

Supplementary File 3. Summary of Included Articles

Citation	Country	System Improvement	Description of Intervention	Study Design, Participants	Findings	BCT
30	US	Patient Safety	Patient video addressing: treatment plan, med safety, falls, surgical site identification, hand-washing and discharge planning.	Survey of 217 patients	Increased comfort in talking to providers about concerns Self-rated knowledge of patient safety improved	Shaping knowledge Antecedents (adding objects to the environment)
31	UK	PFCC: Bedside Nursing Handovers	Patient-held booklet for staff to record information on management. Aim was to facilitate communication and involve patients in rehabilitation care.	Six focus groups of therapists (n=25) Content analysis	Supportive, but questioned feasibility for both patients and staff. Ownership does not guarantee confidence needed to encourage dialogue. Differences in philosophies of care between therapists.	Shaping knowledge Antecedents (adding objects to the environment)
32	US	Patient Safety	Method to report unattended care concerns (call hospital emergency alert system). Aim to provide a practical safety net. Policies, education, audit tool signage for program.	Data on concern reports gathered over 6 months.	69 calls (3 x greater than a similar program). Key issues: plan of care; pain management; coordination of care; response to call light; other; not valid concern and dissatisfied with staff.	Antecedents (Restructuring the physical and social environment; adding objects to the environment)
33	Hospital AU	PFCC: Communication	iPad to share information with patient during ward rounds	10 senior doctors shadowed on rounds with 525	iPads were not used to share information. Patients did not believe	Antecedents (Adding objects to the environment)

				patients over 77 hours. 7 doctors interviewed and 180 patients completed survey.	iPads impacted on engagement.	
34	CAN	PFCC: Care environments	Tidal model focuses on engaging person and client-centred care in psychiatry.	46 patients and 17 staff completed short questionnaires	IPC associated with client and caregiver satisfaction (no validated instruments used)	Goals and Planning Antecedents (Restructuring the social environment)
35	UK	PFCC: Communication	Family education on delirium and psychological care via booklet – nurses promote family access to patient and encouraged interaction in ICU.	Comparative time series of 170 critically ill patients and families – 83 controls, 87 intervention	No reduction in delirium, but patients demonstrated better psychological recovery and well-being at 4, 8, and 12 weeks	Shaping knowledge Social Support
36	US	PFCC: Care environments	Create enabling environment that promoted medical patient engagement in functional recovery. Environmental and Policy Evaluation; Staff education; Ongoing training and motivation of nursing staff; FamCare. Individualized goals and mentoring.	Comparative repeated measures design; 44 dyads on intervention units and 42 dyads on control	Intervention group demonstrated better ADL and walking, less severity/duration of delirium and readmission, no significant difference in gait/balance. Families showed increased preparedness for caregiving and less anxiety but no differences in depression, strain or mutuality.	Goals and planning Feedback and monitoring Antecedents (Restructuring the physical and social environments)

37	AU	PFCC: Bedside nursing hand-over	Nurse-to-nurse bedside handover in rural hospitals.	Mixed methods, pretest, post-test approach using quasi-experimental and ethnographic elements. Ethnographic interviewing. Staff perceptions on scale and by interview. 9 inpatients and 48 nursing staff.	Patients preferred bedside hand-over (know who is caring for them, social aspects and inclusion). Staff believed patient involvement had increased.	Antecedents Restructuring the physical and social environments Scheduled consequences
38	US	Care Coordination	Educational program for nurses and social workers; cardiac patients and caregivers completed discharge planning survey and viewed video; given structured questions; given medication list and brochure on accessing community services	Before and after non-equivalent control group design with 158 dyads and 2 month follow-up in two hospitals	Patients felt more prepared to manage care, reported more continuity of information, felt they were in better health, reduced LOS when re-admitted	Shaping knowledge Antecedents (adding objects to the environment)
39	The Netherlands	Patient safety	Patient-operated mobile app MyMedication to assist with medication reconciliation. Patients create their own medication lists of the medications they actually use. Barcodes can be scanned and matched	Convenience sample of 17 elective surgery patients. AT admission, medication list in app was compared with	The use of the app shows potential as a tool to improve patient safety and reduce healthcare costs.	Antecedents (adding objects to the environment)

			with database included in the app.	list compiled by a pharmacy practitioner and discrepancies quantified.		
40	US	Care Coordination	Transition coach for medical patients. 4 pillars: assistance with medication self-management; patient-centred record owned and maintained by the patient; timely follow-up with primary or specialty care; list of “red flags” indicative of worsening condition and how to respond to them	Randomized controlled trial with 750 medical patients randomized into intervention and control groups. Primary outcome: rate of non-elective rehospitalization at 30, 90, 180 days post discharge after index hospitalization	Intervention patients had significantly lower re-admission and rates at all intervals and lower hospital costs.	Shaping knowledge Antecedents (adding objects to the environment) Feedback and monitoring Natural consequences Goals and planning
41	US	Care Coordination	Program for medical patients being discharged. 4 pillars: assistance with medication self-management; patient-centred record owned and maintained by the patient; timely follow-up with primary or specialty care; list of “red flags” indicative of worsening condition and how to respond to them	Quasi-experimental design with 158 medical patients receiving intervention and comparison with administrative data for 1,235 controls	Significant decrease in re-hospitalizations for intervention group at 30, 90 and 180 days. Participants receiving the intervention reported high levels of confidence in obtaining essential information for managing their condition, communicating with the health care team	Shaping knowledge Antecedents (adding objects to the environment) Natural consequences Goals and planning

