

Establishing and Operating the OHDSI Dentistry Workgroup: A Model for Other Disciplines

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Background

The mission of the Observational Health Data Sciences and Informatics (OHDSI) Dentistry Workgroup (WG) is to understand how dentistry can leverage the Observational Medical Outcomes Partnership Common Data Model (OMOP-CDM) to improve oral health outcomes and further investigate the links between oral health and systemic disease. The Dentistry Workgroup seeks to carry out its mission through (1) Increased adoption of observational research in dentistry; (2) OMOP-ification of dental datasets; and (3) observational research studies driven by use cases. Here we document the experiences and outcomes from the first year of the group's operations, highlighting the significance of this Workgroup as a model for other medical specialty-specific collaborations.

Methods

The theoretical framework of the group draws heavily from the model of influence described by Patterson in Grenny et al (Table 1).¹ We used template language provided by the OHDSI community², including documents established by the Eye Care and Vision group. We conduct weekly, one-hour meetings and use the OHDSI Microsoft Teams channel as a virtual collaborative workspace, posting videos of weekly meetings and pertinent materials. We encourage individuals interested in joining the Workgroup to review these materials.

Table 1
Patterson Model of Influence Applied to the Dentistry WG

	Ability	Motivation
Organizational (Strategic)	Can this be accomplished at the organizational level? OHDSI has ample education and training materials, open-source tools, available research partners, subject matter experts, and a network of enthusiastic research participants.	Is this transformation important to the organization? OHDSI is committed to generating real world evidence to improve outcomes but may not be fully aware or capable of leveraging this motivation for dental health outcomes research.
Team (Operational)	Does the team have the skills necessary to work with OMOP and complete the transformation? The OHDSI Dentistry Workgroup currently has a diverse range of skill sets represented both within and outside of the dental profession. It seeks to grow this capability through training and networking.	Is the team incentivized to work as a group? The Dentistry Workgroup has established goals, timelines, and a mission supported by its members.
Person (Tactical)	Do you feel capable of working in OHDSI? Do you understand the data model? Do you understand the methods? Everyone is encouraged to seek additional training to improve their abilities to understand and participate in observational research studies, though skillsets vary considerably among members in different areas.	Are you incentivized to do this? Is it helpful for your career or promotions? Does this help your patient care/job? Each member has their own rationale and motivation for joining. We hope to provide research opportunities, professional networking, educational opportunities, and a positive and enjoyable experience to motivate individuals to contribute to the group's activities. We hope to further adoption of OMOP in the dental community at large.

Results

Since our inception in October 2022, we have organized to write a scoping review of observational research in dentistry that is approximately 50% complete. The use of Covidence³

software facilitates a systematic approach to literature analysis and synthesis. We aim to submit the scoping review for publication in the Fall of 2023.

Microsoft Teams has thus far proven effective for managing group materials, scheduling meetings, and recording and posting meeting content. The group saw a steady increase in membership in its first seven months, to nearly 20 individuals expressing interest in participating. This results in a diverse and knowledgeable cohort of dental informatics professionals. The Workgroup was also represented in the annual OHDSI leadership retreat and members regularly participate in weekly OHDSI community calls and participated in the and participated in the 2023 Vocabulary Landscape Assessment.

Workgroup members are also in ongoing discussions with the American Dental Association Standards Committee on Dental Informatics to begin development of a standard for common data models in dentistry. The group is also coordinating with the OHDSI Medical Imaging Workgroup to discuss the role of dental radiology in observational research.

Conclusion

The first year of the OHDSI Dentistry Workgroup demonstrates the potential for successful collaboration and growth within specialty-specific OHDSI Workgroups. The use of standardized processes and tools, such as Covidence and Microsoft Teams, streamlines group management and promotes effective communication. The group's early achievements contribute to the larger goals of advancing dental research and improving patient care. This model can be applied to other specialty-specific Workgroups to facilitate similar advancements in their respective domains. Our

hope is that these activities will increase the visibility of observational research in the dental community.

References

1. Grenny J, Patterson K. Influencer: The Power to Change Anything. McGraw-Hill Professional; 2013.
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3. Covidence systematic review software. Veritas Health Innovation. Accessed May, 2023. www.covidence.org.