

Notes on Selected Research Studies Relevant to Pathway to Excellence® Standards 2020

The tables below list selected research studies that found a favorable association between a variable we interpret to be consistent with a Pathway to Excellence characteristic and patient, nurse, or organizational outcomes. This is not an exhaustive representation of the current literature on these subjects.

Standard 1. Shared Decision-Making		
Study:	Pathway-relevant measure(s):	Associated outcome(s):
Laschinger & Leiter (2006) — 8,597 acute care nurses in Ontario and Alberta	higher nurse participation in hospital affairs	lower nurse-reported adverse events
Clarke (2007) — 11,512 nurses in 188 hospitals in Pennsylvania	higher nurse participation in hospital affairs	lower needle or sharps injuries
Gregory et al. (2010) — 548 acute care nurses in Canada	higher control/empowerment and input into decision-making	higher nurse perceptions of quality of care, standards of care, and safety issues
Hanrahan, Aiken, et al. (2010) — 353 direct inpatient care psychiatric nurses in 67 hospitals in Pennsylvania	higher nurse participation in hospital affairs	lower emotional exhaustion
Flynn et al. (2012) — 686 RNs in 82 medical-surgical units in 14 hospitals in New Jersey	higher nurse participation in hospital affairs	higher error interception practices, which linked to lower medication errors
Friese & Himes-Ferris (2013) — 242 outpatient oncology nurses in a large southeastern state	higher nurse participation in practice affairs	higher intent to stay
Leineweber, Chungkham, et al. (2014) — 8,948 medical/surgical RNs in 53 hospitals in Sweden	higher nurse participation in hospital affairs	lower work-family conflict
Nowrouzi et al. (2015) — 506 registered practical nurses in Ontario, Canada	higher involvement in decision making	higher intent to stay in current position for next 5 years
Papastavrou et al. (2015) — 1,163 RNs and LPNs in 91 wards in 34 hospitals in Cyprus, Finland, Greece, Portugal, Sweden, Turkey, and the state of Kansas	higher control over practice	higher nurse perceptions of individualized care successfully provided to patients in latest shift
Zaheer et al. (2015) — 2,495 nurses (81%), physicians (13%), and pharmacists (6%) in 13 hospitals in Ontario, Canada	higher levels of participative leadership	stronger frontline staff perceptions of patient safety climate (senior and supervisory leadership support for patient safety)

Standard 1. Shared Decision-Making

Study:	Pathway-relevant measure(s):	Associated outcome(s):
Kutney-Lee et al. (2016) — 20,674 RNs in 425 hospitals in California, New Jersey, Pennsylvania, and Florida	higher engagement in shared governance	lower nurse reports of <ul style="list-style-type: none">• high burnout• high job dissatisfaction• intent to leave• poor quality of care and patient safety higher patient reports of <ul style="list-style-type: none">• experience of care• hospital rating• willingness to recommend hospital
Cox Sullivan et al. (2017) — 10 nurses at a Veterans Health Administration facility	higher engagement in shared governance at unit level	increased nurse empowerment, self-management, engagement, and satisfaction
Underwood et al. (2017) — 11 US healthcare SCNEs from the American Nurses Credentialing Center's repository of Magnet®-designated facilities	system-level shared governance	higher empowerment in nurses
Orchard et al. (2017) — dual role of nurse leaders as both managers and advocates for nurses to demonstrate their disciplinary knowledge and practice.	promotion of a culture of interprofessional decision-making	increased capacity to influence integration of interprofessional collaborative practice with other health professionals within their leadership areas
Chisengantambu-Winters et al. (2019) —nurse unit managers, after-hours coordinators and directors of nursing working in rural and regional health institutions in South Australia	interprofessional decision making processes	increased awareness of the governance system
Kaddourah et al. (2020) —186 registered nurses in a hospital in Saudi Arabia	nurses involved in shared governance	increased professional development
Bagot et al. (2020) —169 nurses and 134 non-nurses	interprofessional decision-making process to select new technology	improved rates in: <ul style="list-style-type: none">• clinical support and patient care• perception of “ease of use” (technical, clinical aspects),• facilitating conditions (setting, education, confidence),• social influence (working relationships).