					and understanding their medication regimen.	
42	US	PFCC: Care Planning	Integrate self-assessment and self-reporting using e-health platform (iPad) to deliver personalized care plan while hospitalized. iPad loaded with software designed to support recovery and discharge planning after cardiac surgery.	Survey of 149 patients who completed 1,418 assessments (97.6% completion)	e-Health platform, combined with mobile computing, can deliver customized care with which patients can interact. PROs have predictive value for resource use and outcomes.	Feedback and monitoring (Self-monitoring of behavior) Antecedents (Adding objects to the environment)
43	US	Care Coordination	Developed a prototype low-literacy medication education tool, customizable for each patient, using icons and photos of pills	Interviews of 166 participants two weeks and 85 participants 4 weeks after discharge	Participants who received the intervention self-reported their medication adherence more accurately and demonstrated improved knowledge about the purposes of their medications, but there was no effect on self-reported medication adherence	Antecedents (Adding objects to the environment) Regulation (Conserving mental resources)
44	US	PFCC: Communication	Provided access to iPad to input goals, preferences, concerns; view team goals, problems and schedule of events; access educational content; send messages to care team	Evaluation of usage in 239 patients and caregivers. 18/32 patients completed system usability	Most frequent use was to send messages related to health concerns, needs, preferences or questions. Use of educational content highest for medications	Goals and planning Antecedents (Restructure social environment;

				and satisfaction survey.	and test results and lowest for problems	Adding objects to the environment)
45	UK	PFCC: Care planning	Goal setting meetings with patient, relative as needed and multidisciplinary team	Case-controlled retrospective study of 105 patients comparing the number of goals set between patients admitted before and after goal-setting process introduced.	Significant increase in number of goals set per patient. Proportion of goals achieved similar to pre-intervention	Goals and planning Antecedents (Restructure social environment)
46	UK	Patient Safety	PINK is a 4 minute animated video aimed at helping patients prevent errors by encouraging to : Participate; be Informed; Notice and be alert; and Know what they can do to facilitate their recovery	Within-subjects pre- and post-screening of safety video using questionnaires with 201 patients and 95 health professionals	Post-video patients were more positive about asking doctors and nurses if they had washed their hand and notifying them about issues to do with personal hygiene. No effects on patients notifying staff about not receiving medications or in pain or unwell. Providers were more willing to support patient involvement post-video.	Shaping Knowledge Antecedents (adding objects to the environment)

47	UK	Patient Safety	Safety video (Study 1) and leaflet (Study 2) encouraging participation in safety-related behaviors	Exploratory, pre-post, within-subjects mixed methods design studies with 80 participants in each study	Increased comfort reported in engaging in some, but not all, safety-related behaviors. Patients questioned whether intervention would help reduce medical error.	Shaping knowledge Antecedents (adding objects to the environment)
48	AU	PFCC: Communication	Goal-setting interviews in rehabilitation	Exploratory, mixed methods study of 22 triads (patients, family and provider)	Provider views dominated the goal setting process. Strategies to promote goal-setting through supporting the unknown experience of injury and hospitalization: build trust; be responsive; open and honest approach.	Goals and planning
49	US	PFCC: Care planning	Family and team discussion of palliative medical condition, patient and family understanding of treatment option and disease burden, directions of medical care	Survey of 140 family caregivers post-intervention; observational data on emotional expression collected during meetings	Frequent expressions of distress from patients and families. Questions were infrequent, Patient presence significantly associated with increased discussion of goals of care, prognosis and expected symptoms at death, but decreased	Goals and planning Antecedents (Restructure the social environment)

					discussion of medical information.	
50	The Netherlands	PFCC: Communication	Passport describes, records and evaluates medical screening results to achieve treatment goals.	Qualitative (focus groups with 29 patients and 21 providers)	Purpose of passport unclear to patients. Reviews were mixed on ease of use, responsibility for completion and usefulness as an adjunct to management of diabetes. Patients expected little co-operation from internists. Barriers to fitting passport into organization of diabetes care.	Feedback and monitoring Antecedents (Adding objects to the environment)
51	UK	PFCC: Care planning	Care planning meetings including older adults	Focus groups of 20 care providers	Benefits of collaborative decision-making confirmed, although concerns about the quality of participatory practices, limited attention to group process and exclusion of those with cognitive impairment were identified	Goals and Planning
52	US	PFCC: Communication	Families invited to be present during attempted resuscitation	Survey of 70 family members	94% would participate again; 76% said grieving was facilitated by witnessing the resuscitation; 64% felt	Antecedents (Restructuring the social environment)

