

INNOVATIONS IN CARE DELIVERY: A PRACTICE-BASED TYPOLOGY FOR DRIVING CHANGE

Heather Nelson-Brantley, PhD, RN, NEA-BC; Bret Lyman, PhD, RN; Sue Weaver, PhD, RN, CRNI, NEA-BC; Esther Chipps, PhD, RN, NEA-BC, FAONL; Amany Farag, PhD, RN; M. Lindell Joseph, PhD, RN, FAAN, FAONL



FOR NURSING LEADERSHIP RESEARCH AND EDUCATION™

Background

- Despite decades of research and calls to action, staff shortages continue to impact health systems, clinical workflows are not optimized, and hospital-acquired infections & medical errors remain.
- The Covid and post-pandemic era ushered in numerous opportunities for nurse leaders to innovate how care is delivered.
- Research examining innovations in care delivery models (CDMs) and their effectiveness is sparse.

Purpose

- Identify and describe CDMs currently being used in acute care
- Identify unit, hospital & system level sources of variability in CDMs

Methods

- Multimethod study of chief nurses (CNO/CNEs), directors (DONs), and nurse managers (NMs) in U.S. acute care hospitals
- Survey (N=294)
- Semi-structured, individual interviews (N=34)

Survey Results

ORGANIZATIONAL FACTORS

<p>LARGER SIZE (more beds) more likely to report change</p> <p>OR=1.10, 95% CI=1.03-1.17 p=.002</p>	<p>FEWER NUMBER OF RN DIRECT REPORTS more likely to report change</p> <p>OR=2.60, 95% CI=1.27-5.35 p=.009</p>	<p>MIDWEST & SOUTH REGIONS OF THE U.S. more likely to report change compared to the West</p> <p>Midwest: OR=3.92, 95% CI=1.74-8.84, p<.01 South: OR=2.61, 95% CI=1.21-5.64, p=.01</p>
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LEADERSHIP POSITION	CNO/CNEs more likely to report change compared to DONs and NMs
	<p>DONs: (OR=3.58, 95% CI=1.92-6.68, p=.0001)</p> <p>NMs: (OR=7.66, 95% CI=3.71-15.85, p=.001)</p>