Standard 2. Leadership		
Study:	Pathway-relevant measure(s):	Associated outcome(s):
Laschinger & Leiter (2006) — 8,597 acute care nurses in Ontario and Alberta	higher perceptions of nurse manager ability, leadership, and support	lower nurse-reported adverse events
Hanrahan, Aiken, et al. (2010) — 353 direct inpatient care psychiatric nurses in 67 hospitals in Pennsylvania	higher perceptions of nurse manager ability, leadership, and support	lower nurse reports of <ul style="list-style-type: none"> • emotional exhaustion • depersonalization of patients
Hanrahan, Kumar, et al. — 353 direct inpatient care psychiatric nurses in 67 hospitals in Pennsylvania	higher perceptions of nurse manager ability, leadership, and support	lower nurse-reported frequency of <ul style="list-style-type: none"> • work-related staff injuries • patient falls with injuries
Jourdain & Chenevert (2010) — 1,636 RNs working in hospitals in Canada	higher support from supervisor	lower depersonalization of patients, which in turn related to higher professional commitment and lower intent to leave the profession
Duffield et al. (2010) — 1,559 nurses in 91 wards in 21 public hospitals in 2 Australian states	higher perceptions of <ul style="list-style-type: none"> • senior nursing administrator who is highly visible and accessible to staff • nurses actively participating in efforts to control costs • a nurse manager who is a good manager and leader 	higher job satisfaction
Boev (2012) — 671 nurses and 1,532 discharged patients from 4 critical care units in a New York hospital	higher perceptions of nurse manager ability, leadership, and support	higher patient reports of satisfaction with nursing care
Carter & Tourangeau (2012) — 17,707 RNs and midwives at 147 acute and 20 specialist hospitals in England	better relationships with and support from manager	less intention to leave
Flynn et al. (2012) — 686 RNs in 82 medical-surgical units in 14 hospitals in New Jersey	higher perceptions of nurse manager ability, leadership, and support	higher error interception practices, which linked to lower medication errors

Standard 2. Leadership		
Study:	Pathway-relevant measure(s):	Associated outcome(s):
Sawatzky & Enns (2012) — 261 RNs in adult emergency departments in Manitoba, Canada	higher perceptions of nursing management	<ul style="list-style-type: none"> • higher engagement, which in turn related to lower intent to leave current position
Van Bogaert et al. (2013) — 1,201 RNs in 116 units in 8 hospitals in Belgium	higher perceptions of nurse management at the unit level	<ul style="list-style-type: none"> • higher nurse-assessed quality of care • higher nurse job satisfaction, intent to stay in the hospital, and intent to stay in nursing
Leineweber, Westerlund, et al. (2014) — 8,620 RNs in 53 hospitals in Sweden	better leadership and support for RNs	<p>reduced risk of</p> <ul style="list-style-type: none"> • emotional exhaustion • depersonalization of patients
Roche et al. (2015) — 1,673 nurses in 62 wards in 11 hospitals in 3 states in Australia	higher perceptions of nurse unit manager leadership skills	lower intent to leave within 12 months
Spano-Szekely et al. (2016)	better access to the nurse manager	<ul style="list-style-type: none"> • better collaboration between the nurse manager and the direct care nurses, • more effective NM leadership • improved RN performance and patient outcomes
Roche et al. (2016) — 3 Australian states between 2004 and 2013	positive practice environment perception, higher retention	<ul style="list-style-type: none"> • improved organizational restructuring • decreased turnover of nurse executives
Duffield et al (2019)	higher involvement of direct care nurses in cost management discussions	<ul style="list-style-type: none"> • increased clinical and management skills • improved patient-centeredness • cost-effective care
Moeta et al (2019) — 11 nurse unit managers	better role orientation for NM	<ul style="list-style-type: none"> • improved professional development • enhanced role competence as a leader • better conflict management competency
Keutchafo et al. (2019) — 10-unit managers in two district hospitals in Cameroon	role orientation for NM and leadership development	<ul style="list-style-type: none"> • enhanced role competence as a leader
Frasier (2019) — 16 NMs who participated in the leadership development program.	leadership development	<ul style="list-style-type: none"> • managers perceived greater self-awareness, • and direct reports perceived positive change in managers' use of authentic leadership behaviors.