					their presence was beneficial to the patient	
53	US	Patient Safety	Personalized bedside screensaver of a patient safety plan that captured data from the electronic health record, including icons common to geriatric syndromes.	Phase 1: 21 end users including 6 patients participated in interviews. Phase 2: 22 end users including 6 patients participated in interviews	The Meaningful Use Program in the US requires providers to engage their patients in their health care through technology. Patients and families did not question the data on the screen saver, although some providers questioned its accuracy. Generally viewed positively, although additional work remains to be done on functionality.	Antecedents (adding objects to the environment)
54	UK	Patient Safety	“Clean Your Hands” Campaign. Study measured the effect of MRSA awareness or knowledge on patients’ willingness and comfort level in asking staff about hand-washing.	Survey of 185 patients with a response rate of 58.9% (n=109)	Access and availability of patient information about the campaign was absent. Patients were knowledgeable and aware of risks of infect while hospitalized.	Shaping knowledge Antecedents (adding objects to the environment)
55	US	PFCC: Care Environment Programs	Structured patient-centred care and engagement training program and web-based technology including ICU safety checklist, tools to develop a shared care plan and messaging platform	Prospective pre-post study of 1,030 pre and 1,075 post patient admissions	Aggregate rate of adverse events dropped by 29% during the intervention period. Patient/family satisfaction improved markedly from 71.78 to	Antecedents (Restructuring the social environment; Adding objects to the environment)

			were used by patients and care partners to view health information, participate in their care plan and communicate with care providers.		93.3 for patients. No changes were found in care plan concordance or resource utilization.	
56	US	PFCC: Communication	Electronic Bedside Communication Centre (eBCC) prototype to activate patients and bridge communication gap with professionals	Individual interviews and focus groups	The eBCC was useful and easy to use, but there were issues trying to message the team and the ability to participate in developing the plan of care. Toolkit may be confusing for older patients or those uncomfortable with technology.	Antecedents (adding objects to the environment)
57	Norway	Care Coordination	Meeting Point program consists of three seminars and four follow-up meetings with health professionals from diverse settings focused on enhancing patient participation in transitional care.	Written feedback from 85 health professionals, minutes from the plenary sessions, log reports of group facilitators and participants' written notes. Follow-up meetings were recorded and transcribed.	Program was useful in increasing providers' awareness of and competencies related to the patient's perspective in transitional care.	Shaping knowledge Identity (Framing/re-framing)

58	Denmark	PFCC: Care Environment Programs	Psychiatric patients with a contract can initiate a brief admission without a health professional gatekeeper	190 patients evaluated 492 admissions. The majority sought early help for mental health conditions, but also for social and everyday problems.	Primary reason was to be at peace and prevent symptom increase. Two-thirds of the patients were satisfied, although those who hoped to improved medication or wished to obtain more care were less satisfied.	Feedback and monitoring (Self-monitoring of behavior) Antecedents (Restructure the social environment)
59	UK	PFCC: Care Environment Programs	Developed charters, information packages, health professional visibility strategies for cardiac patients. Flexible family visiting, facilitated and supported carer involvement in care provision and improved partnership between carers and team	Pre-post intervention surveys of 43 patient and 63 carers pre- and 56 patients and 68 families post	Improved carer recognition and increase in degree they felt listened to, included, involved and supported. Noted reduction of complaints to 0 over intervention period, supporting the finding of better communication.	Antecedents (Restructure the social environment; adding objects to the environment) Social support (Practical and emotional)
60	US	Patient safety	Patient-held, patient-friendly medication schedule with printed reported reviewed with patients	Surveys of 100 patients	Providing patients with schedule made them partners in health care decision and provided them with knowledge about medications.	Antecedents (adding objects to the environment)
61	UK	PFCC: Communication	Trauma patients view radiographs on tablets	Pre- and post-intervention study of 2 cohorts of 50	Post-intervention patients reported significant increase in scores for perceived involvement in	Antecedent (Adding objects to the environment; restructuring

				consecutive patients	decisions made about their care and being given the right information	the social environment)
62	AU	PFCC: Communication	Care bundle for medical and surgical patients: Checklist/brochure, video and posters developed by health professionals, researchers and patients	Interviews of 11 patients who had used the care bundle	Care bundle generally well-received by patients, although they did not make use of the checklist	Shaping knowledge Antecedents (adding objects to the environment)
63	AU	PFCC: Communication	Point of service feedback using paper-based or electronic questionnaires	Cross-sectional survey of 247 patients and 221 staff	Patients preferred to give feedback during stay rather than after discharge, give feedback verbally rather than by questionnaire. Some patients feared reprisal if they gave negative feedback. Staff agreed patients should be invited to give feedback during stay. Primary reason to provide feedback was to improve services. Feedback varies with data collector.	Antecedents (adding objects to the physical environment)
64	Canada	PFCC: Care Environment Programs	Enhanced Recovery after Surgery (ERAS) is a 22 element program designed to reduce morbidity and length of hospital stay.	20 patients who had undergone colorectal surgery in past 12 months	Overarching concept was that patients wanted to take responsibility for own health from diagnosis	Shaping knowledge Natural consequences