<table border="1"> <thead> <tr> <th>Type of CDM</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Functional</td> <td>40</td> <td>13.6%</td> </tr> <tr> <td>Team</td> <td>104</td> <td>35.4%</td> </tr> <tr> <td>Primary</td> <td>181</td> <td>61.6%</td> </tr> <tr> <td>Virtual</td> <td>32</td> <td>10.9%</td> </tr> <tr> <td>Other</td> <td>38</td> <td>12.9%</td> </tr> </tbody> </table>	Type of CDM	Count	Percentage	Functional	40	13.6%	Team	104	35.4%	Primary	181	61.6%	Virtual	32	10.9%	Other	38	12.9%	<table border="1"> <thead> <tr> <th>Has your CDM changed recently?</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>No</td> <td>213</td> <td>72.4%</td> </tr> <tr> <td>Yes</td> <td>81</td> <td>27.6%</td> </tr> </tbody> </table>	Has your CDM changed recently?	Count	Percentage	No	213	72.4%	Yes	81	27.6%	<table border="1"> <thead> <tr> <th>What Prompted CDM Change?</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Staffing</td> <td>71</td> <td>87.7%</td> </tr> <tr> <td>Pandemic</td> <td>34</td> <td>42%</td> </tr> <tr> <td>Patient Acuity</td> <td>23</td> <td>28.4%</td> </tr> <tr> <td>Shortage of RNs</td> <td>62</td> <td>76.5%</td> </tr> <tr> <td>Shortage of Other Providers</td> <td>17</td> <td>21%</td> </tr> <tr> <td>Budget</td> <td>24</td> <td>29.6%</td> </tr> <tr> <td>Innovation</td> <td>43</td> <td>53.1%</td> </tr> <tr> <td>Other</td> <td>8</td> <td>9.9%</td> </tr> </tbody> </table>	What Prompted CDM Change?	Count	Percentage	Staffing	71	87.7%	Pandemic	34	42%	Patient Acuity	23	28.4%	Shortage of RNs	62	76.5%	Shortage of Other Providers	17	21%	Budget	24	29.6%	Innovation	43	53.1%	Other	8	9.9%	<table border="1"> <thead> <tr> <th>RN Vacancy Rate</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Less than 5%</td> <td>47</td> <td>16%</td> </tr> <tr> <td>5-9%</td> <td>51</td> <td>17.3%</td> </tr> <tr> <td>10-19%</td> <td>85</td> <td>28.9%</td> </tr> <tr> <td>20-29%</td> <td>59</td> <td>20.1%</td> </tr> <tr> <td>30-39%</td> <td>24</td> <td>8.2%</td> </tr> <tr> <td>40-49%</td> <td>4</td> <td>1.4%</td> </tr> <tr> <td>50% or greater</td> <td>8</td> <td>2.7%</td> </tr> <tr> <td>Not sure</td> <td>16</td> <td>5.4%</td> </tr> </tbody> </table>	RN Vacancy Rate	Count	Percentage	Less than 5%	47	16%	5-9%	51	17.3%	10-19%	85	28.9%	20-29%	59	20.1%	30-39%	24	8.2%	40-49%	4	1.4%	50% or greater	8	2.7%	Not sure	16	5.4%
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LEADER AND HOSPITAL CHARACTERISTICS				
	Total	NM	DON	CNO/CNE
Job Title				
Nurse manager (NM)	102 (34.7%)	102 (100%)		
Director of Nursing (DON)	99 (33.7%)		99 (100%)	
Chief Nurse (CNO/CNE)	93 (31.6%)			93 (100%)
Years as a Registered Nurse				
1-2 years	1 (0.3%)		1 (1%)	
3-5 years	2 (0.7%)	2 (2%)		
6-10 years	21 (7.1%)	15 (14.7%)	6 (6.1%)	
11-20 years	97 (33%)	43 (42.2%)	37 (37.4%)	17 (18.3%)
21-30 years	87 (29.6%)	25 (24.5%)	27 (27.3%)	35 (37.6%)
More than 30 years	86 (29.3%)	17 (16.7%)	28 (28.3%)	41 (44.1%)
Education Level				
Baccalaureate Degree	52 (17.7%)	36 (35.3%)	11 (11.1%)	5 (5.4%)
Master's Degree	173 (58.8%)	59 (57.8%)	69 (69.7%)	45 (48.4%)
Doctoral Degree	69 (23.5%)	7 (6.9%)	19 (19.2%)	43 (46.2%)
Currently Certified				
Yes	220 (74.8%)	66 (64.7%)	81 (81.8%)	73 (78.5%)
No	74 (25.2%)	36 (35.3%)	18 (18.2%)	20 (21.5%)
Time in Current Position				
Less than 6 months	10 (3.4%)	1 (1%)	4 (4%)	5 (5.4%)
6-11 months	31 (10.5%)	9 (8.8%)	14 (14.1%)	8 (8.6%)
1-2 years	71 (24.1%)	23 (22.5%)	25 (25.3%)	23 (24.7%)
3-5 years	81 (27.6%)	29 (28.4%)	27 (27.3%)	25 (26.9%)
6-10 years	64 (21.8%)	26 (25.5%)	17 (17.2%)	21 (22.6%)
11-20 years	25 (8.5%)	9 (8.8%)	8 (8.1%)	8 (8.6%)
More than 20 years	12 (4.1%)	5 (4.9%)	4 (4%)	3 (3.2%)
Number of Direct Reports				
Nursing Direct Reports	53.6 (121)	55.4 (32.9)	50 (88.9)	55.3 (192.6)
	20 (0 to 1500)	50 (0 to 139)	10 (0 to 420)	8 (1 to 1500)
	n=288	n=101	n=96	n=91
Non-nursing Direct Reports	103.3 (720.4)	21.7 (63.5)	32.6 (101.4)	253 (123.6)
	3 (0 to 9000)	10 (0 to 600)	2 (0 to 668)	2 (0 to 9000)
	n=260	n=93	n=79	n=88
Magnet/Pathway Designation				
Magnet	137 (46.6%)	46 (45.1%)	50 (50.5%)	41 (44.1%)
Pathway to Excellence	17 (5.8%)	8 (7.8%)	8 (8.1%)	3 (3.2%)
Not Magnet or Pathway	128 (43.5%)	39 (38.2%)	41 (41.4%)	48 (51.6%)
I'm not sure	12 (4.1%)	9 (8.8%)	2 (2%)	1 (1.1%)

KEY FINDINGS

Changes in care delivery models driven by immediate necessity rather than opportunity and evidence.

Organizational factors and leadership position matters.