Standard 3. Safety		
Study:	Pathway-relevant measure(s):	Associated outcome(s):
Rosen et al. (2010) — 4,581 VA hospital workers in 29 hospitals	higher overall emphasis on safety	lower rates of <ul style="list-style-type: none"> • decubitus ulcer • iatrogenic pneumothorax
Chang & Mark (2011) — 4,954 medical-surgical RNs in 286 units in 146 US hospitals	stronger learning climate (communication and thinking about errors)	lower medication errors
Houser et al. (2012) — 420 nurses in 54 units in 9 hospitals in Colorado	higher RN involvement in planning for staffing	higher unit-level indicators of patient satisfaction with nursing care
Tvedt et al. (2012) — 3,618 nurses in surgical and medical wards in 35 hospitals in Norway	higher patient safety management	nurse-reported: <ul style="list-style-type: none"> • higher quality of nursing care • higher patient safety ratings • higher ratings of patients' self-care ability • lower frequency of adverse events
Steyrer et al. (2013) — 549 nurses, 185 physicians, and ICU 378 patients in 57 hospitals in Austria, Germany, and Switzerland	more positive safety climate (management commitment to patient safety, organizational learning, communication and cooperation, and attitude toward safety management)	lower rates of medical errors
Zaheer et al. (2015) — 2,495 nurses (81%), physicians (13%), and pharmacists (6%) in 13 hospitals in Ontario, Canada	higher ease for reporting events	stronger frontline staff perceptions of patient safety climate (senior and supervisory leadership support for patient safety)
Richter et al. (2016) — 237,409 clinical staff in 1,046 hospitals	higher perceptions of management support for safety	higher perceptions of successful handoffs
Quillivan et al. (2016) —169 (47.2%) nurses at a specialized pediatric hospital	positive practice environment and higher perception of safety	<ul style="list-style-type: none"> • reduced punitive response to error • encouraged supportive coworker, supervisor, and institutional interactions may • reduced severity of second victim experiences

Standard 3. Safety		
Study:	Pathway-relevant measure(s):	Associated outcome(s):
Trahan & Bishop (2016) —112 neurology nurses in the United States	better organization safeguards nurses from verbal or physical abuse directed at nurses from patients and families	<ul style="list-style-type: none"> improved administrative approach to address abuse of nurses by patients and families reduced the use of avoidance as a way of dealing with this abuse.
Bambi et al. (2017) —7 original papers were included in this review	organizational promotion of a culture free from 1) incivility, 2) bullying, 3) and workplace violence among the healthcare provider team, including nurse-to-nurse, include methods to track and address trends	the implementation of zero tolerance policies and passive dissemination of information about these phenomena showed to be clearly ineffective
M Clark et al. (2018) —393 nursing faculty and practice-based nurses in the United States	organizational commitment to safe working environment	improved trust among coworkers, colleagues, or work group help improve self-awareness, give, and receive constructive feedback form the basis for continuing strengths and addressing areas for improvement
In-Young Jeong & Ji-Soo Kim (2018) —214 nurses with over one year of experience of working in an emergency department.	higher organizational safeguards to protect nurses from abuse	<ul style="list-style-type: none"> increase useful information to guide nurse’s management of violence experiences increase report violent experiences to the administrative department more opportunities to communicate feelings
Shi-Hong Zhao et al. (2018) —1,024 nurses from 26 cities in China (February-May 2016)	Increased awareness of verbal or physical abuse directed at nurses from patients and families	<ul style="list-style-type: none"> improved well-being better control and mitigation of the adverse effects of workplace violence
Xin Zhang et al. (2019) —267 RNs who were involved in direct patient care and medical errors within the previous year in China	higher perception of positive practice environment and safety	reduced second victim-related distress
Saville et al. (2019)	higher involvement of direct care nurses in staffing plans	Improved skill mix, nursing work other than direct patient care, quantifying risks, and benefits of staffing below or above a target level, and validating staffing methods in a range of hospitals

