

Qualitative Issues Influencing the Electronic Integration of Medical and Dental Data

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Abstract and Objective

Limited electronic information exchange between dentists and other health professionals arises not only from technical aspects but also from cultural, financial and historical issues. We report on the assessment of these issues by identifying and modeling: 1) influencing factors; 2) relations between factors. The resulting model highlights the preponderance of limiting factors, which partially explain current lack of electronic data integration.

Keywords:

Data integration, Dentistry, Dental informatics, Barriers.

Introduction

A fully integrated health care delivery system requires information sharing between distinct providers. Dentists, although major players in the US healthcare system, share patient information only on limited occasions with other health professionals. Consultations and/or referrals are among the most common reasons for interaction. However, these interactions rely mostly on manual methods (regular mail or fax) to transmit information. Although these methods are long and well established, they possess inherent limitations such as lack of interoperability, increased transfer time and subsequent augmented costs.

These limitations are well known, however, efforts to address them face other intrinsic or extrinsic obstacles. This report has the goal of making these barriers explicit. We expect that by showcasing these obstacles, we will expedite medical-dental data integration by increasing awareness of those practicing dental and biomedical informatics.

Methods

The author extracted and modeled several factors using the principles defined by Beyer and Holtzblatt, in particular the development of a cultural model. The cultural model has the goal of revealing "...values, standards, constrains... between people and groups... and how they intermix, conflicting and supporting each other" [1]. Our sources included discussions with experts in dental informatics, practicing clinicians and literature sources.

Results

A variety of issues were considered in the development of our model. These include cultural, financial, historical and technical elements. The model (Figure 1) represents levels of influence and connectivity between factors. Negative factors appear preeminently in comparison with those that are beneficial.

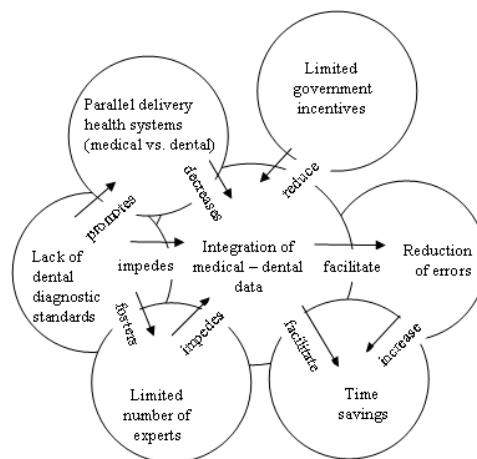


Figure 1- Factors influencing the electronic integration of medical and dental data in the US

Conclusion

Culturally, limiting factors appear to outweigh the influence of beneficial factors. In consequence, achieving the integration between medical – dental data will require work beyond the technical aspects.

Acknowledgments

This study was partially supported by NIH grant R21DE018548-02.

References

- [1] Beyer H, Holtzblatt. Contextual Design: Defining Customer-Centered Systems. Morgan Kaufmann. 1st Ed. 1997.