Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Inclusion and Exclusion Criteria for Studies of Interventions to Improve Interdisciplinary Team Care on Adult Medical Wards

Category	Inclusion criteria	Exclusion criteria
Population	Adult patients (aged ≥ 18 years) on general medical wards	Children & adolescents aged < 18 years Intensive care units Operating rooms / theatres Stroke units Coronary care (level 2) units Comparison of general medical ward patients with patients on specialist wards Hospital-wide interventions not reporting medical patient outcomes or predominance of medical patients
Interventions	Any intervention to alter the delivery of interdisciplinary team care, typically including ≥ 1 of the following components: • Interdisciplinary rounds • Geographic localization of medical teams • Direct incorporation of allied health professional or subspecialty input into ward teams • Proactive or unsolicited patient management from a health professional not ordinarily part of the ward team	Pharmacotherapy (e.g. a trial of medication vs. placebo) Medicine reconciliation Substitution of one category of healthcare provider with another (e.g. teams with physician assistants vs. junior doctors) Direct comparison of specialist vs. general medical care, without other changes to the system of care (e.g. nephrology vs. internist care of hemodialysis patients, or hospitalist vs. clinic-based faculty) Case managers / discharge facilitators Interventions to alter a single staff group's practice, with no other ITC

		components (e.g. unidisciplinary education) Interventions targeted predominantly at patients' behavior, understanding or health habits
Comparators	Usual care, routine care or standard care (as defined by the primary studies) Comparison of two eligible interventions	Comparison of one intervention with an excluded one
Outcomes	Objective outcomes such as mortality, type of discharge destination, length of stay, readmission rates, healthcare complication rates, or composite end points of these	Subjective / patient-reported outcomes Process outcomes, such as guideline compliance, or error reporting rather than objective error rates Financial outcomes
Period	Studies published from 1998 – 2013	Studies published before 1998 or after 2013
Settings	Interventions occurring during the index hospitalisation (prior to discharge)	Interventions involving significant post-discharge follow-up or outpatient care
Publication language	English	Other
Admissible evidence	Original research: • Randomized & non-randomized controlled trials • Prospective cohort studies with a valid comparison group • Interrupted time series	Uncontrolled before-after studies Case series Case reports Systematic & non-systematic reviews Editorials Letters to the editor Case-control studies Retrospective cohort studies Meeting abstracts

eTable 2. Characteristics of Included Studies

Source (Country of Study)	Setting and Patients (Mean Age, y)	Intervention	Intensity	Intervention vs Comparator Group (No. of Participants)	Objective Patient Outcome Measures (Primary or Secondary)	Trial Design	Analysis Accounted for Clustering	Outcome Adjustment Method	Changes in Outcomes With Intervention
Interdisciplinary Team Composition[a]									
Geriatrics									
Webster et al,[1] 1999 (USA)[b]	Single-center (internal medicine service) urban academic hospital Patients >64 y with delirium (78)	Geriatric delirium care team (physician and nurse) proactively identify patients with delirium and guide staff in disease management	High: daily medical follow-up visits after initial consultation until discharge Concurrent nursing visits	PCS (29) vs UC (12)	LOS; in-hospital death; and discharge disposition (not specified)	Nonrandomized cluster trial	No	DRG predicted LOS	Reduced LOS; no difference in discharge disposition or mortality rate
Cole et al,[2] 2002 (Canada)	Single-center (general medical units), university-affiliated, primary acute care facility Patients >65 y with delirium (82)	Systematic delirium detection followed by geriatrician review and specialist nurse follow-up	High: initial consultation within 24 h of enrollment; daily follow-up visits Mon-Fri by study nurse to review implementation of recommendations; regular intervention team meetings to review effectiveness of implementation Study nurse liaised with primary care nurses to ensure implementation of	PCS (113) vs UC (114)	LOS; discharge to the community; and death within 8 wk of enrollment (all secondary)	RCT	No	None	No differences in LOS, discharge to the community, or survival rate

