NATIONAL QUALITY FORUM

Leveraging Electronic Health Record (EHR)-Sourced Measures to Improve Care Communication and Coordination

Environmental Scan Report - September 24, 2021

References

1 Office of the National Coordinator for Health Information Technology (ONC). Office-based Physician Electronic Health Record Adoption. /quickstats/pages/physician-ehr-adoptiontrends.php. Last accessed April 2021.

2 Ramirez-Zohfeld V, Seltzer A, Xiong L, et al. Use of Electronic Health Records by Older Adults, 85 Years and Older, and Their Caregivers. *J Am Geriatr Soc.* 2020;68(5):1078-1082.

3 National Quality Forum. *Electronic Health Record Data Quality Best Practices for Increased Scientific Acceptability-Final Report.*; 2020. http://www.qualityforum.org/ Publications/2020/12/ Electronic_Health_Record_Data_ Quality_Best_Practices_for_Increased_Scientific_ Acceptability_-_Final_Report.aspx.

4 Murphy DR, Meyer AN, Sittig DF, et al. Application of electronic trigger tools to identify targets for improving diagnostic safety. *BMJ Qual Saf.* 2019;28(2):151-159.

5 Bodenheimer T, Sinsky C. From Triple to Quadruple Aim: Care of the Patient Requires Care of the Provider. *The Annals of Family Medicine*. 2014;12(6):573-576.

6 NQF: Priority Setting for Healthcare Performance Measurement: Addressing Performance Measure Gaps in Care Coordination. https://www.qualityforum.org/ Publications/2014/08/Priority_Setting_for_Healthcare_ Performance_Measurement__Addressing_Performance_ Measure_Gaps_in_Care_Coordination.aspx. Last accessed February 2021.

7 Interoperability | HealthIT.gov. https://www.healthit.gov/ topic/interoperability. Last accessed May 2021.

8 Overview - FHIR v4.0.1. https://www.hl7.org/fhir/overview. html. Last accessed June 2021.

9 Quality Measures | CMS. https://www.cms.gov/Medicare/ Quality-Initiatives-Patient-Assessment-Instruments/ QualityMeasures. Last accessed April 2021.

10 NQF: Healthcare System Readiness Final Report. https:// www.qualityforum.org/Publications/2019/06/Healthcare_ System_Readiness_Final_Report.aspx. Last accessed April 2021.

11 National Quality Forum. Glossary of Terms. https://www. qualityforum.org/Measuring_Performance/Submitting_ Standards/NQF_Glossary.aspx. Last accessed April 2021.

12 eCQMs | eCQI Resource Center. https://ecqi.healthit.gov/ ecqms. Last accessed April 2021. **13** Hod R, Maimon O, Zimlichman E. Does Care Transition Matter? Exploring the Newly Published HCAHPS Measure. *Am J Med Qual.* 2020;35(5):380-387.

14 Shelkey M, Wallace M. Katz Index of Independence in Activities of Daily Living. *J Gerontol Nurs*. 1999;25(3):8-9.

15 Leppin AL, Gionfriddo MR, Kessler M, et al. Preventing 30-Day Hospital Readmissions: A Systematic Review and Meta-analysis of Randomized Trials. *JAMA Intern Med.* 2014;174(7):1095.

16 Redmond P, Grimes TC, McDonnell R, et al. Impact of medication reconciliation for improving transitions of care. *Cochrane Database Syst Rev.* 2018;8:CD010791.

17 lezzoni LI. The risks of risk adjustment. *JAMA*. 1997;278(19):1600-1607.

18 ED-Based Care Coordination Reduces Costs for Frequent ED Users. AJMC. https://www.ajmc.com/view/edbased-care-coordination-reduces-costs-for-frequent-ed-users. Last accessed January 2021.

19 Diaz MCG, Dawson K. Impact of Simulation-Based Closed-Loop Communication Training on Medical Errors in a Pediatric Emergency Department. *Am J Med Qual.* 2020;35(6):474-478.

20 Loftin E, Andrews D, Mikitarian G, et al. Zero Harm During Transition in Care From the Emergency Department to Medical/Surgical Units. *Journal of Nursing Care Quality*. 2020;35(2):153-157.

21 Children With Special Needs: Social Determinants of Health and Care Coordination - Aaron Pankewicz, Renee K. Davis, John Kim, Richard Antonelli, Hannah Rosenberg, Zekarias Berhane, Renee M. Turchi, 2020. https://journals.sagepub.com/doi/ abs/10.1177/0009922820941206. Last accessed August 2021.

22 Hoffmann LM, Woods ML, Vaz LE, et al. Measuring care coordination by social workers in a foster care medical home. *Soc Work Health Care*. 2021;60(5):467-480.

23 AHRQ. TeamSTEPPS Fundamentals Course: Module 3. Evidence-Based: Communication. http://www.ahrq. gov/teamstepps/instructor/fundamentals/module3/ ebcommunication.html. Last accessed April 2021.

24 Börner B, Henninger M, Röthlin M, et al. Correlations Between Aspects Of Team Communication And Task Coordination During Medical Emergencies. :1. **25** CDC. Promoting Team-Based Care to Improve High Blood Pressure Control. Centers for Disease Control and Prevention. https://www.cdc.gov/dhdsp/pubs/guides/best-practices/teambased-care.htm. Published June 25, 2020. Last accessed August 2021.