Standard 3. Safety		
Study:	Pathway-relevant measure(s):	Associated outcome(s):
Wen Qi Mok 1 et al. (2020) —1,163 nurses from an acute public hospital in Singapore	strong organizational support to a positive practice environment and higher perception of safety	<ul style="list-style-type: none"> increased awareness of the reduced trauma and improved reconciliation process in the aftermath of an unanticipated error
Howard et al. (2020) —mixed-methods design to improve dialogue and interpersonal engagement and to create behavioral change - Workplace Civility Index (WCI)	organizational promotion of a culture free from 1) incivility, 2) bullying, 3) and workplace violence among the healthcare provider team, including nurse-to-nurse, include methods to track and address trends	educational activities raise awareness of these issues and can improve the ability to reduce the frequency and overall impact of incivility

Standard 4. Quality		
Study:	Pathway-relevant measure(s):	Associated outcome(s):
Gittell et al. (2000) — 338 care providers (nurses and physicians) from 9 hospitals, 878 orthopedic patients	higher mutual respect, shared goals, and frequency of communication (dimensions of “relational coordination”)	<ul style="list-style-type: none"> • lower length of stay • higher quality of care • higher postoperative freedom from pain • higher postoperative functioning
Brooks et al. (2009) — 1,578 patients in 12 Midwest acute care hospitals	intervention of evidence-based pain management practices	lower total cost per inpatient stay, cost per day, and length of stay
Gregory et al. (2010) — 548 acute care nurses in Canada	higher satisfaction with managerial and interdisciplinary relations	higher nurse perceptions of quality of care, standards of care, and safety issues
Hickey et al. (2013) — 3,413 pediatric critical nurses with 26,158 congenital heart disease patients in 38 children’s hospitals	participation in national quality metric benchmarking	lower odds of in-hospital mortality
Melnyk et al. (2014) — 80 EBP mentors across the United States	more educational opportunities provided by the organization for direct care nurses regarding application of evidence-based practice	higher quality, reliability, and consistency of healthcare as well as reduce costs
Lee Khuan et al. (2017) — 20 registered nurses from general wards in a Malaysian public hospital	organizational promotion of a culture of person-and-family centered care.	<ul style="list-style-type: none"> • increased patient involvement in care • nursing practices congruent with patient-centered care
Melnyk et al. (2018) — 2344 nurses from 19 hospitals or healthcare systems	more educational opportunities provided by the organization for direct care nurses regarding application of evidence-based practice	improved competency in EBP ensure the highest quality of care and best population health outcomes
Asmirajanti et al. (2018) — literature published from 2000 to 2015	organizational promotion of interprofessional collaboration to meet wide quality initiatives	<ul style="list-style-type: none"> • reduced the average length of stay for patients • increase cost effectiveness, and, • improved quality of service
Berit Misund Dahl (2018) — 23 public health nurses from urban and rural districts in two counties in Norway	organizational approach to improving population health	increased population-based interventions
Malfait et al. (2019) — 799 patients and 165 nurses	organizational promotion of a culture of person-and-family centered care	put patient participation on the agenda and negative effects are absent