			the delirium nursing protocol						
Pitkälä et al,[3] 2006 (Finland)	Single-center (general medical units) acute care hospital Delirious patients (not admitted from permanent institutional care) (84)	Systematic delirium detection followed by geriatrician review and specialist nurse follow-up No definitive description of who delivered the intervention or how	Low: only a single assessment and treatment plan, with sporadic follow-up Few details given, although clinically significant improvements in the processes of care support the fidelity of implementation	PCS (87) vs UC (87)	Patients discharged to permanent institutional care or deceased at 1 y (combined end point, primary); permanent institutional care at 1 y; acute hospitalization days during delirium episode; total number of days spent in any institution and in permanent institutional care during the follow-up year; days spent in community care before permanent institutional care; and 1 y mortality rate (secondary)	RCT	No	None	No difference in primary end point or any secondary end point
Kircher et al,[4] 2007 (Germany)	Multicenter; 4 internal medical hospitals and 1 psychiatric hospital (75% medical patients); no description of institution Patients ≥65 y; frail; expected LOS ≥8 d (not admitted from a nursing home or diagnosed with severe dementia or terminal condition) (79)	Geriatrician, social worker, and nurse consultation service Geriatrician summarized recommendations in a structured format; input from nurse and social worker as required	Medium: weekly conferences to discuss new patients, follow up current patients, and assess implementation of recommendations Nurse and social worker input as required Consultation team could implement recommendations themselves; however, documented care processes were essentially the	PCS (175) vs UC (170)	Living location, proportion of patients with at least 1 readmission, and days of readmission at 12 mo (all described as primary); 12-mo survival, Timed-Up-And-Go-Test, and hand grip (secondary)	RCT	No	Variables in initial univariate model included age >80 y, male sex, >1 hospitalization in past year, >6 geriatric screenings, MMSE score <20, Brief Psychiatric Rating Scale score >35, Montgomery Asberg	No difference in any end point

			same in the intervention and control groups					Depression Rating Scale score >11, social situation subscore for housing <9, social situation subscore for social activities <3, psychiatric patients and intervention group Multivariate model ultimately found: increased risk of readmission associated with low depression screening score and high geriatric screening score Dementia, few social contacts, and index stay in psychiatric ward were risk factors for nursing home	

								placement No interactions with the intervention; no subgroups shown to benefit from the consultation service	
Hepatology									
Lai et al,[5] 2009 (USA)	Single academic health center with quaternary care patients Patients with advanced liver disease requiring (or those who are undergoing) liver transplant evaluation; concurrent control group comprised patients with cardiac disease (55)	Multidisciplinary hepatology team Direct supervision of a specialized house staff team structure	High: senior physicians dedicated substantial time to daily patient input Structural change in team's supervisory arrangements alongside additional educational lectures each week Daily 90-min meeting between multidisciplinary hepatology and house staff teams	ES (252) vs UC before intervention (170) (in concurrent control group with traditional housestaff model, 1476 patients in preintervention period vs 1247 patients in postintervention	LOS (primary)	Controlled before-after study	No	Variables in initial univariate model included insurance status (Medicaid vs non-Medicaid), age, MELD score, CMI (a measure of inpatient acuity based on admission diagnosis related group) Multivariate model adjusted for age, MELD score, and CMI	Adjusted LOS reduced with intervention (when adjusted for CMI and MELD score) Concurrent control group's LOS increased during the study