			Many of the elements are dependent upon patient adherence. Patient engagement framework developed. Goal was to build patient capacity within the ERAS program.	participated in patient-led focus groups and interviews. Seven patients participated in a co-design focus group to set and prioritize the research.	to recovery. Concluded no single model for patient engagement can be developed due to different cultures and contexts.	
65	US	PFCC: Communication	“Condition H” allows patients and families to initiate call to Rapid Response Team themselves.	Interviews with 21 patients and families involved with 21 Condition H events	Patients and families unanimously favorable. Most calls were related to communication issues or disagreement with treatment.	Feedback and monitoring Antecedents (Restructuring social environment; adding objects to the environment)
66	US	PFCC: Communication	Tablets used to provide health education modules (safety and discharge) and provide access to personal health records	Survey of 30 patients	Majority reported high overall satisfaction with the device, required <30 minutes of orientation. 83% completed safety module and 70% accessed their hospital record.	Antecedents (Adding objects to the environment) Shaping knowledge Feedback and monitoring
67	US	PFCC: Care Environment Programs	Wellness approach and focus on empowering medical patients/families during their stay. Live-in	Costs and health care utilizations data over 10 years	Reduced lengths of stay. 38.4% savings per hospitalization. Requires strict criteria and appropriate space.	Social support Antecedents (Restructuring the social environment)

			family or friend care partner actively involved in care.			
68	Germany	PFCC: Communication	Five one hour training sessions, including practice and feedback, for psychiatric patients on shared decision-making, including motivational and behavioral aspects	Randomized controlled trial of 61 inpatients (32 in intervention group). Control group received cognitive training.	Shared decision making training resulted in high participation preferences and increased desire to have more responsibility in treatment. Patients receiving intervention became more skeptical and were perceived as more “difficult” by psychiatrists.	Shaping knowledge Repetition and Substitution Feedback and monitoring
69	AU	Patient Safety	Patients and staff falls prevention education program (“Safe Recovery Program”) comprised of DVD, workbook and 1-3 individualized sessions with physiotherapists that had been delivered to 750 patients	Qualitative exploratory study (N=10) with 9 participating in focus groups and 1 in telephone interviews, field notes	Individualized falls prevention education provides patients with capability and motivation to develop and undertake behavioral strategies to reduce falls. Educators could participate in engagement and reconciliation with staff to improve communication and outcomes.	
70	Japan	Effective Treatment	Daily voluntary training in addition to standard rehabilitation.	Clinical trial with 29 participants (21 intervention)	Voluntary training with family participation reduced length of stay and improved the rate of home discharge	Shaping knowledge Feedback and monitoring

						Repetition and Substitution
71	US	PFCC: Communication	Evidence-based communication intervention bundles at 24, 72, 96 hours after admission to ICU. Included introduction to staff, resource folder, video, pain education, care model, resources.	Pre- and post-test design using process improvement methods. 41 pre-intervention surveys and 48 post-intervention surveys.	Family satisfaction scores for participation in decision-making and ratings of how well the team worked together showed statistically significant improvement following the intervention.	Shaping knowledge Antecedent (Restructuring social environment) Antecedents (adding objects to the environment)
72	Sweden	PFCC: Communication	Detailed written information regarding possible complications of surgery	Surveys of 182 (intervention) and 156 (control) patients undergoing surgery.	Majority of both intervention and control groups wanted more information about both common and rare complications. Intervention group significantly more satisfied with all aspects of information compared to control group both pre- and post-op.	Shaping knowledge Antecedents (adding objects to the environment)
73	US	PFCC: Care Planning	Families of ICU patients invited to participate in daily interdisciplinary rounds where team discussed plan of care.	Survey of 227 family members before and after implementation of family rounds.	Overall satisfaction scores did not differ between families who attended rounds and those who did not. Certain elements of	Antecedents (Restructuring the social environment)

					satisfaction improved, but overall satisfaction. Some families can benefit, but some feel rushed to make decisions.	
74	Sweden	PFCC: Communication	Patient-written "Tell-us" card (indicate what was most important for the patient that day) on patient perceptions of quality of care.	Quasi-experimental design using consecutive sample of 310 patients	Use of the Tell-us card resulted in significant improvements in 5 out of 17 items related to participation in decisions about medical and nursing care.	Feedback and monitoring Antecedents (Restructuring the social environment) Antecedents (adding objects to the environment)
75	Sweden	PFCC: Communication	"Tell-us" cards were used by patients to write goals for the day and indicated what mattered to them.	Interviews with 198 patients and 5 nurse managers	No improvements noted in patient participation, although culture shift noted in which staff grew to accept patients' involvement in their own care.	Feedback and monitoring Antecedents (Restructuring the social environment) Antecedents (adding objects to the environment)
76	Canada	PFCC: Bedside nursing handover	Shift hand-over conducted at medical-surgical and Ob/Gyn patients' bedsides.	Interviews with 45 patients.	Themes: creating a space for personal connection; enabled	Antecedents (Restructuring

