

eMeasure title	Measure description	Denominator	Numerator	Exclusions and exceptions
Coordinating Care— Emergency Department Referrals	Proportion of emergency department (ED) visits not resulting in an inpatient admission for patients (1) of any age who visit the ED for asthma or (2) ages 18 and over who visit the ED for chest pain for which the ED notifies the patient's primary care provider or his or her relevant specialist about the patient's visit to the ED within 24 hours of discharge.	ED visits not resulting in an inpatient admission for patients (1) of any age who visit the ED for asthma or (2) ages 18 and over who visit the ED for chest pain.	ED visits for which the ED communicated information about the visit to the patient's primary care provider or a relevant specialist within 24 hours of discharge from the ED. Qualifying communication includes (1) a telephone call; (2) an electronic notification in the electronic health record; (3) transmission of the visit record by fax, email, or other electronic notification; or (4) a scheduled follow-up appointment for the patient with an ambulatory care provider.	Exclusions: (1) ED visits for which the patient does not report a primary care provider or condition-relevant specialist. (2) ED visits during which the patient died. Exceptions: None
Coordinating Care— Follow-Up with Eligible Provider	Proportion of ED visits not resulting in an inpatient admission for patients (1) of any age who visit the ED for asthma or (2) ages 18 and over who visit the ED for chest pain for which the patient's primary care provider, relevant specialist, or a designated staff member followed up with the patient within 72 hours of being notified by the ED about the patient's ED visit.	ED visits not resulting in an inpatient admission for patients (1) of any age who visit the ED for asthma or (2) ages 18 and over who visit the ED for chest pain for which the primary care provider, relevant specialist, or designated staff member received notification of the ED visit through a telephone call; an electronic notification in the electronic health record; or transmission of the visit record by fax, email, or other electronic notification.	ED visits in the denominator for which the primary care provider, relevant specialist, or a designated staff member followed up with the patient by (1) telephone, (2) email, (3) electronic message in the patient portal, or (4) scheduling a follow-up office visit within 72 hours of receiving notification from the ED.	Exclusions: None Exceptions: None

eMeasure Title	Coordinating Care—Emergency Department Referrals		
eMeasure Identifier (Measure Authoring Tool)	344	eMeasure Version Number	0
NQF Number	Not applicable	GUID	5444a411-5b1c-4798-a732-d5eac5e68f10
Measurement Period	January 1, 20xx, through December 31, 20xx		
Measure Steward	Centers for Medicare & Medicaid Services		
Measure Developer	Mathematica Policy Research		
Endorsed by	None		
Description	Proportion of emergency department (ED) visits not resulting in an inpatient admission for patients (1) of any age who visit the ED for asthma or (2) ages 18 and over who visit the ED for chest pain for which the ED notifies the patient's primary care provider or his or her relevant specialist about the patient's visit to the ED within 24 hours of discharge.		