				period)					
Infectious disease									
Solomon et al,[6] 2001 (USA)	Single university-affiliated academic medical center Patients for whom levofloxacin or ceftazidime was requested unnecessarily (61)	Multidisciplinary antimicrobial utilization team (physician-educator, infectious disease physician, and clinical pharmacist) Systematic screening for unnecessary antibiotic prescriptions followed by educational intervention to prescriber "Academic detailing," one-on-one, interactive educational outreach delivered by a professional trained to discuss prescribing decisions in a manner likely to induce evidence-based practice change (NB restrictive intervention)	Medium: intervention predominantly delivered in person, including to another member of the team if intern unavailable Education includes discussion of local microbiological data and clinical publications Intervention typically took 10 min on each occasion Follow-up by telephone or email if primary team members not available to meet in person Final drug choice left to original prescriber Secondary outcomes assessed for every patient admitted to a study service, not just those receiving targeted antibiotics	PCS (2624) vs UC (2489)	LOS; 30-d readmissions; in-hospital deaths; and transfer to the ICU (all secondary)	Cluster randomized trial	Not for clinical outcome measures	No adjustment for clinical outcome measures	No change in any end point NB: these end points were documented to show that the intervention had no measurable negative clinical effects Intervention not designed to affect end points per se
Fine et al,[7] 2003 (USA)	Multicenter; 1 university teaching	Specialist nurse input to facilitate antibiotic	Medium: daily patient assessment by specialist nurse	PCS (283) vs passivel	LOS (primary); 30-d mortality rate; medical complications; and 30-d	Cluster randomized trial	Yes	Adjusted for mortality and medical	No change in LOS overall, although

	hospital, 3 community teaching hospitals, and 3 community nonteaching hospitals Patients with community-acquired pneumonia and hospital stay ≥2 d (69)	management Screening for patient stability sufficient to allow conversion from IV to oral antibiotic therapy or discharge Direct communication with primary team to discuss recommendations (NB restrictive intervention)	until patient is stable (from day 3 of hospitalization); written and verbal recommendations; assistance with oral antibiotic prescription and discharge arrangements Ultimate decision remained with initial prescriber "Appropriate implementation of intervention" in 98% of patients in the intervention arm; however, 24% of patients in intervention arm discharged by clinical team before intervention deemed them stable	y dissemin ated guidelin e alone (325)	readmission rate (secondary)			complications adjusted for Pneumonia Severity Index	intervention appeared effective at 1 of the 7 study sites Fewer medical complications in intervention group No differences in mortality or readmission rates
Camins et al,[8] 2009 (USA)	Single-center (internal medicine service), university-affiliated, urban public teaching hospital Patients receiving a combination of piperacillin and tazobactam,	Multidisciplinary antimicrobial utilization team (infectious disease physician and specialist pharmacist) Systematic screening for unnecessary antibiotic prescriptions followed by	Low: structured verbal feedback to prescriber with each inappropriate prescription Short phone conversation or face-to-face meeting Education centered on the optimal antimicrobial choice as defined by the	PCS (390) vs UC (394)	LOS; in-hospital mortality rate (secondary)	Cluster randomized trial	Yes	None	Patients treated by intervention group had shorter median LOS No differences in mortality rates

	vancomycin hydrochloride, or levofloxacin (54)	educational intervention (academic detailing) to prescriber (NB restrictive intervention)	hospital guideline Prescription choice remained with the initial prescriber						
Manuel et al,[9] 2010 (Switzerland)	Single-center (gener,al internal medicine wards) university hospital Patients who receive an IV antibiotic for more than 3 d (67)	Infectious disease specialist Systematic assessment of antibiotic prescription regarding need for antibiotic, choice of drug, route, and dose, with feedback to treating physician	Low: single review with standardized evaluation form and discussion with the treating physician Treatment changes suggested for 46% of prescriptions in intervention group	PCS (196) vs UC (208)	LOS; in-hospital mortality rate (secondary)	Nonrandomized cluster trial (with crossover)	No	None	No difference in end points
Korbkitjaroen et al,[10] 2011 (Thailand)	Single-center, tertiary care university hospital Patients hospitalized for >48 h (60)	Multidisciplinary infection control team (infectious disease physician and infection control nurse) identifying risk factors for hospital-acquired infection, with feedback to the treating team Feedback included observations regarding adherence to infection control measures	High: daily follow-up, with adherence checks and encouragement to adhere to infection control measures	PCS (954) vs UC (920)	LOS; in-hospital mortality rate; and hospital-acquired infection rates (not specified; mortality rate and LOS reported in “patient characteristics” table)	Cluster randomized trial	No	None	Intervention associated with reduced hospital-acquired infection rate (driven by reduced pneumonia and catheter-associated urinary tract infections); no change in LOS or mortality rates
Lesprit et	Single-center	Infectious disease	Low: single	PCS	LOS (primary);	RCT	No	None	No change in

