Acute Inpatient Child and Adolescent Psychiatry Readmissions

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Readmissions Overview

- Why Should we care?
  - Improved outcome for patients
  - Costs to the mental health system
- Who are those at risk for readmissions
  - Multiple risk factors
- What can we do to protect those at risk
  - Better understand who is at risk
  - Intervene for those at risk

Why Should we care?

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- Self Harm/Suicide Attempts
  - Risk of repeat self Harm
- Aggression
  - Risk of harm to others
- Psychotic/Disorganized
  - Poor functioning

Why Should we care? Cont.1

- 2009 New England Journal of medicine 19.6% of Medicare patients readmitted within 30 days, 34% readmitted within 90 days
  - Unplanned admissions account for over 17 billion in annual costs.
  - 30 day hospitalizations vary significantly between states 13-24% and even more so within states.
  - Lack of care coordination and effective transitions are important contributors (1)

Why Should we care? Cont.2

- The Affordable Care Act requires excess readmissions be addressed under the Prospective payment system through the Hospital readmissions reduction program
- Centers for Medicare & Medicaid Services(CMS) is to reduce payments for excessive readmissions for acute Myocardial infarction, heart failure and pneumonia-became active in 2013; expanded to other conditions at the discretion of Secretary in 2015
- Excess readmission ratios are calculated using the 30-day readmission measures . Hospitals with a 30-day risk-adjusted readmission rate for each condition greater than the national average will have their IPPS (inpatient prospective payment system) payment rates reduced.

Why Should we care? Cont.3

For 2014 and beyond, annual Medicare payment updates will be reduced by 2.0 percentage points for any freestanding Inpatient Psychiatric Facility (IPF) or psychiatric unit paid under the IPF PPS that does not comply with quality data submission requirements (including D/C planning).

Med PAC (Medicare Payment Advisory Commission) has also made recommendations to CMS to build financial incentives for quality. This includes pay-for-performance (P4P) programs. A similar P4P approach could be adopted for IPFs.

Who are those at risk for readmissions?

Risk factors for Medical readmissions for Medicare patients

- Male gender; **Poverty**; Greater Age; **Lack of stable living situation and/or support at home**; Low English and/or health literacy; Index admission for HF, AMI, PN or certain types of surgery; Recent admissions; Frequent ED visits; 6 or more medications; CHF, Diabetes, COPD; **Depression**, **Psychosis**; Cancer, renal or lung disease; **Alcohol or Drug dependency**; **Disabled**; **Frail**; signs of poor nutrition; Discharged during a weekend or holiday (3)

Readmission of children residential treatment

- Predictors of readmission into children's inpatient mental health treatment (5)
  - 1,432 readmissions of youth at State Inpatient Psychiatric Program one of Florida's Residential Treatment programs (RTC)
  - Used multivariate Cox regression analysis
  - Earlier readmissions were associated with greater maltreatment severity, shorter length of stay, longer time to provision of targeted case management services (time not amount crucial).

Readmissions for children

- Symptom, family and service predictors of children's psychiatric rehospitalization within one year of discharge(6)
  - Acute psychiatric inpatient 5-12 y/o
  - 109 children followed for 1 year
  - Predictors of readmission examined via Cox proportional hazards model
  - 37% readmitted; 81% occurred within 90 days
  - Predictors: more severe conduct problems, harsh parental discipline, disengaged parent-child relationships
  - Risks attenuated when parents disclosed higher stress in parenting roles.

Readmission of Adolescents

- The influence of clinical, treatment, and health care system characteristics on psychiatric readmission of adolescents. **(7)**
  - Predictors of readmission of 522 adolescents on Medicaid admitted to 3 psych hospitals in Maryland.
  - Predictors of readmission were examined with bivariate (Kaplan Meier) and multivariate (Cox Regression) survival techniques.
  - Readmission rates at 1 year 38%. majority <3 months
  - Predictors of readmission: younger age, more severe(psychosis and behaviors), mental retardation, recent violence, victims of abuse, greater family risk.
  - More severe emotional disturbance was not statistically significant though elevated
  - Substance abuse was inversely related to readmission
  - Treatment characteristics predictors: more past hospitalizations, longer stay, medication noncompliance, hospital (27.8%-47.5%),

Readmission of Adolescents cont.

- **The influence of clinical, treatment, and healthcare system characteristics on psychiatric readmission of adolescents Cont.**
  - Suicidality was associated with readmissions strongest within first week and diminished till non-existent at 53 days.
  - Females 40% more likely when other factors controlled.
  - Post-discharge environment and type of after care were strongly associated with readmissions
    - Those who had a change of living situation due to hospitalization were significantly less likely to be readmitted.
    - 50% of youth D/C'd to day treatment were readmitted
    - 51.7% of youth D/C'd to TFC were readmitted
    - 23.4% of youth D/C'd to RTC were readmitted- protective

Readmission of Adolescents cont.2

- Psychotropic medication changes, polypharmacy, and the risk of early readmission in suicidal adolescent inpatients.(8)
  - Retrospective study of 318 Medicaid enrolled adolescents admitted for SI to 3 Psychiatric hospitals in Maryland.
  - Multivariate Cox proportional hazard analysis was used to examine association of medication changes and polypharmacy on readmission
  - At least one medication change was made in 78% of patients(typically an antidepressant, mood stabilizer or antipsychotic was added.
  - 23% were prescribed 3 or more medications from different drug classes.
  - The addition of an antidepressant was associated with an 85% lower risk of readmission
  - The use of 3 or more medications had an association of 2.6 times higher risk for readmission