Copyright	<p>Limited proprietary coding is contained in the measure specifications for user convenience. Users of proprietary code sets should obtain all necessary licenses from the owners of the code sets.</p> <p>CPT(R) contained in the measure specifications is copyright 2004–2015 American Medical Association. LOINC(R) copyright 2004–2015 Regenstrief Institute, Inc. This material contains SNOMED Clinical Terms(R) (SNOMED CT[R]) copyright 2004–2015 International Health Terminology Standards Development Organisation. ICD-10 copyright 2013 World Health Organization. All rights reserved.</p>		
Disclaimer	<p>These performance measures are not clinical guidelines and do not establish a standard of medical care; they have not been tested for all potential applications.</p> <p>The measures and specifications are provided "as is" without warranty of any kind.</p> <p>Due to technical limitations, registered trademarks are indicated by (R) or [R], and unregistered trademarks are indicated by (TM) or [TM].</p>		
Measure Scoring	Proportion		
Measure Type	Process		
Stratification	None		
Risk Adjustment	None		
Rate Aggregation	None		
Rationale	<p>Studies suggest that 46–71 percent of adults who have had an ED visit miss their recommended follow-ups (Barlas et al. 1999; Ritchie et al. 2000; Baren et al. 2001). Another study showed 43 percent of patients who sought emergency care had no record or acknowledgment of the ED visit in their primary care medical record (Vinker et al. 2004).</p> <p>Asthmatic patients—even those with an established primary care provider—often return to the ED for repeat visits and do not follow up with their primary care provider (Baren et al. 2006). This results in missed opportunities for patients to engage with their primary care providers and pulmonologists to develop collaborative longitudinal care plans and work through barriers to adherence, such as difficulty accessing needed medications. Evidence directly describing the impact of communication on patient outcomes is limited, however, and evidence from single sites or delivery systems must be interpreted in light of the specific resources available in that setting. Although several smaller single-center studies have shown little or no benefit from timely follow-up (for example, Baren et al. 2006; Sin et al. 2004), a larger observational study evaluating more than 25,000 patients showed those who obtained follow-up within 30</p>		

	<p>days had fewer readmissions within 90 days than those who did not (RR = 0.76) (Sin and Tu 2001).</p> <p>Patients with chest pain who are discharged often require follow-up to determine the cause of their chest pain and to rule out dangerous causes. An observational study showed that patients with diabetes or cardiovascular disease who received timely follow-up care with a cardiologist had lower rates of heart attack and mortality (5.5 percent vs. 8.6 percent among patients without follow-up) a year after their initial ED discharge, even after adjustment for multiple factors (Czarnecki et al. 2013). Promoting communication between providers can also give ED and outpatient providers information that may be useful as they make clinical decisions, and may promote greater use of lower-cost outpatient settings to perform needed testing.</p>
Clinical Recommendation Statement	<p>The current body of literature on the importance of coordinating care following patient discharge from EDs takes the form of expert consensus and guidance, rather than randomized controlled trials or case-control studies. However, coordinating care during the transition from ED to ambulatory settings is an important part of the broader picture of care coordination and aligns with the National Quality Strategy's priority of promoting effective communication and coordination of care. For this reason, many of the principles that are relevant to other types of transitions can be applied to ED discharge—particularly the need for adequate and timely communication between ED providers and patients' regular ambulatory care providers.</p> <p>The literature around other forms of care coordination, including inpatient-to-home care and inpatient-to-outpatient care, suggests that for care transitions to be successful, providers must coordinate efforts and share information across various care settings. In response, established national models to improve care transitions—such as the Care Transitions Program, developed by Dr. Eric Coleman, and the State Action on Avoidable Rehospitalizations (STAAR)—have emphasized facilitating the sharing of information across care settings as well as timely follow-up by ambulatory primary care and specialty providers (Baker et al. 1995).</p>
Improvement Notation	Higher score indicates better quality.
Reference	Baker, D.W., C.D. Stevens, and R.H. Brook. "Determinants of Emergency Department Use by Ambulatory Patients at an Urban Public Hospital." <i>Annals of Emergency Medicine</i> , vol. 25, no. 3, 1995, pp. 311-316.
Reference	Baren, J.M., E.D. Boudreaux, B.J. Brenner, R. Cydulka, B. Rowe, S. Clark, and C. Camargo. "Randomized Controlled Trial of Emergency Department Interventions to Improve Primary Care Follow-Up for Patients with Acute Asthma." <i>CHEST Journal</i> , vol. 129, 2006, pp.257-265.
Reference	Baren, J.M., F.S. Shofer, B. Ivey, S. Reinhard, J. DeGeus, S. Stahmer, R. Panettieri, and J. Hollander. "A Randomized, Controlled Trial of a Simple Emergency Department Intervention to Improve the Rate of Primary Care Follow-Up for Patients with Acute Asthma Exacerbations." <i>Annals of Emergency Medicine</i> , vol. 38, no. 2, 2001, pp. 115-122.
Reference	Barlas, D., C.S. Homan, J. Rakowski, M. Houck, and H. Thode. "How Well Do Patients Obtain Short-Term Follow-Up After Discharge from the Emergency Department?" <i>Annals of Emergency Medicine</i> , vol. 34, no. 5, 1999, pp. 610-614.