al,[11] 2013 (France)	(general medical and surgical ward patients; 66.14% of study patients were general medical patients) general university hospital Patients receiving intermediate or broad-spectrum antibiotics for 3-5 d, with expected survival >30 d (67)	physician Systematic assessment of antibiotic prescription, with feedback to treating physician (NB restrictive intervention)	postprescription review with verbal communication or written if verbal proved impossible No follow-up if recommendation not followed Treatment changes suggested for 63% of prescriptions in intervention group, which were followed in 90% of cases	(376) vs UC (377)	ICU admission; in-hospital mortality rate; and 60-d readmission rate for relapsing infection (secondary)				LOS, in-hospital mortality rates, or ICU admission Fewer 60-d readmissions for relapsing infection in intervention group
IV therapy									
Soifer et al,[12] 1998 (USA)	Single-center, university-affiliated hospital All patients in the inpatient medical service (60)	IV therapy (nursing) team Insertion and/or management of peripheral intravenous catheters	High: daily input Intervention team took over catheter management and replacement if catheter inserted out of hours or in an emergency Better adherence to hospital's standard practice requirements in intervention group	PCS (87) vs UC (354)	IV line–related bacteremia; local complications from catheter insertion (unspecified)	RCT	No	Demographic data (age, sex, race, and discharge diagnoses) and exposure to IV medications entered as independent variables in multiple regression analysis	Reduced catheter-related bacteremias and local complications in intervention group
Medical librarian									
Esparza	Single-center	Clinical medical	Low: daily rounding	EL (252)	LOS; 30-d readmission rate	Nonrandomized	No	None	Higher

et al,[13] 2013 (USA)	urban medical campus Patients hospitalized for >1 d (50)	librarian embedded in medical rounds to answer specific questions posed by team members Detailed answers supplied via email after rounds	but access to information rather than direct change to practice No assessment of whether clinical team reviewed or acted on the information provided by the librarian	vs UC (1948)	(not specified)	cluster trial			readmission rates and LOS in intervention group
Pharmacotherapy									
Kucukarslan et al,[14] 2003 (USA)	Single center; no description of institution (55)	Clinical pharmacist Participation in rounding and prospective evaluation of patient medications	High: daily rounding with teams A total of 147 of 150 pharmacist recommendations accepted by physicians	EP (86) vs UC (79)	Preventable adverse events due to drugs (primary); LOS; time to respond to therapy; and readmission rate (secondary)	Nonrandomized cluster trial	No	None	Fewer preventable adverse drug events/1000 patient-days in intervention group (5.7 vs 26.5) No change in LOS, time to respond to therapy, or readmission rate
Mannheimer et al,[15] 2006 (Sweden)	Single-center institution described as a large hospital where the medicine clinic treats 500 inpatients per mo General medical patients taking ≥2 drugs	Clinical pharmacologist and specialist nurse Systematic screening for potential drug interactions contributing to patient symptoms, with feedback to the treating physician	Low: single review; written advice; only 63% of recommendations accepted by the treating physician	PCS (150) vs UC (150)	Readmission rate and/or death at 6 mo (primary); No. of patients readmitted to hospital at 6 mo; deaths at 6 mo (secondary)	RCT	No	None	No difference in any outcome