26 Patel JN, Klein DS, Sreekumar S, et al. Outcomes in Multidisciplinary Team-based Approach in Geriatric Hip Fracture Care: A Systematic Review. *J Am Acad Orthop Surg.* 2020;28(3):128-133.

27 Will KK, Johnson ML, Lamb G. Team-Based Care and Patient Satisfaction in the Hospital Setting: A Systematic Review. *J Patient Cent Res Rev.* 2019;6(2):158-171.

28 Widmer MA, Swanson RC, Zink BJ, et al. Complex systems thinking in emergency medicine: A novel paradigm for a rapidly changing and interconnected health care landscape. *J Eval Clin Pract.* 2018;24(3):629-634.

29 Selevan J, Kindermann D, Pines JM, et al. What Accountable
Care Organizations Can Learn from Kaiser Permanente
California's Acute Care Strategy. *Popul Health Manag*.
2015;18(4):233-236.

30 Mar 13 P, 2018. Women's Coverage, Access, and Affordability: Key Findings from the 2017 Kaiser Women's Health Survey. KFF. March 2018. https://www.kff.org/womens-healthpolicy/issue-brief/womens-coverage-access-and-affordabilitykey-findings-from-the-2017-kaiser-womens-health-survey/. Last accessed August 2021.

31 What is a patient portal? | HealthIT.gov. https://www. healthit.gov/faq/what-patient-portal. Last accessed June 2021.

32 Stewart MT, Hogan TP, Nicklas J, et al. The Promise of Patient Portals for Individuals Living With Chronic Illness: Qualitative Study Identifying Pathways of Patient Engagement. *J Med Internet Res.* 2020;22(7):e17744.

33 Mahajan P, Pai C-W, Cosby KS, et al. Identifying trigger concepts to screen emergency department visits for diagnostic errors. *Diagnosis (Berl)*. November 2020.

34 Sheehan SE, Safdar N, Singh H, et al. Detection and Remediation of Misidentification Errors in Radiology Examination Ordering. *Appl Clin Inform*. 2020;11(1):79-87.

35 Office of the National Coordinator for Health Information Technology (ONC). What is HIE? | HealthIT.gov. https://www. healthit.gov/topic/health-it-and-health-information-exchange-basics/what-hie. Last accessed April 2021.

36 Challenges of Measuring Care Coordination Using Electronic Data and Recommendations to Address Those Challenges. http://www.ahrq.gov/research/findings/finalreports/prospectscare/prospects1.html. Last accessed May 2021.

37 Rigby M, Georgiou A, Hyppönen H, et al. Patient Portals as a Means of Information and Communication Technology Support to Patient- Centric Care Coordination - the Missing Evidence and the Challenges of Evaluation. A joint contribution of IMIA WG EVAL and EFMI WG EVAL. *Yearb Med Inform*. 2015;10(1):148-159. **38** Reisman M. EHRs: The Challenge of Making Electronic Data Usable and Interoperable. *P T.* 2017;42(9):572-575.

39 Samal L, Hasan O, Volk LA, et al. Health Information Technology to Support Care Coordination and Care Transitions: Data Needs, Capabilities, Technical and Organizational Barriers, and Approaches to Improvement Commissioned Paper. February 2012. https://www.qualityforum.org/ Publications/2012/02/Health_Information_Technology_to_ Support_Care_Coordination_and_Care_Transitions.aspx.

40 Turvey CL, Klein DM, Witry M, et al. Patient Education for Consumer-Mediated HIE. A Pilot Randomized Controlled Trial of the Department of Veterans Affairs Blue Button. *Appl Clin Inform.* 2016;7(3):765-776.

41 Paving the Road to Health Equity - OMHHE - CDC. https:// www.cdc.gov/minorityhealth/publications/health_equity/index. html. Published November 30, 2020. Last accessed August 2021.

42 Social Determinants of Health - Healthy People 2030 | health.gov. https://health.gov/healthypeople/objectives-and-data/social-determinants-health. Last accessed January 2021.

43 About Social Determinants of Health (SDOH). https://www. cdc.gov/socialdeterminants/about.html. Published December 14, 2020. Last accessed January 2021.

44 Social determinants of health. https://www.who.int/ westernpacific/health-topics/social-determinants-of-health. Last accessed January 2021.

45 Interoperability Standards Advisory (ISA) | Interoperability Standards Advisory (ISA). https://www.healthit.gov/isa/. Last accessed January 2021.

46 United States Core Data for Interoperability (USCDI) | Interoperability Standards Advisory (ISA). https://www.healthit. gov/isa/united-states-core-data-interoperability-uscdi. Last accessed January 2021.

47 Gravity Project | HL7 International. https://www.hl7.org/gravity/. Last accessed January 2021.

48 Klinger EV, Carlini SV, Gonzalez I, et al. Accuracy of race, ethnicity, and language preference in an electronic health record. *J Gen Intern Med.* 2015;30(6):719-723.

49 Kruse CS, Kristof C, Jones B, et al. Barriers to Electronic Health Record Adoption: a Systematic Literature Review. *J Med Syst.* 2016;40(12):252.

50 Gianfrancesco MA, Tamang S, Yazdany J, et al. Potential Biases in Machine Learning Algorithms Using Electronic Health Record Data. *JAMA Intern Med.* 2018;178(11):1544-1547.

51 Krakow M, Hesse BW, Oh A, et al. Addressing Rural Geographic Disparities Through Health IT: Initial Findings From the Health Information National Trends Survey. *Medical Care*. 2019;57:S127.