Reference	Czarnecki, A., A. Chong, D.S. Lee, M.J. Schull, J.V. Tu, C. Lau, M.E. Farkouh, and D.T. Ko. "Association Between Physician Follow-Up and Outcomes of Care After Chest Pain Assessment in High-Risk Patients." <i>Circulation</i> , vol. 127, no. 13, 2013, pp. 1386-1394.
Reference	Ritchie, P.D., M. Jenkins, and P.A. Cameron. "A Telephone Call Reminder to Improve Outpatient Attendance in Patients Referred from the Emergency Department." <i>Australian and New Zealand Journal of Medicine</i> , vol. 30, no. 5, 2000, pp. 585-592.
Reference	Sin, D.D., N.R. Bell, and S.F. Man. "Effects of Increased Primary Care Access on Process of Care and Health Outcomes Among Patients with Asthma Who Frequent Emergency Departments." <i>American Journal of Medicine</i> , vol. 117, no. 7, 2004, pp. 479-483.
Reference	Sin, D.D., and J.V. Tu. "Inhaled Corticosteroids and the Risk of Mortality and Readmission in Elderly Patients with Chronic Obstructive Pulmonary Disease." <i>American Journal of Respiratory and Critical Care Medicine</i> , vol. 164, no. 4, 2001, pp. 580-584.

Reference	Vinker, S., E. Kitai, Y. Or, and S. Nakar "Primary Care Follow Up of Patients Discharged from the Emergency Department: A Retrospective Study." <i>BMC Family Practice</i> , vol. 5, no. 16, 2004.
Definition	None
Guidance	<p>Communication may take the form of telephone calls, emails, faxes, or automatic notifications.</p> <p>If no primary care provider is reported or if the ED provider determines that specialist follow-up is more appropriate, the ED should endeavor to contact the specialist most relevant to the patient's condition.</p> <p>ED visits resulting in an observation stay are to be included in the measure denominator.</p>
Transmission Format	To be determined
Initial Population	ED visits not resulting in an inpatient admission for patients (1) of any age who visit the ED for asthma or (2) ages 18 and over who visit the ED for chest pain.
Denominator	Equal to initial population
Denominator Exclusions	<p>ED visits for which the patient does not report a primary care provider or relevant specialist.</p> <p>ED visits during which the patient died.</p>
Numerator	ED visits for which the ED provider communicated information about the visit to the patient's primary care provider or to a relevant specialist within 24 hours of the patient's ED discharge. Qualifying communication includes (1) a telephone call; (2) an electronic notification in the electronic health record; (3) transmission of the visit record by fax, email, or other electronic means; or (4) a scheduled follow-up appointment for the patient with an ambulatory care provider.
Numerator Exclusions	Not applicable
Denominator Exceptions	None
Measure Population	Not applicable
Measure Observations	Not applicable
Supplemental Data Elements	For every visit evaluated by this measure, also identify patient's payer, race, ethnicity, and sex.

eMeasure Title	Coordinating Care—Follow-Up with Eligible Provider		
eMeasure Identifier (Measure Authoring Tool)	343	eMeasure Version Number	0
NQF Number	Not applicable	GUID	062001f8-6689-4c4e-aa02-be4c2c7bff97
Measurement Period	January 1, 20xx, through December 31, 20xx		
Measure Steward	Centers for Medicare & Medicaid Services		
Measure Developer	Mathematica Policy Research		
Endorsed by	None		
Description	Proportion of emergency department (ED) visits not resulting in an inpatient admission for patients (1) of any age who visit the ED for asthma or (2) ages 18 and over who visit the ED for chest pain for which the patient's primary care provider, relevant specialist, or a designated staff member followed up with the patient within 72 hours of receiving notification of the patient's ED visit from the ED.		