					patients to be kept up to date; varying preferences (some patients did not see the need for bedside hand-over).	the social environment)
77	Canada	Patient Safety	Awareness campaign with 5 key safety tips for patients.	Survey of 108 hospital stakeholders (e.g. directors) and focus groups with the public.	Stakeholders were enthusiastic, although patient awareness of the campaign was low.	Shaping knowledge Antecedents (adding objects to the environment)
78	Finland	PFCC: Care Environment Programs	Activation programs for informal caregivers (booklets, invitation to participate in care); policy change (participate in an annual conference with other relatives and visitors, staff, researchers)	Interrupted time-series design with control groups of 369 caregivers conducted in 3 settings (university hospital; geriatric unit of a health centre and a nursing home)	Total participation of caregivers increased in long-term care, but not in the hospital.	Shaping knowledge Social support Antecedents (adding objects to the environment)
79	AU	PFCC: Care Environment Programs	New practice standards designed to encourage participation.	Survey of 86 community patients. Pre-post chart audits of 30 inpatient and 25 community	Modest and consistent improvements in documented carer participation were found.	Antecedents (Restructure the social environment; adding objects to the environment)

				patients (pre-), and 30 inpatients and 29 community patients (post-).		Goals and Planning
80	Germany	Patient Safety	“Patients and Families as Teachers in Patient Safety” brought interprofessional clinicians together with patients and families in 4 hour collaborative learning experience, including simulation, focused on developed patient-centred medical error disclosure communication skills.	Mixed methods with pre-post survey with qualitative and quantitative items. 55 clinicians and 18 patients and family members completed the program.	Bringing clinicians, patients and families together to discuss medical error was acceptable and feasible. Patients and families wanted to know “how the provider thinks” and more about medical error. They were interested in strategies for partnering with clinicians for safety. Patients valued experiencing clinicians’ send of accountability following medical mistakes; gained insight into the emotional impact of making an error for clinicians;	Antecedents (restructure social environment) Shaping knowledge Repetition and substitution Comparison of behavior (demonstration)
81	US	PFCC: Communication	“Go Wish” card game designed to allow seriously ill patients to consider the importance of common issues at the end of life so	Observational study of 67patients using survey and patient rankings of goals and	25% of patients were able to complete the game. Highest value was “to be free of pain”. The card game is	Goals and Planning Antecedents (Adding objects to the environment)

			patients are prepared for discussions.	values after the game	feasible for use in inpatient settings.	
82	UK	Patient Safety	Patient Reporting and Action for a Safe Environment (PRASE) intervention consisted of: a) Patient Measure of Safety (PMOS) Questionnaire and b) a form for patients to report both safety concerns and positive experiences (patient incident reporting tool). Feedback considered in team meetings.	Clusters included 33 hospital wards within 5 hospital.	No significant effects on ward-level harm-free care and patient-level feedback on safety. Intervention uptake and retention was 100%.	Antecedents (Adding objects to the environment) Feedback and monitoring
83	UK	Effective treatment	“GetREAL” program for psychiatric patients in rehabilitation programs with predisposing, enabling and reinforcing stages	Qualitative study of 59 patients using focus groups of staff within a clustered RCT.	Intervention accepted by staff, but skills and changes to processes and structures were not sustained at the conclusion of the program. External factors such as resources limitation, lack of senior staff support, competing priorities and intensive training contributed to findings.	Antecedents (Restructuring the social environment; adding objects to the environment) Goals and planning (Commitment) Repetition and substitution
84	US	Patient Safety	Patients presented with a “Partners in Your Care” script asking them to remind health care workers to wash their hands; compliance reassessed using a modified	Interviews and direct observations of 193 patients.	Only 3% reminded at least one worker to wash their hands and 8% did not comment on hand hygiene after observing workers fail	Antecedents (adding objects to the environment) Feedback and monitoring

