Letter to the Editor

Open-source Software and the Primary Care EMR

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Bates et al., representing the National Alliance for Primary Care Informatics, identify several barriers to the adoption of electronic medical record (EMR) systems in primary care. Three barriers are highlighted: excessive cost, the transience of vendors, and the lack of common data standards. This otherwise excellent review fails to draw attention to the phenomenon of open-source software (OSS). OSS may turn out to be the force that helps overcome these and several other barriers to the use of the EMR in primary care and in the rest of the health care system. The medical informatics community should welcome OSS, which fits naturally our scientific model of shared, peer-reviewed knowledge in medicine. It holds great promise for realizing the vision of ubiquitous, low-cost, electronic medical record systems to improve primary care.

Open-source software reduces barriers to EMR adoption, first by reducing EMR ownership and development costs. OSS offers freedom from software licensing costs, with reduced cost software upgrades, and no license expiration. Various OSS licenses exist. They have in common a lack of restrictions on software use, modification, and free redistribution, other than those required to maintain those rights and the absence of restrictions. Vendors of open-source applications can share development costs among a community of developers and users. As a result, pricing can be lowered or resources can be shifted to customer support and training, software customization, and project implementation, all of which add real value to the product and increase the odds of a successful implementation. The resulting paradigm shift is that open-source EMR vendors can become professional service providers (the economic model of medicine itself), competing on service quality rather than on the basis of software secrets. Second, the disappearance of an OSS vendor, unlike the failure or acquisition of a proprietary software vendor, is not necessarily a threat to the customer. Lack of so-called “vendor lock-in” minimizes risk as the customer can use an alternative company to support and maintain the EMR application.

Third, the barrier of standards compatibility is not overcome by the concept of OSS, but authors of open-source applications are known for embracing standards. The largest collection of network and Web standards, upon which the Internet is based, is developed with the mandate of an open-source, patent-unencumbered reference base of software. The experience of the Internet shows the effectiveness of an open-source strategy for interoperability. The same cannot be said for proprietary software vendors and proprietary standards, as current EMR software also shows. The emergence of open-source information architecture standards, such as openEHR2 and OpenGalEn,7 have the potential to provide a target for system interoperability among both open-source and proprietary software solutions.

The American Academy of Family Practice recently announced an open-source EMR project.4 The informatics community should recognize and applaud this and the efforts of other pioneers who have already produced several fully functional and implemented open-source EMRs suitable for primary care.5-8 The most significant open-source health care application is OpenVista,9 the open-source version of VistA, developed and used by all medical centers of the U.S. Department of Veterans Affairs. The VistA software and its EMR module (CPRS) can be purchased for $25 or less, are open-source by virtue of the Freedom of Information Act, and are being actively marketed by new vendors.

References