Copyright	<p>Limited proprietary coding is contained in the measure specifications for user convenience. Users of proprietary code sets should obtain all necessary licenses from the owners of the code sets.</p> <p>CPT(R) contained in the measure specifications is copyright 2004-2015 American Medical Association. LOINC(R) copyright 2004-2015 Regenstrief Institute, Inc. This material contains SNOMED Clinical Terms(R). (SNOMED CT[R]) copyright 2004-2015 International Health Terminology Standards Development Organisation. ICD-10 copyright 2013 World Health Organization. All rights reserved.</p>		
Disclaimer	<p>These performance measures are not clinical guidelines and do not establish a standard of medical care; they have not been tested for all potential applications.</p> <p>The measures and specifications are provided "as is" without warranty of any kind.</p> <p>Due to technical limitations, registered trademarks are indicated by (R) or [R], and unregistered trademarks are indicated by (TM) or [TM].</p>		
Measure Scoring	Proportion		
Measure Type	Process		
Stratification	None		
Risk Adjustment	None		
Rate Aggregation	None		
Rationale	<p>Patients visit EDs approximately 129 million times annually (National Center for Health Statistics 2010). Asthma and chest pain are conditions that are commonly seen in EDs. Nonspecific chest pain diagnoses represent 3.9 million ED visits ending in discharge in 2011, and asthma diagnoses represent an additional 1.6 million visits. Both conditions are considered amenable to post-discharge follow-up (Schoor 2011). At the same time, suggest that 46–71 percent of adults who have had an ED visit miss their recommended follow-ups (Barlas et al. 1999; Ritchie et al. 2000; Baren et al. 2001). Another study showed 43 percent of patients who sought emergency care had no record or acknowledgment of the ED visit in their primary care medical record (Vinker et al. 2004).</p>		

	<p>Asthmatic patients—even those with an established primary care provider—often return to the ED for repeat visits and do not follow up with their primary care provider (Baren et al. 2006). This results in missed opportunities for patients to engage with their primary care providers and pulmonologists to develop collaborative longitudinal care plans and work through barriers to adherence, such as difficulty accessing needed medications. Evidence directly describing the impact of communication on patient outcomes is limited, however, and evidence from single sites or delivery systems must be interpreted in light of the specific resources available in that setting. Although several smaller single-center studies have shown little or no benefit from timely follow-up (for example, Baren et al. 2006; Sin et al. 2004), a larger observational study evaluating more than 25,000 patients showed those who obtained follow-up within 30 days had fewer readmissions within 90 days than those who did not (RR = 0.76) (Sin and Tu 2001).</p>
Clinical Recommendation Statement	<p>The current body of literature on the importance of coordinating care following patient discharge from EDs takes the form of expert consensus and guidance, rather than randomized controlled trials or case-control studies. However, coordinating care during the transition from ED to ambulatory settings is an important part of the broader picture of care coordination and aligns with the National Quality Strategy's priority of promoting effective communication and coordination of care. For this reason, many of the principles that are relevant to other types of transitions can be applied to ED discharge—particularly the need for adequate and timely communication between ED providers and patients' regular ambulatory care providers.</p> <p>The literature around other forms of care coordination, including inpatient-to-home care and inpatient-to-outpatient care, suggests that for care transitions to be successful, providers must coordinate efforts and share information across various care settings. In response, established national models to improve care transitions—such as the Care Transitions Program, developed by Dr. Eric Coleman, and the State Action on Avoidable Rehospitalizations (STAAR)—have emphasized facilitating the sharing of information across care settings as well as timely follow-up by ambulatory primary care and specialty providers (Baker et al. 1995).</p>
Improvement Notation	Higher score indicates better quality.
Reference	Baker, D.W., C.D. Stevens, and R.H. Brook. "Determinants of Emergency Department Use by Ambulatory Patients at an Urban Public Hospital." <i>Annals of Emergency Medicine</i> , vol. 25, no. 3, 1995, pp. 311-316.
Reference	Baren, J.M., E.D. Boudreaux, B.J. Brenner, R. Cydulka, B. Rowe, S. Clark, and C. Camargo. "Randomized Controlled Trial of Emergency Department Interventions to Improve Primary Care Follow-Up for Patients with Acute Asthma." <i>CHEST Journal</i> , vol. 129, 2006, pp. 257-265.
