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Ambulatory-Care Sensitive Conditions

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One of the keys to effective population health is managing the care of common chronic conditions to help avoid exacerbations that lead to emergency department (ED) visits, inpatient stays and deterioration of the overall health of patients. These conditions are referred to as ambulatory care-sensitive, in that their trajectory can be impacted by high-quality outpatient care and avoid the need for emergency or inpatient care.
Common ambulatory sensitive chronic conditions (ACSC) include:[1]

- heart failure
- angina
- chronic obstructive pulmonary disease (COPD)/asthma
- chronic kidney disease (CKD)
- diabetes
- inflammatory bowel disease
- depression

There are also acute conditions (i.e. cellulitis, urinary tract infections, gastroenteritis/dehydration) that if addressed with timely outpatient care can also alleviate the need for more expensive ED care and hospitalizations. Still others are avoidable through immunizations and other preventive care (influenza, dental infections, ENT infections).

Ambulatory care sensitive conditions are health conditions for which timely and effective outpatient care can prevent the need for hospitalization or reduce the severity of the illness once it has developed.[2]

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In general, higher continuity of care with a primary care physician has been associated with lower admission rates in different settings.[4-7] As such, the number of ACSC hospital admissions per capita has been used as an indicator of primary care quality.[7]

Up to 40% of ACSC may be avoidable with timely and effective primary care interventions.[3]

Vulnerable populations including black and hispanic persons, uninsured patients, Medicaid beneficiaries, residents of low-income zip codes, and residents of medically underserved counties, have higher hospitalization rates for these chronic medical conditions.[8]

Rarely is there a single cause for recurrent ACSC hospitalizations. Identifying and addressing factors that negatively impact care and contribute to disease progression are essential to prevent ACSC hospitalizations.

Factors Contributing to ACSC Hospitalizations[3]

System level
- Unavailability of ambulatory services
- Failure to utilize ambulatory services
- Absence of treating physician

Physician level
- Diagnostic uncertainty
- Ambulatory treatment failure
- Suboptimal monitoring

Medical factors
- Medication side effects
- Medical emergency
- Somatic comorbidity
- Psychiatric comorbidity
- Substance abuse

Patient level
- Fearfulness
- Cultural background
- Insufficient language skills
- Delayed help seeking
- Medication error
- Medication nonadherence
- Nonmedication nonadherence
- Cognitive impairment

Social level
- Lack of social support
- Overstrained caregiver
- Overprotective caregiver

While many of these factors are outside the direct control of a primary care provider, their impact can be mitigated by an ongoing longitudinal relationship and regular follow-up with a provider or care team.[1,6,9]

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Key Components of Care

Efforts to reduce ACSC hospitalizations require reliable methods to identify patients (at high-risk for exacerbation of chronic conditions) who are most likely to benefit from engagement and interventions that have been shown to improve disease control.

A number of simple interventions, which can be implemented in primary care practices, have been shown to improve the quality of care for a group of common medical conditions and help avoid the need for more costly inpatient care.

Care Coordination[10]

- Regular telephonic outreach to high-risk patients
- Identification and engagement of existing social support systems (eg, family, friends, neighbors) and community resources.
- Education on signs and symptoms to watch for, when to seek medical care and self management skills
- Motivational interviewing
- Communication

In addition to clinic outreach and availability of patients to easily message providers, enhanced communication between physicians across sectors (eg easy access to colleagues to ask for advice in case of diagnostic uncertainty, shared medical record) can also facilitate interventions to address issue before they result in the need for hospital care.[3]

Medication adherence/Reconciliation

Up to half of all patients with chronic conditions fail to take their medications as prescribed, which can lead to higher hospital admissions and increased healthcare costs.[12] Conversely, strong medication adherence improves clinical outcomes and reduces mortality from chronic diseases.[11] Nonadherence worsens as the number of prescriptions rises. We use “adherence” to emphasize cooperation between patient and prescriber, contrasting it with “compliance,” which implies passive obedience.[12,14]

Fortunately, simple, low-resource interventions can boost medication adherence. Key positive influences include:

- Regular medication review (what medication is taken and how)
- Easy-to-read medication schedules
- Shared treatment plan among patients, caregivers, and physicians
- A strong therapeutic alliance (rather than a paternalistic relationship)
- Patient education and empowerment regarding medication benefits, and
- A perception of personalized, holistic care instead of routine or impersonal treatment.[3,13]

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Additional effective interventions include:

- refill prompts and synchronization
- medication reminders
- pharmacist-led medication therapy management
- efforts to decrease pill burden, such as once-daily dosing and combination pills[13,15]
- Limiting the total number of medications.[16]

See Deprescribing education at Medication Management.

Patient Education

Educating patients on their health and treatment promotes better self-management of chronic conditions, thereby reducing unnecessary ED and hospital visits. Self-management training of patients and caregivers (eg. early recognition of a COPD exacerbations and use of a rescue pack) should enable them to manage acute deterioration or to seek timely help of primary care resources.[3]

Proactive Monitoring of Symptoms and Adherence

Several ACSCs have signs and symptoms that warn of impending exacerbations and can be used to trigger timely interventions to prevent the need for emergent or inpatient care.

Weight gain frequently precedes hospitalization for heart failure patients by one week.[17] An assessment with daily weights and simple instructions to adjust diuretic therapy and/or notify the appropriate care team member can be an effective measure to prevent the need for hospital care. Any weight gain >2 lbs should trigger an assessment and intervention before more serious signs and symptoms like hypoxia and dyspnea develop.

The red, yellow, green action plan helps a patient with chronic respiratory disease to monitor and manage changes in symptoms and know when to call for help. Studies have shown fewer hospital stays and less antibiotic use associated with the use of an action plan.[18] Worsening cough with a change in the volume or color of sputum can also be used as a signal for early interventions to ward off the need for inpatient care.

Promoting Continuity of Care

Continuity of care is a core tenet of primary care. Studies show that higher continuity of care is associated with lower risk of hospitalization with an ambulatory care sensitive condition.[19] Patient populations with high rates of preventable hospitalizations are more likely to rely on EDs for routine care.[20,21]

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Patient Care Example

Gina is a 68 yo female who presents to the clinic as a new patient for a pre-operative assessment. She is planning to have a hammer toe repaired but has not seen her PCP in several months after a falling out. A review of her chart shows a long smoking history with a past medical history of alcoholic cirrhosis, heart failure with an EF of 20-25% and COPD. Records show in the prior year she had 7 hospital admissions and three other ED visits for heart failure/COPD exacerbations. Examination demonstrated evidence of significant PVD which precluded her having elective surgery on her foot. The physician asked if Tina would be willing to come see her in the clinic every couple of weeks to try to better manage her chronic conditions. She pushed back but eventually agreed to come in monthly.

Over the next 16 months, Tina did not use the ED or require inpatient care until she presented to the ED with an inflamed sebaceous cyst, and did not require ED or inpatient care for respiratory issues until she died from COVID and secondary pneumonia 5 years after that initial office visit.

Our aim is to proactively identify clinic patients who frequently require ED and/or inpatient care for ACSCs and increase their outpatient clinic visits. This enhanced engagement will allow us to provide ongoing education to improve self care, monitor for early signs of exacerbations or complications, and intervene before a higher level of care is required.

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