	(73)								
Makowsky et al,[16] 2009 (Canada)	Multicenter; 3 tertiary care teaching hospitals Patients receiving nonpalliative care, in hospital for ≥2 d, with primary diagnoses of coronary artery disease, community-acquired pneumonia, chronic obstructive pulmonary disease, heart failure, or type 2 diabetes mellitus (74)	Clinical pharmacist Participation in rounding and provision of proactive clinical services	High: daily service Mon-Fri, with pharmacist proactively identifying potential drug problems in addition to participating in rounds Average of 60 drug therapy recommendations per week; 93% of pharmacist recommendations accepted by team	EP (221) vs UC (231)	3- And 6-mo readmission rate; LOS (all secondary)	Cluster randomized trial (with crossover)	Cluster characteristics entered as variables in the multivariate analysis	Multivariate analysis adjusted for age, sex, intervention status, smoking status, primary diagnosis, number of current conditions, number of prior conditions, medication history, and cluster characteristics (type of team, site)	Lower rate of 3-mo hospital readmissions in both the crude and adjusted analysis (36.2% vs 45.5%; adjusted odds ratio, 0.63) No effect on 6-mo readmission rates Median LOS increased in intervention group (adjusted median ratio, 1.16)
Lisby et al,[17] 2010 (Denmark)	Single center; no description of institution Patients receiving nonpalliative care; ≥70 y; taking ≥1 drug, with expected admission >24 h (79)	Clinical pharmacologist and clinical pharmacist Systematic medication review with advisory feedback to treating physician	Low: single review at admission, with written recommendation only; compliance with recommendations <50%	PCS (50) vs UC (49)	LOS (primary); 3-mo readmission rate, 3-mo mortality rate, time to first readmission, number of readmissions, number of emergency department visits at 3 mo, and number of visits to outpatient care at 3 mo (secondary)	RCT	No	None	No difference in any outcome
Schillig et al,[18] 2011	Single-center tertiary care,	Pharmacist-directed	High: daily input, autonomous	PCS (250) vs	Composite end point of INR > 5, major bleeding, or	Cluster randomized	No	None	No change in primary end

(USA)[c]	level 1 trauma, and academic medical center All patients receiving warfarin (66)	anticoagulation service Initial warfarin dose selection, daily dose adjustments, and daily laboratory monitoring Education standardized between inpatient and outpatient settings, and plan for outpatient follow-up confirmed	warfarin dosing	UC (250)	development of new thrombosis in hospital or within 30 d of discharge (primary safety end point)	trial			point or the components of the primary end point
Psychiatry									
Desan et al,[19] 2011 (USA)	Single-center academic center; internal medicine service primarily receiving admissions from a primary medicine clinic, distinguished by a relatively high turnover and short LOS (53)	Psychiatrist Proactive identification of patients with mental health issues, early psychiatric consultation, and coordination with primary team	High: daily combined team review of all new admissions, with joint decision as to need for psychiatric input Same-day patient review if required	PCS (62) vs UC (531)	LOS (primary)	Controlled before-after study	No	None	Reduced LOS (2.9 d vs 3.8 d) Reduced proportion of cases with LOS >4 d (14.5% vs 27.9%)
Stroke									
Dey et al,[20] 2005 (England)	Multicenter, 2-district general hospitals with stroke rehabilitation	Multidisciplinary stroke team (attending physician and senior therapist)	Low: single initial evaluation; no mandated follow-up; 69% of patients	PCS (157) vs UC (151)	6-wk And 12-mo mortality rate (primary); death or institutionalized care (secondary)	RCT	No	None	No difference in any outcome

	units but no acute stroke ward Patients with acute stroke in general medical wards (not given)	Advised primary team on acute stroke management and coordinated early input from therapy groups	visited by both members of the mobile team; 90% of patients visited by ≥1 member of the team No significant differences in major clinical actions (CT, antiplatelet therapy, or proportion transferred to stroke unit or time to uptake of most other interventions), although timing of stroke unit transfer was earlier						
Interdisciplinary Team Practice[d]									
Curley et al,[21] 1998 (USA)	Single-center, university-affiliated county hospital; local tertiary referral center (53)	IDR including physician, nurse, pharmacist, nutritionist, and social worker Orders written during rounds	High: daily formal IDR Intervention created by a multidisciplinary quality-improvement team involved in its delivery	IDR (567) vs UC (535)	LOS, in-hospital mortality rate (not specified)	Nonrandomized cluster trial	No	LOS adjusted for multivariate propensity score (including sex, age, race, marital status, source of admission, DRG weight, and principal diagnosis)	Reduced LOS (6 d vs 5 d) No difference in in-hospital mortality rate
Mudge et al,[22] 2006 (Australia)	Single-center (internal medicine teams), metropolitan public teaching	Consistent multidisciplinary teams aligned with admitting medical units Expanded senior	High: multicomponent intervention replacing traditional practice Investment in	IDR/AR/TC (792) vs UC (746)	LOS, in-hospital mortality rate, and 6-mo mortality rate (primary); 6-mo readmission rate, discharge to residential care (secondary)	Nonrandomized cluster trial	No	None	Reduced in-hospital mortality rate (3.9% vs 6.4%) No change in