			script where patients were asked to thank workers for washing and/or display a sign saying “Thanks for Washing”		to wash hands. Patients are unlikely to remind workers to wash their hands.	Association (prompts and cues)
85	US	PFCC: Communication	Alert ICU patients or family members of patients who met criteria for physiological or anatomic activation of the trauma team with subsequent resuscitation were offered the option of families being present during resuscitation.	Analysis of self-administered survey of a convenience sample of family members of 140 trauma patients (70 not present during resuscitation).	Being present during resuscitation associated with reduced anxiety, reduced stress and fostered well-being,	Shaping knowledge Antecedents (restructuring the social environment)
86	Sweden	PFCC: Communication	Geriatric patients invited to team meeting which replaced rounds.	Phenomenological study with 9 nurses	Patient participation can be supported by a safe relationship in which the patient can make his or her voice heard. Participated is challenged by patients’ vulnerability and by the subordinated role assigned to the patient.	Antecedents (Restructuring the social environment)
87	Canada	PFCC: Care Environment Programs	Established peer support program for psychiatric patients, strengthened patient advisory committee and creating a patient-led research team	Prospective, longitudinal approach (T1 and T2) with 25 patients. 28 providers were surveyed at T1 and T2 at T2.	Intervention had minimal impacts on internalized stigma, personal recovery, personal empowerment, service engagement, therapeutic milieu and	Social Support Antecedents (Restructuring the social environment)

					recovery orientation of services.	
88	UK	Patient Safety	Patient Reporting and Action for a Safe Environment (PRASE) consisting of Patients Measure of Safety (PMOS) and Patient Incident Reporting Tool (PIRT) enables patients to reported detailed safety concerns and/or positive experiences. Anonymous feedback collecting using these tool present to ward staff in the form of a feedback report, followed by iterative planning cycle.	Focus groups with hospital volunteers (n=15), voluntary and patient experience staff (n=3). Semi-structured interviews with ward staff (n=5).	All stakeholders were positive about the PRASE intervention as a way to support service improvement and the benefits of including volunteers. Volunteers felt adequate training and support would be essential for retention. Staff raised concerns about infrastructure and sustainability.	Antecedents (adding objects to the environment) Feedback and monitoring
89	Spain	Effective Treatment	Individualized graduated exercise program with monitoring. Education of patients, caregivers and staff to promote mobility and functional independence	Prospective clinical trial of 17 intervention and 12 control participants.	An early supervised exercise program can reduce decline and can be maintained or improved when families are involved.	Feedback and monitoring Shaping knowledge Antecedents (adding objects to the environment)
90	UK	Patient Safety	“Partner in Your Care” program where medical-	Controlled prospective	62% of patients felt comfortable asking	Feedback and monitoring

			surgical patients asked all healthcare workers who were going to have contact with them “Did you wash your hands?”	intervention study of 39 patients. Compliance measured through soap/alcohol usage and handwashings per bed.	about handwashing. All patients asked nurses, but only 35% asked physicians.	Shaping knowledge
91	AU	PFCC: Bedside nursing handover	Nursing bedside handover	Descriptive case study of 10 patients	Patients appreciated being acknowledge as partners in care. Bedside handover was the opportunity to correct inaccuracies in information being communicated. Some patients preferred passive engagement.	Antecedents (Restructuring the social environment)
92	Norway	PFCC: Care Environment Programs	Government-legislated patient participation in care	Interviews with 15 older adults admitted to geriatric wards.	The values of older adults of community and solidarity may differ from the focus on individualism that underpins legislation. Patients often authorized family members to act and participate on their behalf due to their own declining capabilities and the hospitals’ busy schedules.	Goals and Planning Antecedents (Restructuring the social environment)

93	UK	Patient Safety	Call 4 Concern is a scheme where patients and relatives can call critical care teams if they are concerned about a patient's condition.	Surveys completed by 11 patients transferring out of ICU to general wards over a six month period, 11 relatives and 4 others and 57 ICU staff members.	Patients and families felt reassured. Staff felt the system could prevent deterioration, but were concerned about inappropriate calls, increased workload and de-skilling of ward staff.	Antecedent (restructure social environment) Shaping knowledge
94	US	PFCC: Communication	Given tablets with a mobile patient portal application including pictures, names and role descriptions of team members, scheduled tests, procedures and a list of active medications.	100 intervention and 102 control-unit participants.	Significantly higher proportions of intervention named more than one physician and physician role. No difference in knowledge of nurses' names, planned tests, procedures or medications were noted between the units. No change in activation score.	Shaping knowledge Antecedents (Adding objects to the environment)
95	Finland	PFCC: Care Environment Programs	Mental health patients who are well-known to providers can refer themselves to short inpatient stays.	42 qualitative, semi-structured interviews with 28 patients with serious mental illness	Having the option to self-refer enhanced patients confidence in the services they use and in their own ability to cope with everyday life.	Antecedent (restructure the social environment) Feedback and monitoring (self-monitoring)

