Case Management: Improving Pediatric Patient Outcomes

What We Know

› Case management (also called care management) is an evolving, goal-oriented profession designed to assist patients and their families in achieving positive health, psychosocial, and academic outcomes for optimal quality of life (QOL). Effective case management is delivered in a collaborative, high-quality, and cost-effective manner. As the profession continues to grow, outcomes-based research is required to evaluate efficacy and affect policy related to case management.  

• The Case Management Society of America (CMSA) defines the role of case or care managers as “advocates who help patients understand their current health status, what they can do about it and why those treatments are important.”

• Case managers are responsible for supervising patients entering the healthcare system and cohesively linking professionals in the healthcare delivery team, while enabling patients and their family members to achieve targeted goals in the most efficacious manner. Targeted and defined goals are further met through education provided by case managers to patients, families, and healthcare providers.

• Various frameworks and theories of case management exist and there is not one universal reference model. Professional backgrounds and disciplines of case managers are vast. Case managers work in a variety of specialties, including acute care, hospitals, mental health facilities, child welfare, and school settings. Examples of case management specialties include social work, mental health, HIV infection/AIDS, nursing, school nursing, and pediatrics.

› In the age of healthcare reform, outcomes-based research to assign value to the case manager role and to health promotion is imperative, as the healthcare climate in the United States continues to promote cost-effective changes in all healthcare settings. Relatively few studies have, however, evaluated the effectiveness of case management strategies in improving pediatric patient outcomes.

• Two hospital nursing case management programs were examined for their effect on patient outcomes in a retrospective chart review of 700 pediatric patients who were 2–18 years of age and diagnosed with asthma; outcomes included length of stay (LOS) and readmission to hospital A or B within 30 days of discharge with the same diagnosis. Although statistically significant differences were measured for LOS in hospital A compared with hospital B, there were no significant findings regarding readmission rates. The authors of the study provided the following recommendations for future research and implications for nursing case management:

  – Nurse case managers have the opportunity to educate nurse leaders, administrators, and healthcare providers about case management as an evidence-based practice
  – Research in case management should delineate causal relationships between the structure, process, and outcomes that are explicit to controlling healthcare costs (e.g., reducing LOS)
  – Research should measure, evaluate, and validate the nurse case manager’s role
  – Nurse case managers can provide insight regarding the effects of discharge planning, patient compliance, and referral to adequate resources
Case management programs should focus on certain variables (e.g., age of younger pediatric patients compared to older pediatric patients) at the time of admission in order to be able to disclose valuable outcome information about hospital case management programs.

Investigators evaluating health outcomes among homeless youth aged 14–24 years accessing therapy and case management services through an urban drop in center found that patients receiving case management services showed significantly less substance abuse, fewer mental illness symptoms, and spent more days housed during a 12-month period while receiving case management services.\(^{(10)}\)

Asthma is one of the most common long-term illnesses in childhood. In a randomized 3-arm treatment study of children 2–17 years of age managed by a pediatric emergency department (ED) for acute asthma, investigators compared ED-based attempts to improve primary care after discharge through a case management intervention or an intensive primary care linkage intervention. Both intervention groups incorporated usual ED care (e.g., teaching at discharge and a one-time follow-up telephone call) with faxing of charts to the primary care provider (PCP) and telephone contact with the family and PCP at scheduled intervals; the case management group also organized 6 in-home visits over a period of 6 months. The researchers found that the care provided in the intervention groups was no more effective than usual ED care in improving subsequent asthma outcomes over a 6-month period.\(^{(6)}\)

Respiratory syncytial virus (RSV) is one of the most common viral causes of bronchiolitis or pneumonia in pediatric patients < 1 year of age. The medication palivizumab is available to prevent severe RSV-related illness in certain high-risk pediatric patients (e.g., premature patients; patients with cystic fibrosis or congenital heart disease). Researchers are working to develop vaccines against RSV, but no effective vaccines currently exist. Case managers for high-risk infants are responsible for the following:\(^{(1,2)}\)

- Awareness of the public and individual health implications of RSV and the benefits and guidelines for use of palivizumab in treatment of high-risk patients
- Verification that palivizumab is administered on schedule during RSV season (i.e., autumn to spring) to promote optimal health outcomes
- Provision of continuous education to families of high-risk pediatric patients regarding appropriate planning for prevention of RSV infection and use of palivizumab if indicated in their child’s care plan

