Electronic health records (EHRs), and the policies and workflows around them, are inconsistently aligned with the needs of primary care patients and physicians. This results in substantial waste of physician and support resources, high rates of burnout (1, 2), and a decrease in primary care capacity precisely at the time when our nation needs a stronger primary care foundation (3).

We propose a set of principles (Table) directed toward vendors, institutional leaders, policymakers, and physicians to support higher-value primary care. These principles draw on our expertise in patient care, quality assurance, industrial and systems engineering, and policy and EHR implementation. They are inspired by discussions with clinicians after more than 100 presentations on redesigning primary care practice and our shadowing of physicians at nearly 50 sites. We hope they will contribute to a multi-stakeholder dialogue and serve as a call to action.

**PRINCIPLES**

**Patient-Centered Design**

*Add Value for the Patient.* Technology, regulation, and implementation policies should add net value to the patient’s care and experience. Current EHR design and use is often visit-based and payment-centered and directs more work to the physician. Therefore, EHRs can paradoxically diminish value for the patient.

*The Primary Function of EHRs Is Clinical Care.* Electronic health records should be designed and used as sense-making and communication tools (4). To be good stewards of information, health care professionals must concisely organize key elements, use structured or copied and pasted text judiciously, and pay close attention to the longitudinal portions of the record (for example, problem and medication lists and the care plan). The optimal person to input information will vary across settings and may not always, or even often, be the physician. Administrative and research activities, although valuable, must be subordinate to the clinical function. Information organized primarily for billing justification or other organizational purposes, including performance measurement and audit trails, can unintentionally undermine its fundamental clinical purpose.

**Health Care Professionals**

*Well-Being.* Patients’ experiences will not be optimized without consideration of the professional well-being of those who serve them. When nurses, physicians, and other health care workers are overwhelmed or distracted by EHR-associated tasks, patient care can suffer (2, 5).

*Match the Work to the Worker.* All staff should work “to the top of their license,” especially those with the greatest investment in training. It is not always safer to require that the physician perform a task. Those responsible for complex cognitive work should not also be responsible for routine tasks, such as order entry, billing, and documentation, because they may interfere with higher-level tasks, including synthesizing and interpreting information, balancing risks and benefits, guiding patients in shared decision making, and communicating with others (3, 6).

**EHRs Are Shared Information Platforms for Individual and Population Health.** The entire care team shares responsibility for using the EHR to support coordinated care for individual patients and for population management.

**Efficiency**

*Minimize Waste.* Wise use of health care resources requires minimizing waste. Time matters because it translates into quality, access, and safety. Time per task and time to comply with regulations should be tracked and reduced. Human factors expertise can inform EHR design to minimize mouse clicks and scrolls and screen changes, as well as create better information displays to decrease cognitive workload. A policy environment that reduces documentation requirements and supports team-based care facilitates efficiency. Not every element of care can be captured in the EHR. Not every element of care should require physician signoff. Many signatures in health care do not add value and are a form of waste.

*Alignment With Clinical Work.* Electronic workflows should align with clinical workflows rather than being rigid sequences that physicians must progress through with patients. Medical care is often chaotic (7) and nonlinear, and EHRs must support this complex patient-centered interaction.

*Various Methods of Communication.* The goal is effective and efficient communication rather than to “go paperless.” The team should be encouraged to use the best method for the situation, including verbal one-on-one interaction in which dialogue is helpful. Asynchronous electronic communication has a role but must be used judiciously to avoid overwhelming the e-mail inbox with messaging that either was unnecessary or could have been handled more effectively by direct conversation (8).

**Regulation and Payment**

*Sufficient Resources.* Higher-value primary care cannot be delivered on a shoestring budget. Many activities in which teams could be engaged (for example, using the EHR to identify and manage high-risk patients) represent new work that requires new resources. The high volume of electronic information in comprehensive primary care cannot be handled with the staffing ratios of the past. In ad-
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**Disclaimer:** Drs. Sinsky and Beasley and Mr. Simmons are members of the National Collaborative for Improving Primary Care Through Industrial and Systems Engineering (I-PrACTISE), but their views do not represent any formal policy statement from I-PrACTISE. Dr. Baron is CEO at the American Board of Internal Medicine (ABIM), but the views expressed here are not those of the ABIM.

**Disclosures:** None. Forms can be viewed at www.acponline.org/authors/icmje/ConflictOfInterestForms.do?msNum=M13-2589.

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Final approval of the article: C.A. Sinsky, J.W. Beasley, G.E. Simmons. 
Administrative, technical, or logistic support: J.W. Beasley, G.E. Simmons. 
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