96	US Canada	PFCC: Care Planning	Morning interprofessional rounds used in critical care to improve team-based care, patient outcomes and involve patients and families.	Ethnographic study with 576 hours of observation, 47 shadowing experiences and 40 clinician interviews.	Rounds conducted at threshold of patient room, rather than inside of them. Involving patients was seen to “inevitably and uselessly prolong rounds”. Patient interactions were rare. Physicians felt time constraints necessitated more time spent teaching interns and less on interacting with or including patients in their own care.	Antecedents (Restructure the social environment)
97	US	PFCC: Communication	Detailed, personalized information about injuries, acute care treatment and rehabilitation progress was provided.	2x2 factorial design with 28 patients.	Intervention patients exerted greater effort in physical therapy, made greater improvement in functional independence and were more satisfied with rehab treatment.	Shaping knowledge Antecedents (Restructure the social environment; adding objects to the environment)
98	UK	Patient Safety	A 4 minute animated video entitled “PINK” aimed at helping patients prevent errors by encouraging them to : Participate; Be informed; Notice and Be alert; and Know what they	Qualitative semi-structured interviews with 36 patients	Overall favorably received. Benefits included raising awareness and facilitating patients to be involved in care. Less certainty about its	Antecedents (adding objects to the environment) Shaping Knowledge

			can do to facilitate their recovery		ability to enhance safety. Different groups may require more tailored content in videos.	Comparison of behavior (demonstration)
99	Canada	PFCC: Care Environment Programs	“Patients as Partners” concept in programming considers medical patient full-fledged members of health care team. Uses competencies and practices for both patient and providers.	Grounded theory study with 16 semi-structured patient interviews of those who participated as “patient trainers’ co-leading inter-professional collaboration courses.	Patients described themselves as: a) continuously learning about their health; b) assessing the quality of health care received and c) adapting and compensating for optimal or non-optimal care, taking more control over decisions with their own care.	Antecedents (Restructure the social environment)
100	Norway	PFCC: Care Environment Programs	Development plan in one mental health hospital (intervention) included: establishing a patient education center, a user office, purchasing user expertise, appointing contact professionals for next of kin, improve center’s information and culture	Non-randomized controlled study using a survey of 438 professionals to compare outcomes between intervention and 2 control groups in different hospitals.	No statistically significant differences in professionals’ knowledge, practice or attitudes.	Antecedents (restructure the social and physical environments; adding objects to the environment)

101	Norway	PFCC: Care Environment Programs	Development plan in one mental hospital (intervention) included: establishing a patient education center, a user office, purchasing user expertise, appointing contact professionals for next of kin, improve center's information and culture	Survey of 1651 patients	No statistically significant effect on the patients' experience of user participation	Antecedents (Restructure the social and physical environments; adding objects to the environment)
102	Israel	PFCC: Care Planning	Ward (medical) rounds were conducted with and then without the presence of family members.	Prospective 2-phase survey study of 26 (phase 1) and 23 (phase 2) nurses and physicians, 26 and 35 patients and 32 and 40 family members	Hospitalized patients wanted family members to participate in rounds. Staff were initially reluctant, but gradually more accepting. Patients felt they had a better understanding of their medical conditions. Families felt they had more opportunity to participate in decision-making. Adjustment to the structure of rounds is necessary.	Antecedents (Restructure the social environment)
103	US	PFCC: Communication	Computer-processed information about geriatric patient preferences for self-care capability were placed in the patients' charts for staff to use in care planning.	Three group quasi-experimental design with one experimental and 2 control groups (n=151)	Information about patient preferences changes nurses' care priorities to be more consistent with patient preferences and improved patients' preference	Shaping Knowledge Goals and Planning Antecedents (adding objects to the environment)

					achievement and physical functioning	Feedback and monitoring
104	Norway	PFCC: Care Environment Programs	CHOICE is a palm-based decision support system for preference-based acute care planning that elicits patient preferences for functional performance at the bedside and to select care priorities consistent with patient preferences	Three group quasi-experimental design with one experimental and 2 control groups	Nurses' use of CHOICE changed nursing care to be more consistent with patients preferences and improved patients' preference achievement	Goals and Planning Antecedents (Restructuring the social environment; adding objects to the environment)
105	US	PFCC: Bedside nursing handover	End-of-shift report at patient bedside. Training video, hand-outs, scripts for handovers provided to nurses.	Pre- and post-survey of 232 (pre) and 178 (post) patients, 70 (pre) and 72 (post) family members and nurses. Data on Patients falls during shift change, medication errors and nurse overtime was also collected.	Statistically significant difference in patients feeling included in shift report and believing that important information was communicated between shifts. Both falls and medication errors during shift change decreased. Improved nurse perceptions of nursing accountability and patient involvement in care.	Shaping knowledge Antecedents (Restructure social environment; adding objects to the environment)
106	Singapore	Effective treatment	Patient education intervention to enhance self-efficacy of hospitalized medical patients to recognize and report symptoms of acute deteriorating conditions	Cluster RCT of 34 (intervention) and 33 (control) patients.	Level of self-efficacy in experimental group was significantly higher than control group.	Shaping knowledge Antecedents (Restructure the social environment; adding objects