Chronic illness is common among school-aged children, and chronically ill children often experience academic difficulty and decreased QOL. Investigators tracked 114 children 5–19 years of age with asthma, sickle cell anemia, seizures, severe allergies, or diabetes mellitus in five school districts to evaluate the effectiveness of case management services provided by school nurses based on academic, health status, and QOL outcomes. The study results suggest a positive effect in QOL, academic, and self-management of illness among study participants.\(^{(5)}\)

School nurses provided case management through\(^{(5)}\)

- Identification of children who were not performing at optimal levels of health status and/or academic ability
- Assessment of children for chronic illness and establishment of goal-oriented, individualized plans of care (e.g., involving strategies for teaching, counseling, direct care, making referrals, teaching self-administration of medications); an emergency action plan regarding what to do if health status worsened was created for each child
- Activities to improve coping among children specific to their illness and to prevent and/or reduce symptom exacerbation
- Coordination of care and regular communication with the child, parents, teachers, and other healthcare providers to establish long-term relationships
- Evaluation of care interventions and other patient-focused activities

Effective methods for developing and evaluating case management provided by school nurses requires a collaborative effort among individual school nurses, state nurse consultants, and nursing faculty.\(^{(4)}\)

Childhood obesity is a growing public health concern in the U.S. that is linked to chronic illnesses and negative health outcomes in adolescence and adulthood. A transtheoretical model (TM) of case management comprised of a nurse, a case manager, an exercise physiologist, a health educator, a nutritionist, a pediatric psychologist, and a pediatrician sought to decrease markers of childhood obesity (e.g., body mass index [BMI]) and risk factors (e.g., excessive caloric intake, lack of physical exercise) over a 12-week period in a 10-year-old girl. Investigators found that implementing the TM approach can positively move a child along a “stage-of-change” continuum to reduce markers and risk factors of obesity compared with a child who received standard therapy (e.g., referral to a dietitian). The conceptual framework of the TM approach is based on behavioral change for the child and the parents. The four stages of TM include\(^{(1)}\)

- Precontemplation (i.e., an individual who does not recognize a health disorder and/or does not plan to change health behaviors)
• contemplation (i.e., an individual is seriously considering changing health behaviors)
• action (i.e., an individual is adapting and changing health behaviors)
• maintenance (i.e., an individual establishes a consistent pattern of change to improve health)

Future research regarding case management should focus on pediatric patients with comorbid conditions and outcomes of LOS in an acute care facility and the effects of case management; pediatric patients with complex medical conditions may benefit from a longer LOS, which may be more cost-effective than hospital readmission < 30 days \(^{(8)}\).

- Randomized controlled studies are needed to assess the effectiveness of alternatives to inpatient care for children and adolescents requiring intensive treatment for severe and complex mental health disorders \(^{(7)}\).

**What We Can Do**

- Become knowledgeable about case management for improving pediatric patient outcomes so you can accurately assess your patients’ personal characteristics and health education needs; share this information with your colleagues
- Collaborate with multidisciplinary care team members in your facility to identify specific case management methods (e.g., face-to-face) and models (e.g., TM) that are most efficacious in improving targeted pediatric patient outcomes; compare patient outcomes when case management is used with outcomes in patients who receive usual care
- Collaborate with others in your facility to track the relationship between discharge planning and teaching during the hospital stay and readmission rates to clearly define clinically significant differences in LOS and readmission in your facility
- Educate the parents of pediatric patients and all involved healthcare providers regarding targeted outcomes specific to the diagnosis
- Become knowledgeable regarding specific guidelines for your facility’s population of pediatric patients and collaborate to implement guideline recommendations
- Collaborate to establish a relationship with school-based case management programs to promote positive health and academic outcomes in the pediatric population, as appropriate
## Coding Matrix

References are rated using the following codes, listed in order of strength:

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<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tr>
<td>M</td>
<td>Published meta-analysis</td>
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<tr>
<td>SR</td>
<td>Published systematic or integrative literature review</td>
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<tr>
<td>RCT</td>
<td>Published research (randomized controlled trial)</td>
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<td>R</td>
<td>Published research (not randomized controlled trial)</td>
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<td>C</td>
<td>Case histories, case studies</td>
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<td>G</td>
<td>Published guidelines</td>
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<td>RV</td>
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## References


