.8%)	
Type of work facility						

Medical city	1 (0.3%)	0	0	0	0	**.004**
PHC	56 (14.7%)	63 (16.6%)	2 (0.5%)	1 (0.3%)	13 (3.4%)	
Hospital	115 (30.3%)	64 (16.8%)	5 (1.3%)	1 (0.3%)	59 (15.5%)	

Table 6: Staff agreed that Model of Care will have a positive impact on their career

***Chi-square**

Table (6) About (42.9%) of participants were agreed and about (33.2%)were Strongly agree that that Model of Care will have a positive impact on their career. There is statistically significant association between job function p-value < .001 and type of facilityp-value .015 regarding respondents' opinion that Model of Care will have a positive impact on their career.

Table 7: Staff who ready to participate in the implementation of Model of Care

Variables	**Agree**	**Strongly agree**	**Disagree**	**Strongly disagree**	**Neutral**	**pvalue***
	165 (43.4%)	120 (31.6%)	7 (1.8%)	3 (0.8%)	85 (22.4%)	
Gender						
Male	70 (18.4%)	57 (15.0%)	6 (1.6%)	1 (0.3%)	28 (7.4%)	**.043**
Female	95 (25.0%)	63 (16.6%)	1 (0.3%)	2 (0.5%)	57 (15.0%)	
Job function						
Physician	41 (10.8%)	32 (8.4%)	0	0	14 (3.7%)	**< .001**
Pharmacist	6 (1.6%)	3 (0.8%)	0	0	7 (1.8%)	
Nurse	84 (22.1%)	61 (16.1%)	1 (0.3%)	2 (0.5%)	36 (9.5%)	
Management	15 (3.9%)	13 (3.4%)	0	0	10 (2.6%)	
Allied Health	19 (5.0%)	11 (2.9%)	6 (1.6%)	1 (0.3%)	18 (4.7%)	
Years of experience						
0-1 years	2 (0.5%)	0	0	0	4 (1.1%)	.073
2-5 years	28 (7.4%)	17 (4.5%)	1 (0.3%)	0	17 (4.5%)	
6-10 years	47 (12.4%)	32 (8.4%)	6 (1.6%)	2 (0.5%)	24 (6.3%)	
11-20 years	71 (18.7%)	54 (14.2%)	0	1 (0.3%)	33 (8.7%)	
≥ 20 years	17 1(4.5%)	17 (4.5%)	0	0	7 (1.8%)	
Type of work facility						
Medical city	1 (0.3%)	0	0	0	0	**.020**
PHC	51 (13.4%)	60 (15.8%)	2 (0.5%)	1 (0.3%)	21 (5.5%)	
Hospital	113 (29.7%)	60 (15.8%)	5 (1.3%)	2 (0.5%)	64 (16.8%)	

***Chi-square**

Table (7) About (43.4%) of participants were agreed and about (34.5%) were Strongly agree to participate in the implementation of Model of Care .There is statistically significant association between Gender p-value .022,job function p-value < .001 and type of facilityp-value .005 regardingStaff ' opinion to participate in the implementation of Model of care.

Variables	**Agree**	**Strongly agree**	**Disagree**	**Strongly disagree**	**Neutral**	**pvalue***
	165 (43.4%)	131 (34.5%)	6 (1.6%)	2 (0.5%)	76 (20.0%)	
Gender						
Male	69 (18.2%)	64 (16.8%)	5 (1.3%)	0	24 (6.3%)	**.022**
Female	96 (25.3%)	67 (17.6%)	1 (0.3%)	2 (0.5%)	52 (13.7%)	
Job function						
Physician	42 (11.1%)	35 (9.2%)	0	0	10 (2.6%)	**< .001**

Pharmacist	7 (1.8%)	3 (0.8%)	0	0	6 (1.6%)	
Nurse	84 (22.1%)	67 (17.6%)	1 (0.3%)	1 (0.3%)	31 (8.2%)	
Management	13 (3.4%)	15 (3.9%)	0	0	10 (2.6%)	
Allied Health	19 (5.0%)	11 (2.9%)	5 (1.3%)	1 (0.3%)	19 (5.0%)	
Years of experience						
0-1 years	2 (0.5%)	1 (0.3%)	0	0	3 (0.8%)	.132
2-5 years	28 (7.4%)	17 (4.5%)	1 (0.3%)	0	17 (4.5%)	
6-10 years	47 (12.4%)	34 (8.9%)	5 (1.3%)	1 (0.3%)	24 (6.3%)	
11-20 years	74 (19.5%)	59 (15.5%)	0	1 (0.3%)	25 (6.6%)	
≥ 20 years	14 (3.7%)	20 (5.3%)	0	0	7 (1.8%)	
Type of work facility						
Medical city	1 (0.3%)	0	0	0	0	**.005**
PHC	52 (13.7%)	65 (17.1%)	1 (0.3%)	1 (0.3%)	16 (4.2%)	
Hospital	112 (29.5%)	66 (17.4%)	5 (1.3%)	1 (0.3%)	60 (15.8%)	