						to the environment)
107	US	PFCC: Communication	Whiteboards at medical patients' bedside can be a communication tool between hospital providers and a mechanism to engage patients in care	Survey of 104 nurses, 118 house staff and 31 hospitalists	While providers valued family contact information on the whiteboard, nurses valued the importance of goals and discharge dates more than physicians. Few providers felt patients or families should be responsible for the information on the board or be involved in creating goals.	Antecedents (adding objects to the environment) Goals and Planning
108	US	PFCC: Care Environment Programs	Engagement of nurses, physicians, administrators and security in creating open visitation policy in acute care and rehabilitation hospital.	14,444 after-hours visit recorded	No increase in number of complaints from patients or visitors. Security event numbers remained the same. Unit staff received few phones calls for patient updates. Patient satisfaction scores showed positive trends but no significant change.	Antecedents (Restructure the social environment)
109	US	Effective treatment	Telephone-administered health behavior change counseling (brief motivational interviewing) of surgical patients.	Prospective clinical trial of 59 (control) and 63	Patient activation predicted engagement. The influence of counseling on rehab engagement was	Social support Regulation Antecedents: Restructuring

				(intervention) patients	mediated by patient activation.	the social environment
110	US	PFCC: Communication	Psychiatric patients given daily access to medical records with a nurse available to assist.	Survey of 88 patients and 20 staff	Patients reported feeling better informed and more involved in their treatment. Staff said they became more thoughtful about their notes.	Antecedents (Restructure the social environment)
111	Sweden	PFCC: Care Planning	Medical patient participation in ward rounds	Descriptive study of 14 inpatients who participated in interviews.	Aspects of ward rounds could be improved to promote information exchange. Information from nurses was easier to understand than information from physicians. Rounds must have an open atmosphere. Patients must be treated with empathy by staff and their right to participate acknowledged.	Antecedents (Restructure the social environment) Goals and Planning
112	Finland	PFCC: Care Planning	Afternoon reporting at surgical patients' bedsides	Survey of 118 nurses and 74 patients with observation of 76 bedside reporting sessions	Three minutes were used to give each patients' report. Patients felt this time was too short. One third of patients felt uncomfortable when other patients were present. Differences between nurse and	Antecedents (Restructure the social environment) Feedback and monitoring

					patient perceptions in terms of purpose of rounds and whether patients were to participate.	
113	Austria	PFCC: Care Environment Programs	Training program aimed at providers for empowering cardiac patients to be more effective co-producers of recuperation from surgery. 2 hour didactic session for all staff and additional 3 hour training for physicians which included role play, supervision of 3 ward rounds, admission and discharge communications.	Case study of 100 (control) and 99 (intervention)	Length of stay reduced by 1 day, incidence of post-surgical tachyarrhythmias reduced by 15%, transfer speed improved and patient rating of provider communication were improved.	Shaping knowledge Antecedents (Restructure the social environment)
114	UK	Patient Safety	“Medicines with Respect” program provided a foundation for the administration of medication and medication management strategies with client involvement. Skills training for nurses, assessment and set of clinical guidelines.	67 patient questionnaires and unspecified number of staff evaluations.	More patients were given written information; being given their medication individually instead of in a queue; improved patient compliance with medications; more carers were given sufficient information. No difference in explanations for rational for medication or patient understanding.	Antecedents (restructure social environment) Antecedents (adding objects to the environment)

115	The Netherlands	PFCC: Care Environment Programs	SAFE or SORRY program consisted of essential recommendations from guidelines on the prevention of three adverse events (pressure ulcer, falls and urinary tract infections) prevalent in older adults. Education, patient involvement and feedback occurred through a computerized registration system.	Cluster RCT of 10 wards from 4 hospital with 2201 patients and ten wards from six nursing homes with 392 patients.	Hospitalized patients receiving the intervention suffered 43% fewer adverse events than control groups. Rate ratios for the development of an adverse events were statistically significant (OR=0.57, CI 0.34-0.95) for hospital patients receiving the intervention.	Shaping knowledge Antecedents (adding objects to the environment) Feedback and monitoring
116	Sweden	PFCC: Care Planning	The Canadian Occupational Measure (COPM) is a patient-centred instrument that provides a structure for formulating treatment goals identified by the client in cooperation with the occupational therapist through an interview.	Experimental design with 155 patients in the intervention group and 55 in the control group. Structured interview with 88 patients in the intervention and 30 in the control group.	Compared to the control group, more patients in the experimental group perceived that treatment goals were identified, felt they were active participants in the goal formulation process and perceived themselves better able to manage after completed rehabilitation.	Goals and Planning Antecedents (Restructure the social environment) Antecedents (adding objects to the environment)
117	UK	PFCC: Care Planning	Goal-setting meetings for rehabilitation patients.	Qualitative study of 4 cohorts of 10 patients, carers or staff with different	All groups found goal setting beneficial, increasing motivation and providing reassurance for patients and carer.	Goals and Planning Antecedents (Restructure the social environment)

				experiences in goal-setting	Carers found goal setting alleviated anxieties and assisted active problem-solving coping strategies. Staff believed goal setting made their practice more focused and collaborative,	Social support
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