	hospital (68)	clinical nurse role, incorporating structured, detailed assessment of premorbid functional and social patient data Investment in allied health professional staffing to allow a consistent staff member from each discipline in each intervention unit Early discharge planning	additional staffing						6-mo mortality, LOS, or 6-mo readmissions No effect on new residential care discharge
O'Leary et al,[23] 2010 (USA)	Single-center medical teaching unit, tertiary care teaching hospital (60)	Structured IDR and structured communication tool for newly admitted patients Attended by nurses, resident physicians, pharmacist, social worker, and case manager	High: daily formal IDR with mandatory multidisciplinary attendance Multidisciplinary working group before implementation; 92% of patients discussed each day; attendance more than 82% for each discipline	IDR (843) vs UC (969)	LOS (primary)	Cluster randomized trial	No	Multivariate analysis adjusted for age, sex, race, payer, admission source, case mix, hospitalist as attending physician, discharge disposition, ICU stay, Medicare Severity, and DRG	No effect on LOS
O'Leary et al,[24] 2011 (USA)	Single-center medical teaching unit,	Structured IDR and structured communication	High: daily formal IDR with mandatory multidisciplinary	IDR (185) vs UC	Adverse events (primary)	Cluster randomized trial	Yes (standard errors	Multivariate Poisson regression	Fewer patients experienced

	tertiary care teaching hospital (59)	tool for newly admitted patients Attended by nurses, resident physicians, pharmacist, social worker, and case manager	attendance and structured communication tool Multidisciplinary working group before implementation	(185)			robust to clustering of patients within physician data)	analyses using age, sex, race, number of days in the study unit, physician status, night/ weekend/ holiday admission, contact isolation status, payer, source of admission, case mix, Charlson Comorbidity Index, and DRG weight	adverse events (16.2% vs 24.9%) Lower adjusted total adverse events (3.9 vs 7.2 per 100 patient-days) Lower adjusted preventable adverse events (0.9 vs 2.8 per 100 patient-days)
O'Leary et al,[25] 2011 (USA)	Single-center hospitalist unit, tertiary care teaching hospital (64)	Structured IDR and structured communication tool for newly admitted patients Attended by nurses, resident physicians, pharmacist, social worker, and case manager	High: daily formal IDR with mandatory multidisciplinary attendance and structured communication tool	IDR (684) vs UC (815)	LOS (secondary)	Cluster randomized trial	Yes (standard errors robust to clustering of patients within physician data)	Multivariate linear regression analysis using age, sex, race, payer, admission source, case mix, discharge disposition, ICU stay, Medicare Severity, and DRG weight	No difference in adjusted LOS
Wald et al,[26] 2011	Single-center hospitalist	IDR, standardized geriatric	High: daily formal IDR	IDR/L/C GA/SE	LOS, falls, 30-d readmission rate, and	Nonrandomized cluster trial	No	None	No difference in any