Table 8: Staff who are ready to convince colleagues and friends of the benefits of Model of Care *Chi-square

Table (8) About (43.4%) of participants were agreed and about (31.6%) were Strongly agree to convince colleagues and friends of the benefits of Model of Care. There is statistically significant association between Gender p-value .043, job function p-value < .001 and type of facilityp-value .02 regardingStaff ' opinion to convince colleagues and friends of the benefits of Model of Care.

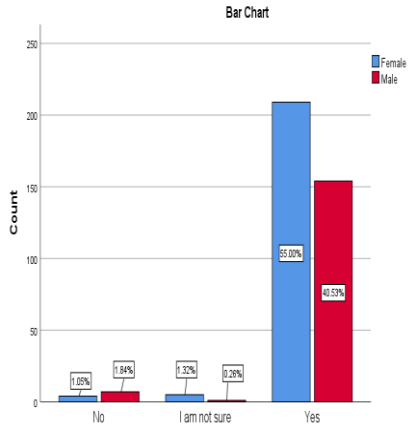

Figure 1: Staff who heard of transformation based on gender.

Based on gender ., It was found that 55% of participants reported that they heard of transformation were females and 40.5 % were males.

Table9: Staff awareness

Variable	**N (%) 380 (100%)**
Have you heard of the transformation happening in the Health Care sector?	
Yes	363 (95.5%)
No	11 (2.9%)

Not sure	6 (1.6%)
Have you heard of Model of Care?	
Yes	325 (85.5%)
No	28 (7.4%)
Not sure	27 (7.1%)
Have you heard of Corporatization?	
Yes	323 (85.0%)
No	27 (7.1%)
Not sure	30 (7.9%)
Have you heard of the Program for Health Assurance and Purchasing (PHAP)?	
Yes	167 (43.9%)
No	138 (36.3%)
Not sure	75 (19.7%)
Have you heard of the Workforce program?	
Yes	236 (62.1%)
No	99 (26.1%)
Not sure	45 (11.8%)
Have you heard of HoldCo ?	
Yes	359 (94.5%)
No	12 (3.2%)
Not sure	9 (2.4%)

Table (9) Shows that (95.5%) of participants heard of the transformation happening in the Health Care sector. (85.5%) stated that they heard of Model of Care. Also (85%) heard of Corporatization. About (43.9%) of them answered yes when asking them if they heard of the Program for Health Assurance and Purchasing (PHAP). In addition to this (62.1%) heard about Workforce program and (94.5%)heard of Hold Co.

Variables	**N (%) 380 (100%)**
I am confident that I can explain what Corporatization is to a colleague or a friend	
Agree	155 (40.8%)
Strongly agree	80 (21.1%)
Disagree	14 (3.7%)
Strongly disagree	3 (.8%)
Neutral	128 (33.7%)
Corporatization will have a positive impact on my career	
Agree	170 (44.7%)
Strongly agree	92 (24.2%)
Disagree	9 (2.4%)
Strongly disagree	3 (.8%)
Neutral	106 (27.9%)
Corporatization is necessary to improve healthcare for my friends and family	
Agree	166 (43.7%)

Strongly agree	100 (26.3%)
Disagree	8 (2.1%)
Strongly disagree	2 (.5%)
Neutral	104 (27.4%)
I am ready to participate in the implementation of Corporatization	
Agree	163 (42.9%)
Strongly agree	103 (27.1%)
Disagree	10 (2.6%)
Strongly disagree	2 (.5%)
Neutral	102 (26.8%)
I am ready to convince my colleagues and friends about the benefits of Corporatization	
Agree	157 (41.3%)
Strongly agree	93 (24.5%)
Disagree	13 (3.4%)
Strongly disagree	2 (.5%)
Neutral	115 (30.3%)
My Corporatization leaders inspire me to go above and beyond	
Agree	151 (39.7%)
Strongly agree	91 (23.9%)
Disagree	11 (2.9%)
Strongly disagree	5 (1.3%)
Neutral	122 (32.1%)

Table (10) Staff opinions' regarding Corporatization

Table (10) out of total number of participants as regarding Corporatization (40.8%) agreed about confidence to explain what Corporatization is to a colleague or a friend. (44.7%) agreed that Corporatization will have a positive impact on their career. (43.7%) stated agreement that Corporatization is necessary to improve healthcare for friends and family. More over (42.9%) agreed to participate in the implementation of Corporatization. (41.3%) agreed to convince colleagues and friends about the benefits of Corporatization. (39.7%) reported agreement that Corporatization leaders inspire to go above and beyond.

