Table E3. Detailed study characteristics: Multimodal interventions

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author, YearStudy DesignClinical Setting, CountryTrial (if Named) | Duration of Non-Pharma-Cologic Interventions for Patients | N of PatientsaDuration of Entire Study From Baseline Through Follow-up | Intervention(s) and Comparator(s) | Funding Source | Brief summary of Population  | Age: Mean (SD)Percent FemalePercent Non-White | Psychiatric Diagnoses (%) | Mean (SD) Severity of Psychiatric Symptoma-tology |
| Bowers et al., 20067Single-group pre/post study Acute admission psychiatric wards (n=14) (private or public status NR), U.K. | NR | NROne year | G1: Nurse intervention G2: Before intervention | Foundation/ non-profit | NR | NR | NR | NR |
| Bowers et al., 20088Single-group pre/post studyAcute admission psychiatric wards (n=3) (private or public status NR),b U.K. | NR | NR15 to 19 monthsc | G1: Nurse intervention (3 units) G2: Before interventiond | Foundation/ non-profit | NR | NR | NR | NR |
| Currier et al., 20029Single-group pre/post study Academic psychiatric hospital, U.S. | NR | NR6 months (3 months pre and 3 months post) | G1: HCFA One-hour rule: Assessment within one hour of initiation of S/RG2: Pre-intervention | NR | Three eligible psychiatric units in a University hospital, one unit medically ill chemical-abusing, second unit general adult, third is neurogeriatric | NR | NR | NR |

Table E3. Detailed study characteristics: Multi-modal interventions (continued)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author, YearStudy DesignClinical Setting, CountryTrial (if Named) | Duration of Non-Pharma-Cologic Interventions for Patients | N of PatientsaDuration of Entire Study From Baseline Through Follow-up | Intervention(s) and Comparator(s) | Funding Source | Brief summary of Population  | Age: Mean (SD)Percent FemalePercent Non-White | Psychiatric Diagnoses (%) | Mean (SD) Severity of Psychiatric Symptoma-tology |
| D’Orio et al., 200410Single-group pre/post studyPsychiatric emergency service, U.S. | 9 months | 48418 months (9 months pre and 9 months post | G1: Comprehensive Plan focusing on the early identification and management of problematic behaviorsG2: Pre-intervention | NR | Walk-ins, brought by law enforcement, city jail, mobile crisis team – no other information provided | NR | Substance use disorders: 35ePsychotic disorders: 25eUnipolar mood disorders: 13eBipolar disorders: 11eAdjustment disorders: 6eAnxiety disorders: 2eOther: 8e | NR |
| Emmerson et al., 200711Single-group pre/post study Mental Health Services - part of Royal Brisbane and Women's Hospital, refers to wards, Australia | 29 months | NR29 months | G1: 4T Aggression Management StrategyG2: Pre-intervention | NR | NR, but of those with aggression, they were usually adult, male, manic, of no fixed abode, abusing amphetamines and had no previous psychiatric history; and admitted on weekend | NR | NR | NR |

Table E3. Detailed study characteristics: Multi-modal interventions (continued)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author, YearStudy DesignClinical Setting, CountryTrial (if Named) | Duration of Non-Pharma-Cologic Interventions for Patients | N of PatientsaDuration of Entire Study From Baseline Through Follow-up | Intervention(s) and Comparator(s) | Funding Source | Brief summary of Population  | Age: Mean (SD)Percent FemalePercent Non-White | Psychiatric Diagnoses (%) | Mean (SD) Severity of Psychiatric Symptoma-tology |
| Forster et al., 199912Single-group pre/post studyUrban inpatient psychiatric hospital (Psychiatric Emergency Service and four locked inpatient wards), U.S. | 12 months | 5570f24 months (12 pre and 12 post) | G1: Hospital-wide quality improvement effort combining hospital S&R policy review, staff training (including staff experiencing restraint firsthand), regular discussion of S&R on units, and hospital-wide publicity of effortG2: Usual care | NR | Adult patients all evaluated in the Psychiatric Emergency Service or admitted for inpatient treatment | NR | NR | NR |
| Hellerstein et al., 200713Single-group pre/post studyPublic psychiatric hospital(s), U.S | 268 weeks; 67 months which is closer to 290 weeks because more than 4 weeks in a month | NR348 weeks (pre-intervention); 87 months or about 377 weeks (post-intervention) | G1: Hospital-wide, multicomponent interventionG2: Pre-intervention | NR | Adult patients admitted to the Washington Heights Community Service clinical unit for acute inpatient care, most with diagnoses of schizophrenia, schizoaffective disorders, and mood disorders, such as depression and bipolar disorder g | Age: NRPercent female: G1: NRG2: 46 for WHCS unitPercent non-white:G1: NRG2: 88 for WHCS unit | NR, but "schizophrenia, schizoaffective, and mood disorders listed as most common" | NR |