(USA)[e]	service, urban academic medical center Inpatients aged ≥70 y (81)	assessment; focus on safety and early discharge planning; educational curriculum IDR attended by nurses, physicians, social workers, case managers, physical/occupational therapists, pharmacists, and volunteers IDR led by attending/resident physician	Multidisciplinary working group before implementation Additional training for attending physicians, residents, and medical students	(122) vs UC (95)	discharge location (secondary)				outcome
Auerbach et al,[27] 2012 (USA)[f]	Multicenter academic university medical center, nonteaching community hospital, and integrated health care system hospital (63)	Multidisciplinary teamwork training curriculum and unit-based STs	Medium: multidisciplinary project leadership and unit STs Team training of 4 h for participating staff No mandated change in daily practice Twice-monthly meetings of unit-based STs	SE/ST (8096); no dedicated control group	LOS, 30-d readmission rate	Interrupted time-series study	Yes (generalized estimating equations to adjust for covariates, with robust standard errors to account for clustering by physician)	Multivariate logistic models used for readmission; Y models with log link function for LOS	No difference in any outcome
Singh et al,[28] 2012 (USA)	Single-center hospitalist–physician assistant service, academic	L of each medical team's patients to a single nursing unit	Medium: mandated change in daily practice Subsequent imposed reduction in intervention	L (565) vs UC (478)	LOS, 30-d readmission rates (not specified), and inpatient deaths described as a patient characteristic rather than outcome measure	Nonrandomized cluster trial	Admitting physician specified as a variable with random	Regression models with random effects for a range of variables;	No difference in any outcome

	medical center (57)		group patient census because workload was believed to be too high				effect	age, sex, race, insurance, admission source, time, day of week, discharge time, and total comorbidities specified as fixed effects	
Thanarajasingam et al,[29] 2012 (USA)	Single center; no description of institution (not given)	L of each medical team's patients to a single nursing unit Census cap of 14 patients per service	High: mandated change in daily practice; 91% of patients successfully admitted to target unit No service exceeded the census cap	L/CR (10 003) vs UC (5928)	30-d Readmission rates; cardiac arrests; rapid response team events; ICU transfers; adverse events as defined by AHRQ patient safety indicators (not specified)	Controlled before-after study	No	Difference-in-difference models adjusted for University Health System Consortium expected mortality rate and LOS	Reduced 30-d readmission rate, but not meeting the predefined *P* < .01 threshold for multiple comparisons; no change in rapid response team, cardiac arrest events, ICU transfers, or complications of care
Saint et al,[30] 2013 (USA)	Single-center Veterans Affairs medical center (not given)	IDR, modified attending rounds, regular attending team meetings, and increased attending commitment to inpatient service provision	High: mandated change to daily practice; investment in additional staffing and restructured attending physician timetable	IDR/EP/SE/CC (4706) vs UC (14 431)	LOS, 7-d readmission rate, and 30-d readmission rate (unspecified)	Interrupted time-series study with control cohort	No	Multivariate linear regression models controlling for time	No difference in any end point (after accounting for secular trends)

		IDR attended by physicians, nurses, pharmacist, and clinical care coordinator Educational curriculum for attending physicians and residents							

Abbreviations: AHRQ, Agency for Healthcare Research and Quality; AR, allied health professions investment; AUT, antimicrobial utilization team; CC, clinical coordinator; CGA, comprehensive geriatric assessment; CMI, Case Mix Index; CR, census reduction; CT, computed tomography; DRG, diagnosis-related group; EL, embedded librarian; EP, embedded pharmacist; ES, embedded specialist; ICU, intensive care unit; IDR, interdisciplinary rounds; INR, international normalized ratio; IV, intravenous; L, localization; LOS, length of stay; MELD, Model for End Stage Liver Disease; MMSE, Mini-Mental State Examination; NB, note well; PCS, proactive consulting specialist; RCT, randomized controlled trial; RN, registered nurse; SE, staff education; ST, safety teams composed of ward staff; TC, team-based care (same team members contribute to patient care, regardless of patient location); UC, usual care.

[a]Interventions to alter the composition of the interdisciplinary team routinely attending the patient, through proactive and/or unsolicited involvement of medical specialists or allied health care professionals.

[b]Results from phase 2 of the study relating to interdisciplinary team care intervention.

[c]LOS excluded from analysis owing to changes over the course of the intervention (expansion of an advanced heart failure service).

[d]Interventions to alter the practice of the established interdisciplinary team in terms of where, when, and how staff work together.

[e]Authors argue that their intervention is not a typical acute care of the elderly unit but a hybrid general medical service (NB no environmental changes or separate nursing training or protocols).

[f]Results from phases 1 and 2 of the study, excluding the patient-targeted interventions of phase 3.