Table (11) Staff opinions' regarding Program for Health Assurance and Purchasing

Variables	**N (%)** **380 (100%)**
I am confident I can explain what the Program for Health Assurance and Purchasing (PHAP) is toa colleague or a friend	
Agree	111 (29.2%)
Strongly agree	71 (18.7%)
Disagree	12 (3.2%)
Strongly disagree	3 (.8%)
Neutral	183 (48.2%)
I think that the PHAP program will improve the quality of the healthcare service	
Agree	140 (36.8%)
Strongly agree	80 (21.1%)
Disagree	8 (2.1%)
Strongly disagree	2 (.5%)
Neutral	150 (39.5%)

I think that the entity purchasing health equipment should be separated from thefrom the one paying for it	
Agree	117 (30.8%)
Strongly agree	84 (22.1%)
Disagree	7 (1.8%)
Strongly disagree	2 (.5%)
Neutral	170 (44.7%)
I am ready to participate in the implementation of PHAP	
Agree	128 (33.7%)
Strongly agree	78 (20.5%)
Disagree	7 (1.8%)
Strongly disagree	2 (.5%)
Neutral	165 (43.4%)
I am ready to convince my colleagues and friends about the benefits of PHAP	
Agree	118 (31.1%)
Strongly agree	74 (19.5%)
Disagree	7 (1.8%)
Strongly disagree	2 (.5%)
Neutral	179 (47.1%)
My PHAP leaders inspire me to go above and beyond	
Agree	114 (30.0%)
Strongly agree	74 (19.5%)
Disagree	8 (2.1%)
Strongly disagree	4 (1.1%)
Neutral	180 (47.4%)

Table (11) Out of total number of participants as regarding Program for Health Assurance and Purchasing(48.2%) wereneutral about confidence to explain what the Program for Health Assurance and Purchasing (PHAP) is to a colleague or a friend. Opinion of (39.5%) of them were neutral that PHAP program will improve the quality of the healthcare service. (44.7%) stated they were neutralwhen they were asked about if the entity purchasing health equipment should be separated from the one paying for it. Furthermore (43.4%) stated they were neutral to participate in the implementation of PHAP. (47.1%) were neutral to convince colleagues and friends about the benefits of PHAP. (47.4%) reported their openion is neutral as regard that PHAP leaders inspire to go above and beyond.

Table (12) Staff opinions' regarding Workforce Program

Variables	**N (%) 380 (100%)**
I am confident I can explain what Workforce Program is to a colleague or a friend	
Agree	137 (36.1%)
Strongly agree	77 (20.3%)
Disagree	16 (4.2%)
Strongly disagree	5 (1.3%)
Neutral	145 (38.2%)
There is a need for Workforce program to raise efficiency of local staff	
Agree	149 (39.2%)
Strongly agree	90 (23.7%)
Disagree	11 (2.9%)
Strongly disagree	4 (1.1%)
Neutral	126 (33.2%)
There is a need for Workforce program to increase training effectiveness of staff	
Agree	145 (38.2%)
Strongly agree	94 (24.7%)

Disagree	11 (2.9%)
Strongly disagree	5 (1.3%)
Neutral	125 (32.9%)
I am ready to participate in the implementation of Workforce Program	
Agree	143 (37.6%)
Strongly agree	91 (23.9%)
Disagree	11 (2.9%)
Strongly disagree	5 (1.3%)
Neutral	130 (34.2%)
I am ready to convince my colleagues and friends about the benefits of Workforce Program	
Agree	135 (35.5%)
Strongly agree	90 (23.7%)
Disagree	12 (3.2%)
Strongly disagree	5 (1.3%)
Neutral	138 (36.3%)
My Workforce program leaders inspire me to go above and beyond	
Agree	137 (36.1%)
Strongly agree	81 (21.3%)
Disagree	13 (3.4%)
Strongly disagree	5 (1.3%)
Neutral	144 (37.9%)

Table (12) out of total number of participants as concerning Workforce Program (38.2%) wereneutral about confidence to explain what the Workforce Program is to a colleague or a friend. About (39.2%) of them agreed that there is a need for Workforce program to raise efficiency of local staff . Also (38.2%) agreed that there is a need for Workforce program to increase training effectiveness of staff. Furthermore (37.6%) revealed agreement to participate in the implementation of Workforce Program. (36.3%) reported their opinion is neutral to convince colleagues and friends about the benefits of Workforce Program. (37.9%) reported their estimation is neutral as regard that Workforce program leaders inspire to go above and beyond.