Table E3. Detailed study characteristics: Multi-modal interventions (continued)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author, YearStudy DesignClinical Setting, CountryTrial (if Named) | Duration of Non-Pharma-Cologic Interventions for Patients | N of PatientsaDuration of Entire Study From Baseline Through Follow-up | Intervention(s) and Comparator(s) | Funding Source | Brief summary of Population  | Age: Mean (SD)Percent FemalePercent Non-White | Psychiatric Diagnoses (%) | Mean (SD) Severity of Psychiatric Symptoma-tology |
| Jonikas et al., 200414Single-group pre/post study Public university hospital, U.S. | 18 months | NR30 months | G1: Program to Reduce Restraints (15 months)G2: Before intervention (15 months) | Govern-ment | Majority had schizophrenia, other psychotic disorders or mood disorders, about half were white, about half were female, age NR | Age: NRPercent female57% on general ward; 46% on research unitPercent non-white58% on general ward; 54% on research unit | Schizophrenia or other psychotic disorders: 21% on general ward; 52% on research unitMood disorders: 79% on general ward; 43% on research unit | NR |
| Khadivi et al., 200415Single-group pre/post study Private/academic psychiatric hospital(s), U.S. | 12 months | NR12 months | G1: JCAHO standards (date NR)G2: Pre-intervention | NR | NR, patients in the hospital tend to be poor, are insured primarily through Medicaid or Medicare, tend to have severe and persistent mental illness, most often in the context of dual diagnosis, and are frequently admitted involuntarily | NR | NR | NR |

Table E3. Detailed study characteristics: Multi-modal interventions (continued)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author, YearStudy DesignClinical Setting, CountryTrial (if Named) | Duration of Non-Pharma-Cologic Interventions for Patients | N of PatientsaDuration of Entire Study From Baseline Through Follow-up | Intervention(s) and Comparator(s) | Funding Source | Brief summary of Population  | Age: Mean (SD)Percent FemalePercent Non-White | Psychiatric Diagnoses (%) | Mean (SD) Severity of Psychiatric Symptoma-tology |
| Melson et al., 201416Single-group pre/post study General medical hospital, U.S. | NA | 46254 months (228 weeks) | G1: Alcohol Withdrawal Symptom Management Care Management GuidelineG2: Pre-implementation of guideline | Internal funding only | Adult medical inpatients with alcohol withdrawal syndrome | NR | NR | NR |
| Pollard et al., 200717Single-group pre/post study Public psychiatric hospital(s), U.S. | 18 months | NR18 months | G1: JCAHO 2000 standardsG2: Pre-intervention | Government | NR, but voluntary and involuntary patients in a secured, acute mental health unit | NR | NR | NR |

a Total number of randomized or enrolled participants at baseline in relevant arms of trial.

b Two units (Wards 3 and 4) originally accepted into the project, but Ward 4 was removed from the project during the intervention period and replaced by a third unit, Ward 5.8

c Entire study duration varied by intervention units because of differing intervention periods. The intervention period for 12 months for Ward 3, nine months for Ward 4, and three months for Ward 5.8

d Primary outcomes of interest (i.e., aggressive behavior, use of seclusion, use of restraint) not evaluated in control units, and therefore only the pre/post analysis of outcomes in intervention wards reported here.8

e Only overall sample means provided.10

f Reflects total number of admissions during the course of the study, but unclear how many of these admissions were for patients being readmitted to the study hospital.12

g Only patients from the Washington Heights Community Service clinical unit were eligible for this review because the average LOS was well below 35 days.13

G = group; HCFA = Health Care Financing Agency; JCAHO = Joint Commission on Accreditation of Healthcare Organizations; n/N = number; NR = not reported; S&R = seclusion and restraint; SD = standard deviation; SRU = Schizophrenia Research Unit; U.K. = United Kingdom; U.S. = United States; WHCS = Washington Heights Community Service.