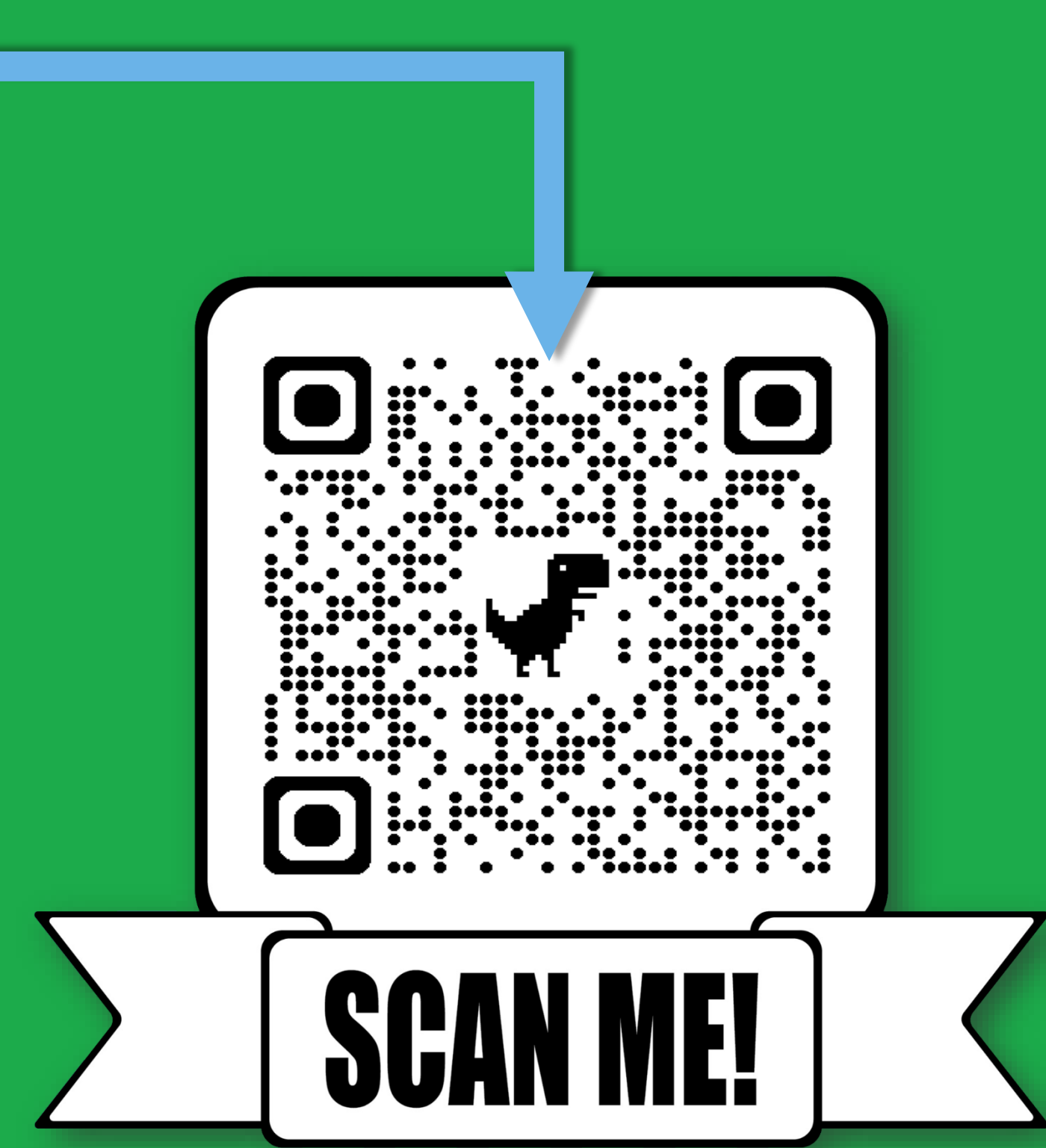
IMPLICATIONS FOR NURSE LEADERS

Anticipatory change requires looking at unit, hospital, and system level factors with each nurse leader position (CNO/CNE, DON, NM) having distinct yet complementary foci.

Using a typology can assist leaders at all levels in driving anticipatory change and evaluating its impact.