Discussion

This study was assessing the knowledge of health staff workers about model of care (MOC) working in Northern Border Health Cluster (N1C) of Saudi Arabia. According to this study, each dimension gave an promising assessment of the MoCexpertise of Northern Border Health Cluster (N1C) staff.

Out of all the tables showing our data, the most remarkable feature is that job function and type of work facility have significant impact and association with each dimension regarding assessment of (MOC).

According to their job functions, we found that nurses and physicians had better knowledge and comprehendedunderstanding of (MoC) . Compared to other healthcare personnel, nurses and physicians have a greater awareness and knowledge of MOC as a result of some characteristics taken together. Being directly involved in patient care and their experiences allows them to gain practical insights of how the healthcare system operates.

Regarding type of work facility hospital staff members found to had better knowledge and agreement about motivation, readiness to change, and confidence in sharing their knowledge about the MoC since they usually work in specialized areas, they are able to acquire in-depth information of the model of care, which is why they frequently know more about it than those in primary health care. Additionally, hospitals might have greater resources, such interdisciplinary teams, expert consultations and access to research, which can improve staff understanding of efficient treatment models.

Based on gender there is statistically significant association between gender and several dimensions of knowledge assessment i.e confidence to explain (MOC) and also readiness to convince colleagues and friends of the benefits (MOC) . As we noticed that, with relation to several agreement scale questions, females had the highest agreement across these dimensions, suggesting that they are typically more aware about (MOC). Women frequently possess strong interpersonal and verbal communication skills which may help them better express complex challenging

concepts. Because of their socialization to be more nurturing and cooperative, women may be more inclined to share knowledge and support conversations about (MOC).

The result of the question stating, “The model of care will have a positive impact on my career,” reflects acceptance dimension measures,. This question’s agreement was among majority of (N1C) staff, which reflected a high level of acceptance toward the new MoC among them.

This implies that staff members are aware of the MoC's potential to improve their career advancement and satisfaction with work. This kind of acceptance can create an environment at work that promotes creativity and teamwork. The usefulness of the MoCinside the organization is further reinforced when staff have a favorable attitude toward organizational changes, which frequently results in higher morale and better patient care outcomes. The question that intended to measure (N1C) staff ’s actiondimension in their readiness to participate and in implementing the MoC in health system, The agreement level for this question was among majority of them . With high percent of agreement level among females ., Nurses and physicians .Also as regard place of work it was high among those who were working in hospital or specialized center.

A positive work environment that promotes involvement in change projects is seen in the high degree of agreement expressed by the majority of personnel. This preparedness indicates that staff members are willing to participate in the process and feel confident in their abilities, which is essential for the MoC's successful implementation.

The increased representation of women in nursing and healthcare positions, which is frequently accompanied by a strong dedication to patient care and organizational objectives, may be the reason for the higher degree of agreement among female staff . The viewpoints and experiences of this group can provide important context for the MoC process.

Changes in the healthcare system have a direct effect on nurses and doctors because they are frontline healthcare professionals. Their agreement demonstrates their understanding of the need for change and their willingness to modify their procedures in order to enhance patient outcomes, demonstrating their commitment to and accountability as professionals.

Staff in hospitals or specialized facilities could be more familiar with the challenges encountered in the healthcare system and the realities of healthcare delivery. Their consensus points to a common understanding of the necessity of employing efficient change management techniques to improve operational effectiveness and service delivery. Comprehending the demographics and work environments of staff members can assist in customizing training and communication strategies concerning the MoC. The health system can promote a more inclusive approach to change that optimizes involvement and support by attending to the unique needs and concerns of various groups (such as female staff ,nurses, and physicians). **Conclusion**

Since the introduction of Vision 2030, the Kingdom of Saudi Arabia has undergone a significant shift. The Saudi Arabian health care sector now has a clear direction owing to the new MoC's implementation. The efficient provision of healthcare services depends on the administrative and medical staff's understanding of (MOC) in the Northern Border Health Cluster.By filling in the current knowledge gaps and encouraging a culture of continuous learning, N1C can improve patient outcomes and its healthcare delivery. The results point to a strong basis for the MoC's implementation, since increased cooperation and more effortless changes can be facilitated by high preparedness levels among important stakeholders.However, there is still a shortage of research on the MoC and the change of the Saudi health sector. Future research is therefore required to assess the effectiveness of MoC pathways as well as their influence on healthcare delivery and general population health.

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