Standard 4. Quality		
Study:	Pathway-relevant measure(s):	Associated outcome(s):
Saunders et al. (2019) —the Delphi panel was conducted in late 2017 among 14 Finnish nurse clinicians, educators, and leaders with a special interest in EBP	more educational opportunities provided by the organization for direct care nurses regarding application of evidence-based practice	international quality standardize path for nurses to aspire to and attain on EBP and provide guidance for nurses in integrating best evidence into their daily practice, facilitating broad-based, consistent implementation of EBP worldwide
Myers (2020)	organizational approach to improving population health	Nurses need to actively embrace strategies to improve population health outcomes and reduce health and other disparities.
Lasater et al. (2020) — 24 nursing leaders from academic (n = 15), practice (n = 4) and regulatory (n = 5) sectors.	organizational approach to improving population health	<ul style="list-style-type: none"> • encourage rebalancing nurse education towards population health, • recognize social determinants of health. • understand the impact of policy and politics on health. • motivate to encourage behavior change

Standard 5. Well-Being		
Study:	Pathway-relevant measure(s):	Associated outcome(s):
Tourangeau & Cranley (2006) — 6,856 RNs and 1,325 RPNs in Ontario, Canada	higher satisfaction with praise and recognition	higher intention to remain employed in current hospital
Duffield et al. (2010) — 1,559 nurses in 91 wards in 21 public hospitals in 2 Australian states	<ul style="list-style-type: none"> • higher availability of flexible or modified work schedules • higher praise and recognition for a job well done 	higher job satisfaction
Estryn-Behar et al. (2010) — 866 nurses in Belgium, Germany, Finland, France, Italy, the Netherlands, Poland, and Slovakia	work schedule difficulties	exited organization in past year
Carter & Tourangeau (2012) — 17,707 RNs and midwives at 140 acute and 20 specialist hospitals in England	better ability to achieve good work-life balance	lower intention to leave
Leineweber et al. (2016) — 23,076 RNs Belgium, England, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Poland, Spain, Sweden, and Switzerland	higher satisfaction with scheduling flexibility	less likely to <ul style="list-style-type: none"> • leave hospital • leave nursing profession
Nantsupawat et al. (2016) — 1351 nurses working in 43 inpatient units in five university hospitals across Thailand	better integration of employee well-being and resilience into strategic planning	<ul style="list-style-type: none"> • better work environments • less job dissatisfaction, intention to leave, and burnout
Brennan (2017)	better integration of employee well-being and resilience into strategic planning	<ul style="list-style-type: none"> • high-quality patient care • higher resilience • professionally development
Labrague et al. (2017) — 166 nurses	better integration of employee well-being and resilience into strategic planning	perceived organizational politics predicted nurses' stress and burnout levels, turnover intention and job satisfaction

Standard 5. Well-Being		
Study:	Pathway-relevant measure(s):	Associated outcome(s):
Kelly et al. (2017) —726 intensive care unit nurses in 14 hospitals with an established meaningful recognition program and 410 nurses in 10 hospitals without such a program.	meaningful recognition	<ul style="list-style-type: none"> • decreased burnout • increased job satisfaction and job enjoyment • decreased secondary traumatic stress, • and increased compassion satisfaction
Kelly et al. (2017) —105 nurses in 3 intensive care units at an academic medical center	meaningful recognition	<ul style="list-style-type: none"> • decreased burnout
Jakimowicz et al. (2017) —a self-reported cross-sectional survey using an established tool collected data from critical care nurses of two adult Australian intensive care units	implemented organizational strategies to address compassion fatigue	<ul style="list-style-type: none"> • high compassion satisfaction • moderate/low fatigue
Alharbi et al. (2019) —10 articles related to the compassion fatigue in critical care situations.	implemented organizational strategies to address compassion fatigue	provision of education to nurses to assist with the development of coping strategies to avoid compassion fatigue
Salmond et al. (2019) —23 papers, representing studies conducted in 7 countries and 821 total nurse participants	implemented organizational strategies to address compassion fatigue	<ul style="list-style-type: none"> • increased awareness, better prevention mechanisms • improved personal and organizational coping strategies and adaptive responses to keep nurses balanced, renewed and able to continue compassionate connection and caring
Moloney et al. (2020) —integrative review of literature published between 2005-2019	better integration of employee well-being and resilience into strategic planning	promotes the development of management approaches that enable their nurses to thrive
Salvant et al. (2020) —46 RN/support staff (RN/SS group) and 10 nurse leaders (leaders group) from a Level 1 trauma center.	meaningful recognition	promotes age recognitions (preference for monetary rewards stems from the younger generations' focus on work-life balance)

