Assessing the Benefits of Implementing an Oncology Electronic Medical Record in a New Cancer Center

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Abstract

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The new cancer center opened in 2012 as a fully electronic clinic. The implementation of an Oncology Electronic Medical Record (OEMR) was chosen to support the objectives of exceptional care coordination, high quality care, superior information access, patient safety and patient satisfaction. This initiative was a unique opportunity to assess the benefits resulting from the implementation of an OEMR associated with process optimization and automation.

Part of this project was a prospective questionnaire to assess user’s perception. The DeLone and McLean model was use as a framework. Each of the variables was consistent with the six major information systems success dimensions of the model. The questionnaire was conducted at two points in time: before implantation of MOSAIQ® in the spring of 2011 (T0) including expectations (T0E) and post-implantation in the fall of 2012 (T1). The questionnaire was sent to all users at the cancer center and included 6 variables with specific items. Each item was measured using a Likert scale with 5 levels.

At T0, 61 valid questionnaires were analyzed and the response rate was 77.5%. At T1, 46 valid questionnaires were analyzed. The majority of respondents (85%) had never used MOSAIQ® in any health facility before. The frequency of use of MOSAIQ® is high for 89% of respondents. The overall score obtained for the six variables are: 1) quality of the clinical information system T0 3.29 and T1 3.28 (p=0.94); 2) quality of the clinical information T0 3.06 and T1 3.66, an improvement of 19.6% (p<0.0001); 3) benefits in terms of individual practice T0 3.04 and T1 3.44, an improvement of 13.2% (p=0.008); 4) benefits in terms of collective practice T0 2.64 and T1 5.77, an improvement of 42.8% (p<0.0001); 5) quality of care in terms of waiting time T0 2.71 and T1 3.59, an improvement of 32.5% (p<0.0001); and 6) quality of Care T0 2.86 and T1 3.55, an improvement of 24.1% (p=0.0001).

Users’ perception demonstrates a highly significant improvement for the satisfaction after MOSAIQ® implementation in almost all the variables with the exception of the Quality of the clinical information system where there is no difference. The lack of improvement could be related to confounding factors as a new virtualized desktop infrastructure. The most significant improvement is for the collective practice and this should translate in improved care coordination.