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ORIGINAL ARTICLE / *Teleexpertise*

Embedding telemedicine quality assurance within a large organisation



S'assurer de la qualité d'un service de télémedecine au sein d'une grande organisation

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Summary

Introduction. – Quality assurance (QA) is common in certain areas of medicine, such as laboratory work, but there has been little QA in telemedicine so far. We reviewed the QA activities in a store-and-forward telemedicine network, which provides about 1000 teleconsultations per annum in low-resource settings. This work was compared with comprehensive QA programmes in other health care systems to identify areas for future consolidation.

Patients and methods. – The QA activities conducted in the telemedicine network were reviewed over a 30-month period. Comparison was made with a framework for QA designed to support lower- and middle-income countries.

Results. – During the study period, a total of 2068 telemedicine cases were submitted by 154 field users. A number of problems were detected by regular QA monitoring and various adverse events were identified. The QA work was feasible and useful, enabling early detection of problems and the speedy resolution of some of them; other issues required authority above the level of the people working in the telemedicine programme.

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Discussion. – The review demonstrated the feasibility and value of a QA programme in a store-and-forward telemedicine operation. However, this represents QA at a fairly low, process level. *Conclusions.* – Comparison with other healthcare organisations showed that consolidation of the QA activities into a comprehensive QA programme would be required in order to achieve institutionalization of the work, and to realise its full potential. While this might incur costs in the short-term, the increased efficiency and effectiveness could lead to net savings for the organisation in the long-term.

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MOTS CLÉS

Téléconsultation ;
Milieu à faibles
ressources ;
Assurance qualité ;
Amélioration de la
qualité

Résumé

Introduction. – L'assurance qualité (AQ) est déjà connue dans certains domaines de la médecine, comme la biologie médicale, mais elle reste à ce jour peu développée en télé-médecine. Nous avons revu les programmes d'AQ d'un réseau de télé-médecine en temps différé qui délivre approximativement 1000 téléconsultations par an dans des pays à faibles revenus. Ce travail a été comparé avec différents programmes d'AQ utilisés dans d'autres systèmes de santé afin d'identifier les domaines d'amélioration potentielle.

Patients et méthodes. – Les activités d'AQ menées dans le réseau de télé-médecine ont été examinées au cours d'une période de 30 mois. Une comparaison a été faite avec un cadre d'analyse adapté aux pays à faible revenu et à revenu intermédiaire.

Résultats. – Au cours de la période d'étude, 2068 cas de télé-médecine ont été soumis par 154 utilisateurs sur le terrain. Un certain nombre de problèmes ont été détectés grâce à la surveillance régulière de l'AQ et divers événements indésirables ont pu être identifiés. L'activité d'AQ était possible et utile notamment en permettant la détection précoce des problèmes et la résolution rapide de certains d'entre eux ; d'autres questions nécessitaient en revanche d'être gérées à un autre niveau que celui des personnes travaillant pour le programme de télé-médecine.

Discussion. – L'analyse a démontré la faisabilité et la valeur d'un programme d'AQ dans un système de télé-médecine en temps différé. Cependant, cette AQ reste dans son développement à un niveau relativement bas.

Conclusions. – La comparaison avec d'autres organisations de soins de santé a montré que la consolidation des activités d'AQ dans un programme approfondi d'AQ serait nécessaire afin de parvenir à l'institutionnalisation du travail, et de réaliser ainsi tout son potentiel. Bien que cela puisse générer un certain coût à court terme, l'efficacité et l'efficacité accrues pourraient conduire à des économies nettes pour l'organisation à long terme.

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Introduction

Quality assurance is a desirable aim in telemedicine. It is a sign of a clinical activity which has been adopted as routine by the organisations involved, and which is operating at scale. Quality assurance (QA) is common in certain areas of medicine, such as laboratory work, but there has been little QA in telemedicine so far. This presumably reflects the difficulty of defining suitable standards and the relatively low level of routine adoption of telemedicine. Thus most of the telemedicine QA work to date has concerned radiology [1], ophthalmology [2] or histopathology [3], which represent areas of high activity, where it is relatively easy to define absolute quality standards.

The use of telemedicine in humanitarian work is still at an early stage. It appears promising – examples include the use of telemedicine to make planning decisions in advance

of visiting surgical teams [4], and the use of telemedicine to provide support for remote practitioners [5]. Médecins Sans Frontières (MSF) is a non-governmental humanitarian medical organisation that responds to emergency situations and provides medical assistance to those in need. MSF has been operating a telemedicine network for over six years and surveys show that the field users of this network think highly of it [6]. As the technique matures, and becomes more widely adopted – both within and outside MSF – consideration needs to be given to QA.

We have developed a series of tools allowing QA to be performed in a store-and-forward telemedicine network [7–10]. These tools rest on the definition of quality, i.e. the intrinsic value of the output from the telemedicine network. Once this is defined, many of the techniques from industrial process control can be used. In a previous paper, we reported the use of these QA tools in two dissimilar store-and-forward

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