Standard 6. Professional Development		
Study:	Pathway-relevant measure(s):	Associated outcome(s):
Boyle et al. (2016) — 5,144 patient care units in 857 hospitals	higher unit-level rates of specialty certification	better quality on a composite index of pressure ulcer and fall rates
Rondeau et al. (2009) — 680 CNOs and others responsible for nursing function at 232 hospitals and 473 long-term care facilities in Canada	higher intensity of staff training and development across 10 broad areas (e.g., workplace safety, clinical skills, quality improvement, and team effectiveness)	lower turnover (percentage of RNs that voluntarily left the organization in the past year)
Carter & Tourangeau (2012) — 17,707 RNs and midwives at 140 acute and 20 specialist hospitals in England	more perceived developmental opportunities	lower intention to leave
Boltz et al. (2013) — 44 medical and medical-surgical units serving older adults in 25 hospitals	higher percent unit RNs certified in any specialty	lower fall rates
Covell & Sidani (2013) — 91 units in 6 hospitals in Ontario and Quebec	higher unit-level proportion of RNs with specialty certification	<ul style="list-style-type: none"> • lower rates of hospital-acquired infection • lower vacancy rates (less unfilled positions) lower recruitment rates (less need to hire nurses)
Trincherio et al. (2013) — 827 nurses in 6 public and private hospitals in Italy	higher satisfaction with training and development provided by the hospital	higher employee engagement
Unruh & Zhang, 2014a — 533 newly licensed RNs in Florida	higher perceptions of having a good orientation	<ul style="list-style-type: none"> • lower turnover (nurse reports of leaving a job within 1.5-2.5 years of graduating)
Unruh & Zhang, 2014b — 414 newly licensed RNs in Florida	more positive orientation experience	higher job satisfaction
Rush et al. (2015) — 245 new graduate nurses in acute care settings in British Columbia	participation in formal new graduate transition program	higher scores on transition experience (workplace integration)
Spector et al. (2015) — 486 new graduate nurses in 51 hospitals in Illinois, North Carolina, and Ohio	participation in established (vs. limited) onboarding/transition program	nurse self-reports of: <ul style="list-style-type: none"> • fewer patient care errors • fewer negative safety practices employed • higher competency levels • lower work stress • better job satisfaction organization reports of: higher retention rates

Standard 6. Professional Development		
Study:	Pathway-relevant measure(s):	Associated outcome(s):
Vander Elst et al. (2016) — 633 nurses from a large home healthcare organization in Belgium	more opportunities provided in the job situation to learn and to develop	<ul style="list-style-type: none"> • higher work engagement • lower burnout
Warshawsky et al. (2016) — 348 nurse managers working in 9 healthcare systems	organizational support for ongoing development of nursing leaders (culture of generativity)	<ul style="list-style-type: none"> • higher job satisfaction • lower intent to leave
Phillips et al. (2018) — a cost-benefit analysis of a formal succession-planning program from one hospital	organizational succession planning for a nursing leadership role	effectively reduces replacement costs and time to transition into the new role
Cziraki et al. (2018) — 727 registered nurses across Canada	organizational succession planning for a nursing leadership role	leadership self-efficacy increases motivation and intention to pursue a leadership careers
Gomes Nogueira et al. (2019) — 36 nurses from a public university hospital	organizational succession planning for a nursing leadership role	Promotes the diagnosis of the leadership profile in the institution that favor the development of succession planning
Tucker (2020) — evidence-based model was developed to provide academic nurse leaders with a guide for succession planning	organizational succession planning for a nursing leadership role	a formal succession plan gives purposeful direction in identifying and developing emerging leaders and is especially useful for individuals who are new to a major leadership role