ISDS 2013 Conference Abstracts

The Use of Open Source Software to Enhance Public Health Initiatives

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Objective

Provide an overview of common open source software (OSS) licenses used in public health applications, and discuss how OSS can help improve global public health security.

Introduction

OSS is rapidly becoming part of more public health applications. Mobile health (mHealth) initiatives and the need for electronic processes to support healthcare (eHealth) provide particularly good examples of government use of open source software. The growth of global and national mHealth and eHealth needs has spurred innovation in software development. In resource limited areas that do not have the infrastructure for sophisticated computing tools but where cellular technology is prevalent, mHealth solutions are able to move such communities into the digital age. Monetary costs of licensing and maintaining proprietary software systems have been common challenges to these end users, but OSS helps solve these problems. OSS has already been used to further certain global public health initiatives, but more needs to be done. For instance, the passage of the World Health Organization (WHO) International Health Regulations (IHR) in 2005 required member countries to implement certain core public health capacities by June 2012. The adoption more broadly of OSS has the potential to improve the efficiency of IHR implementation, and therefore global public health initiatives in general, because it provides a free, modifiable software option which can be altered to meet specific requirements.

Methods

A review of commonly used OSS licenses was conducted, with particular attention given to each license's terms. A review of a subset of mobile health applications was conducted to determine the licenses used and the reasons for selecting the license. This review helped identify five recognized benefits of using OSS. A study of the current implementation status of the IHR was undertaken, and revealed that many of the states cited inadequate financial and human resources, insufficient communication infrastructure for reporting public health emergencies to IHR focal points, and the lack of necessary equipment and supplies for detecting, reporting and responding to public health events.

Results

The results of this research indicate that there are seven OSS licenses favored by public health applications and five recognized benefits. In addition, the recognized benefits support the greater use of OSS in a variety of public health applications. Note that the presentation will provide an overview of OSS licenses and background on the nature of licenses, generally.

Conclusions

OSS software can be applied more broadly to public health applications to implement technology that improves global public health security. The adoption more broadly of OSS has the potential to improve the efficiency of IHR implementation, and therefore global public health initiatives in general, because it provides a free, modifiable software option which can be altered to meet specific requirements for local governments and non-governmental organizations (NGOs), and shared and adapted for larger initiatives.

Keywords

Open Source Software; International Health Regulations; Global Health Security

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References

Lewis SL, Feighner BH, Loschen WA, Wojcik RA, Skora JF, et al. (2011) SAGES: A Suite of Freely-Available Software Tools for Electronic Disease Surveillance in Resource-Limited Settings. PLoS ONE 6(5): e19750.

OpenMRS, A Global Medical Records System Collaborative: Factors Influencing Successful Implementation, Nareesa A. Mohammed-Rajput, Dawn C. Smith, Burke Mamlin, Paul Biondich, Brad N. Doebbeling.

World Health Organization, International health Regulations (2005).

Resolution WHA58.3 Revision of the International Health Regulation (2005) and Resolution WHA61.2 Implementation of the International Health Regulations (2005), (2008).

IHR News, Quarterly Bulletin: IHR implementation in countries: Extensions, national action plans and what WHO is doing to support achievement, World Health Organization, 28 September 2012.

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