Readmission of Adolescents cont.3

- **Factors associated with readmission to adolescent psychiatric care. (9)**
  - Looked at 71 patients admitted to and adolescent psychiatric inpatient unit over a 2 year period comparing patients rehospitalized within 12 months compared those who were not.
  - Looked at diagnosis, age of first admission, history of child sexual abuse (CSA) and events precipitating admission
  - Medication non-adherence and a history of CSA were independently associated with readmission. Also younger age at first psychiatric hospitalization was associated with readmission.
  - A negative association was found between readmission and experience of personal loss.
  - Readmission was not related to DSM-IV axis I or II diagnosis

Readmission of Adolescents cont.4

- **A child psychiatric hospital's first and second admissions: comparative studies (10)**
  - Male children and Children younger at the time of the first visit were more predominant in readmissions
  - The most common denominator in readmission was length of initial admission

Readmission of Adolescents and children

- Self-poisoning with medications in adolescents: a national register study of hospital admissions and readmissions (11)
  - Looked at risk factors associated with rehospitalizations after self-poisoning with medication ages 10-19
  - Norwegian 2008-2011, using log-log regression model, assessed effects at characteristics at index hospitalization
  - 1497 patients, 76.4 % females, 89.8% 15-19 years, 1/3 received secondary diagnosis
  - Predictors for hospital readmission:
    - Female HR=2.4
    - Discharged to further treatment HR 2.3
    - Psychiatric secondary diagnosis HR 1.5

Cost containment

- Effects of health care cost-containment programs on patterns of care and readmissions among children and adolescents.(12)
  - From 1989-1993 8568 reviews of medical pediatric patients birth-18 y/o were reviewed
  - Used concurrent preadmission and concurrent review procedures to review patients' need for care.
  - Multivariate analysis to assess changes in number of days inpatient and to determine whether limitations led to greater risk of 60 day readmission
  - Number of days of requested inpatient care was reduced by 3.2 days on average. Low birth weight infants and adolescents with depression or alcohol or drug issues accounted for a disproportionate share of the reduction.
  - Patients admitted for medical or mental health care whose stay was restricted by concurrent review were more likely to be readmitted within 60 days after discharge.

After care services

- Do aftercare services reduce inpatient psychiatric readmissions? (13)
  - 204 sample individuals (children and adolescents) discharged from inpatient facilities
  - Used hazard modeling to determine effect of after care services on likely-hood of readmission
  - Comparisons adjusted for timing of aftercare adjusted adjusted by demographics, diagnosis, symptomatology and psycho-social functioning
  - Data was collected on psychopathology, symptomatology, and psycho-social functioning.

After care services cont.

- Do aftercare services reduce inpatient psychiatric readmissions? Cont.
  - Cox models were used that included time-varying covariates.
  - Findings: aftercare services do not influence likely-hood of readmission especially for lower middle class families
    - Out patient therapy had the largest effect
    - Intermediate step down services have the smallest effect
    - Identified family and individual characteristics influencing readmission rates.

State Custody Child/Adolescents

- Factors related to psychiatric hospital readmission among children and adolescents in state custody (14)
  - 500 children, wards of Illinois Department of Children and Family Services, compared those readmitted with those not within a 3 month period
  - Readmitted children were more likely to be learning disabled or developmentally delayed, fewer post hospital services, from congregate care settings, rural

Risk factors

- Shorter initial stay
- Longer initial stay 2
- Which hospital
- Abuse history
- Sexual abuse history as child
- More severe abuse history
- Longer time to initiating follow up care
- Recent violence
- More severe conduct problems 2
- More severe psychosis
- Harsh parental discipline
- Disengaged parent child relationships
- Younger age 3
- Younger age at first ever admission
- Mental retardation 2
- Medication noncompliance 2
- Greater family risk
- Recent suicidality <53 days
- D/C to TFC or day Tx
- Adolescent Female
- Use of 3 or more medications
- More past hospitalizations
- Male
- Female, 2ndary dx, d/c w F/U (if due to medication poisoning)
- Length of stay restricted by concurrent review
- After care less effective for lower middle class(but not significantly effective in general)
- Rural (if in state custody)
- Congregate care setting before admission(if in state custody)
- Fewer services (if in state custody)

Protective factors

- parents disclosed higher stress in parenting roles
- Substance use
- D/C to RTC
- Started on an antidepressant in hospital
- Personal loss

What can we do?

- See patients quickly after being discharged from the hospital.
  - Suicide attempt patients are most at risk at 7 days after D/C. Risk decreases till day 53.
  - Monitor suicide patients closely for first 3 months after D/C
- Ask circumstances around discharge
  - D/C due to insurance/family refusing to pay for further treatment
  - Family discharged pt AMA
  - Family/pt cooperation with treatment plan

What can we do?

- Strengthen support network
  - Promote positive family/community involvement
  - Ask family and patient where they see needs
- Assess severity/kind of abuse history
- Assess severity of aggression and self harm behaviors
  - Males focus on reduced aggression-e.g. BMS
  - Females reduce risk of self-harm

What can we do?

- Gather pertinent history age at first admission, number of past admissions, time of year of admissions, Intellectual disability, number of Dx, Axis II, S.E.S., number of medications current/past, understanding of treatment/DC plan, level of family functioning and what led to hospitalization (chronic vs. acute stress).

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