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NURSE LEADER DEMOGRAPHICS

	Total	NM	DON	CNO/CNE
Gender				
Female	269 (91.5%)	89 (87.3%)	94 (94.9%)	86 (92.5%)
Male	23 (7.8%)	11 (10.8%)	5 (5.1%)	7 (7.5%)
Transgender	1 (0.3%)	1 (1%)		
Prefer not to answer	1 (0.3%)	1 (1%)		
Age				
20-29	1 (0.3%)	1 (1%)		
30-39	54 (18.4%)	23 (22.5%)	22 (22.2%)	9 (9.7%)
40-49	95 (32.3%)	40 (39.2%)	30 (30.3%)	25 (26.9%)
50-59	83 (28.2%)	24 (23.5%)	30 (30.3%)	29 (31.2%)
60-69	58 (19.7%)	13 (12.7%)	15 (15.2%)	30 (32.3%)
70 or above	2 (0.7%)	1 (1%)	1 (1%)	
Prefer not to answer	1 (0.3%)		1 (1%)	
Race				
Asian	17 (5.8%)	13 (12.7%)	3 (3%)	1 (1.1%)
Black/African American	18 (6.1%)	7 (6.9%)	5 (5.1%)	6 (6.5%)
White	236 (80.3%)	74 (72.5%)	83 (83.8%)	79 (84.9%)
Other	23 (7.8%)	8 (7.8%)	8 (8.1%)	7 (7.5%)
Ethnicity				
Non-Hispanic	243 (82.7%)	77 (75.5%)	83 (83.8%)	83 (89.2%)
Hispanic	17 (5.8%)	9 (8.8%)	6 (6.1%)	2 (2.2%)
Other	34 (11.6%)	16 (15.7%)	10 (10.1%)	8 (8.6%)

Qualitative Results

- Leaders at each level of the organization experience distinct factors associated with their position.
 - Factors pertinent at each level of the organization affect and are affected by factors pertinent at the other 2 levels.
 - Underscores importance of coordinating change across levels.
 - Typology provides helpful insights for doing so.
- Examples:**
- NM seeking resources (Leader support) must work with the CNO/CNE to determine whether the needed resources are available within the system (Internal Forces).
 - CNO/CNE hoping to implement emerging technology (External Forces) must have clear sense of the NM's ability to lead change (Leader Characteristics) and the units' capacity for change (Unit Context).

Typology for Driving Change

UNIT-LEVEL FACTORS			
Unit Context	Leader Characteristics	Leader Support	Patient Characteristics
Physical space, including floor layout, number of beds, and infrastructure to support technology-based solutions	NM's personal philosophy and approach to leadership	NM's span of control	Complexity and acuity of patient's needs
Collective capacity for change, given the unit's other challenges and change initiatives	NM's leadership experience & expertise, both generally and specific to care delivery models	NM's supporting personnel - such as assistant NMs - with consideration for their experience, expertise, and leadership abilities	Care needs requiring highly specialized staff and/or care coordination
Collective experience with and level of investment in current care delivery model(s)	NM's critical and creative thinking.	The quality and availability of systems, tools, and resources that support the NM's efforts	High acuity needs requiring specialized clinical equipment and/or monitoring
Current & historical approaches to staffing	NM's knowledge and understanding of technology-based solutions		Changing care delivery needs
Availability of qualified staff to meet unit needs			

HOSPITAL-LEVEL FACTORS			
Local Context	Empowerment	Leadership Support	Services
Availability of qualified staff to meet hospital needs	Collaborative governance structure	CNO/CNE's buy-in and support for care delivery change	Local supply and demand for services
Affordability of local area for potential staff	Flexible parameters for making hiring decisions.	Executive team's buy-in and support for care delivery change	Recognized expertise in providing care for patients with complex and/or high-acuity needs
Local area's desirability and livability for potential staff	Hospital systems and initiatives conducive to a skilled, healthy, engaged workforce	Executive-level vision for care delivery innovation	Ability to provide care requiring highly specialized staff and/or care coordination
Local accessibility of education and training programs relevant to needed staff roles	Available resources to support change initiatives		Ability to serve patients with needs requiring specialized clinical equipment and/or monitoring
Laws, regulations, and policies pertaining to hospital operations	Hospital systems and culture conducive to interdisciplinary collaboration		
	Allowance for unit-level variation in care delivery models		

SYSTEM-LEVEL FACTORS		
Internal Forces	External Forces	Bureaucracy
System-level futuristic mindset	Emerging evidence and professional sentiments regarding care delivery models	Processes for making decisions with system-level implications, such as increasing the number of beds.
System-level vision for care delivery innovation	Development and availability of technology and tools to support care delivery model change	Parameters and processes for getting buy-in and approval for changes from financial executives
System-level culture	Care delivery models being used in nearby hospitals	Number of executives needed to approve system-wide changes
System-level resources available and utilized to incentivize innovation	Supply and demand for the system's services	System-level allowance for hospital-level variation in care delivery models... Laws, regulations, and policies pertaining to health system operations