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eMethods. Systematic Search Strategy

Embase 1996 to 2014 Week 04, Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) 1946 to Present, PsycINFO 1987 to January Week 3 2014

1. (adverse event$ or adverse drug or avoidable delay$ or avoidable harm$ or bacteraemia or bacteremia or bleeding or cardiac arrest$ or care deficienc$ or catheter-associated urine tract infection$ or catheter-associated uti$ or clostridium difficile or critical incident$ or critical care admission$ or critical outcome$ or day$ in hospital or death$ or delay$ or deteriorat$ or diagnos$ error$ or disabilit$ on discharge or deep vein thromb$ or delirium or difficile or drug error$ or dvt$ or error$ of omission or error$ of commission or error prevention or escalation or failure to rescue or falls or fatalit$ or hand hygiene or handwashing or hospital-acquired infection$ or hospital-associated infection$ or healthcare-acquired infection$ or healthcare-associated infection$ or healthcare failure$ or healthcare safety or healthcare outcome$ or hospital-acquired pneumonia$ or hospital day$ or hospital failure$ or hospital outcome$ or hospital safety or HSMR or hypotension or hypoxia or iatrogenic or inappropriate care or infection control or injury or injuries or intensive care admission$ or lapse$ or length$ of stay or medical complication$ or medical error$ or medical failure$ or medical outcome$ or medication error$ or methicillin-resistant staphylococc$ or mrsa or misdiagnos$ or misidentification$ or mistake$ or morbidity or mortality or move$ or near miss$ or negligen$ or never event$ or nosocomial or patient deterioration or patient outcome$ or patient safety or performance indicator$ or preventable error$ or pulmonary emboli$ or quality indicator$ or quality of care or readmission$ or

resuscitation or safe care or safety attitude$ or safety climate$ or safety culture$ or safety practice$ or sentinel event$ or sepsis or serious untoward incident$ or service deficienc$ or SHMI or slip$ or standard$ of care or suboptimal care or substandard care or thromboemboli$ or thromboprophylaxis or transfer$ or undesirable consequence$ or undesirable event$ or unintended injur$ or unintended harm$ or unintended consequence$ or unanticipated harm$ or unanticipated injur$ or unexpected event$ or unexpected injur$ or unexpected consequence$ or unexpected harm$ or unnecessary event$ or unnecessary injur$ or unnecessary consequence$ or unnecessary harm$ or waiting time$ or ward safety or ward performance).ab,ti.

2. (bar cod$ or change or checklist$ or computer-assisted or decision making or decision support or endpoint or evaluation or expert system or feedback$ or impact or implement$ or initiative$ or intervention*1 or medical informatics or outcome measure$ or order entry or program$ or reminder$ or trial).ab,ti.
3. (academic medical unit$ or academic teaching unit$ or acute admission$ unit$ or acute assessment unit$ or acute disease management or acute medical unit$ or acute medicine or general medicine or general medical or general medical ward$ or general medical department$ or general medical service$ or general ward$ or hospital inpatient$ or hospital$ medicine or hospital$ unit$ or hospitalist$ or inpatient medical service$ or inpatient medical team$ or inpatient medical unit$ or inpatient medicine or inpatient resident service$ or inpatient teaching service$ or internal medical service$ or internal medicine or medical admission$ or medical assessment unit$ or medical environment$ or medical inpatient$ or medical patient$ or medical specialt$ or medical teaching unit$ or medical unit$ or medical ward$ or resident teaching service$ or telemetry ward$).ab,ti.

4. 1 and 2 and 3
5. limit 4 to "all adult (19 plus years)" [Limit not valid in Embase,PsycINFO; records were retained]
6. limit 5 to humans [Limit not valid in PsycINFO; records were retained]
7. limit 6 to english language
8. limit 7 to yr="1998-2010"
9. remove duplicates from 8
10. limit 7 to yr="2011-2013"
11. remove duplicates from 10
12. 9 or 11

eFigure. PRISMA Flow Diagram (Summary of Evidence Search and Selection)