Reference	Baren, J.M., F.S. Shofer, B. Ivey, S. Reinhard, J. DeGeus, S. Stahmer, R. Panettieri, and J. Hollander. "A Randomized, Controlled Trial of a Simple Emergency Department Intervention to Improve the Rate of Primary Care Follow-Up for Patients with Acute Asthma Exacerbations." <i>Annals of Emergency Medicine</i> , vol. 38, no. 2, 2001, pp. 115-122.
Reference	Barlas, D., C.S. Homan, J. Rakowski, M. Houck, and H. Thode. "How Well Do Patients Obtain Short-Term Follow-Up After Discharge from the Emergency Department?" <i>Annals of Emergency Medicine</i> , vol. 34, no. 5, 1999, pp. 610-614.
Reference	Czarnecki, A., A. Chong, D.S. Lee, M.J. Schull, J.V. Tu, C. Lau, M.E. Farkouh, and D.T. Ko. "Association Between Physician Follow-Up and Outcomes of Care After Chest Pain Assessment in High-Risk Patients." <i>Circulation</i> , vol. 127, no. 13, 2013, pp. 1386-1394.
Reference	National Center for Health Statistics. "National Hospital Ambulatory Medical Care Survey: 2009 Emergency Department Summary Tables." 2010. Available at http://www.cdc.gov/nchs/data/ahcd/nhamcs_outpatient/2009_opd_web_tables.pdf . Accessed February 16, 2015.

Reference	Ritchie, P.D., M. Jenkins, and P.A. Cameron. "A Telephone Call Reminder to Improve Outpatient Attendance in Patients Referred from the Emergency Department." <i>Australian and New Zealand Journal of Medicine</i> , vol. 30, no. 5, 2000, pp. 585-592.
Reference	Schuur, J.D., C.W. Baugh, E.P. Hess, J.A. Hilton, J.M. Pines, and B.R. Asplin. "Critical pathways for post-emergency outpatient diagnosis and treatment: tools to improve the value of emergency care." <i>Academic Emergency Medicine</i> , vol. 18, no. 6, 2011, pp. e52-e63.
Reference	Sin, D.D., N.R. Bell, and S.F. Man. "Effects of Increased Primary Care Access on Process of Care and Health Outcomes Among Patients with Asthma Who Frequent Emergency Departments." <i>American Journal of Medicine</i> , vol. 117, no. 7, 2004, pp. 479-483.
Reference	Sin, D.D., and J.V. Tu. "Inhaled Corticosteroids and the Risk of Mortality and Readmission in Elderly Patients with Chronic Obstructive Pulmonary Disease." <i>American Journal of Respiratory and Critical Care Medicine</i> , vol. 164, no. 4, 2001, pp. 580-584.
Reference	Vinker, S., E. Kitai, Y. Or, and S. Nakar. "Primary Care Follow Up of Patients Discharged from the Emergency Department: A Retrospective Study." <i>BMC Family Practice</i> , vol. 5, no. 16, 2004.
Definition	None
Guidance	ED visits resulting in an observation stay are to be included in the measure denominator.
Transmission Format	To be determined
Initial Population	ED visits not resulting in an inpatient admission for patients (1) of any age who visit the ED for asthma or (2) ages 18 and over who visit the ED for chest pain for which the primary care provider, relevant specialist, or designated staff member received notification of the ED visit through a telephone call; an electronic notification in the electronic health record; or transmission of the visit record by fax, email, or other electronic notification.
Denominator	Equal to initial population
Denominator Exclusions	None
Numerator	ED visits in the denominator for which the primary care provider, relevant specialist, or a designated staff member followed up with the patient by (1) telephone, (2) email, (3) an electronic message in the patient portal, or (4) scheduling a follow-up office visit within 72 hours of receiving notification from the ED.
Numerator Exclusions	Not applicable
Denominator Exceptions	None
Measure Population	Not applicable
Measure Observations	Not applicable
Supplemental Data Elements	For every ED visit evaluated by this measure, also identify patient's payer, race, ethnicity, and sex.