Greening the Dental Clinic

Dow Progress Report, September 2017

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Executive Summary
The overall goal of this project is to provide recommendations to help dental clinics transform patient care and achieve sustainability through cultural, operational, and infrastructural changes while stewarding our environment. The project began as an extension of the 2016-2017 Dow Masters Fellowship project, in which my team developed recommendations for dental professionals seeking to improve the environmental sustainability of their clinics. With the Dow Distinguished Award seed funding, we transformed these recommendations into a single database to better assist dentists in their pursuit of sustainability.

The primary milestone is a website, http://greeningthedentalclinic.org/, where dental professionals can access our recommendations and resources for improvement in the sustainability of their clinic. The website is divided into four domains: organizational development, waste reduction and prevention, environmentally preferred purchasing and the built environment. To provide specific guidance, we have built a survey in which a “sustainability score” is generated and individualized recommendations are provided to improve this score. This allows the participant to focus on one of the four domains and access the tools most specific to their situation.

A goal outlined in the proposal is to review prior recommendations and seek feedback on the practicality of our recommendations by investigating resources and practical avenues for implementation. In this process, I have worked to implement specific recommendations at the University of Michigan school of Dentistry (UMSOD). While the goal was to review all recommendations, realistically only one recommendation was implemented and written up as a case study on the website.

A major part of improving sustainability in the dental clinic includes waste reduction. Based on the case study completed in 2016-2017 Dow Masters Fellowship project, it was identified that gloves are a large source of dental waste, and redirecting gloves from the landfill to be recycled into other products can greatly improve a clinic’s sustainability. Therefore, it is recommended that dental clinics implement a glove recycling program. From the experience of initiating this program at the UMSOD, information on the methods and process have been included in the website as a case study in process. As I fully implement glove recycling in a long-term, self-sustaining program, I will provide a complete case study accessible on the website as a guide for dental clinics.
Progress toward Milestones and Timeline
The progress toward milestones according to the project timeline submitted in the proposal is indicated below; red indicates incomplete, and green indicates completed.

February - March 2017:
- Review current recommendations with dental professionals with special attention to: impact on daily practice, barriers to implementation, relevant regulations
  - Completed for three recommendations; glove recycling, reusable safety glasses, removal of redundant packaging
  - Incomplete for ALL recommendations; this will take an effort from multiple people to practice implementation and writing up case reports

April 2017:
- Identify student or private contractor to support the website design process
  - Annabel Weiner was contracted to design website
  - Hussain Haider was contracted to take photographs to populate the website; all photos can be viewed on the website and the file folder here

May-August 2017:
- Website design and implementation
  - Annabel transferred information from the written report into a user-friendly website with survey and photos
  - Shivani implements recommendations in the UMSOD to gain experience for case report on website
- Pilot website with local dental clinics
  - Incomplete
- Initiate publicity and marketing push
  - Incomplete

September 2017:
- Write up of Progress Report
  - Completed by Shivani

Achievement’s
To date, the largest achievement has been the website. Taking key information from the 2016 Dow Fellowship final report, the website is a tool for dental professionals to quickly assess the environmental sustainability of their clinic through a five-minute survey. This identifies the domain where their clinic could use the most improvement, and provides specific recommendations on how to do so. In addition, valuable assets to the website also include professional photos, and a responsive design which means the site adapts to mobile, tablet and desktop web browsers.

The second most significant achievement is initiation of the glove recycling program at the UMSOD. The UMSOD glove recycling program began in 2015 as a M-Pathways Project to
evaluate waste reduction on the preclinical setting, and has now expanded to multiple areas throughout the school. By initiating the pilot program, I determined that the program has the potential to divert an estimated 2,000lbs of waste annually from the landfill at a cost of $5,000 per year. As the first dental clinic in the country to attempt this, UM has the opportunity to set the standard for glove recycling at other dental schools, clinics, and private practices, and provide a working guide in how to implement a glove recycling program. The case study of the glove recycling program, currently in process, is attached at the end of this document.

Remaining Project Plan

Timeline

October 2017:
- Fully implement glove recycling program at the UMSOD to complete case study

November-December 2017:
- Review 1-2 more major recommendations with special attention to: impact on daily practice, barriers to implementation, relevant regulations

January-February 2018:
- Pilot website with local dental clinics, have dental clinics complete survey to generate sustainability “score”

March-April 2018:
- Have dental clinics complete same survey to track changes in sustainability score
- Review website and make changes based on feedback

May 2018
- Initiate publicity and marketing push

Measuring Project Success
Success of the project will be measured via follow up surveys of website users. The survey built as part of the toolkit can be taken before and after practitioners implement sustainable changes. Success will be measured as an improved sustainability “score.” A secondary survey can be given when piloting the website to gather feedback and information on functionality of the website and tangible changes implemented in the clinic. Initial surveys will be completed in January 2018. Secondary surveys and feedback surveys will be completed in March 2018.

Budget
- Cost of webhosting through Bluehost is $59.40 per year ($4.95 per month)
- Cost of website maintenance with Annabel Weiner is $200 per year ($20 per hour)
- Cost of fully implementing glove recycling program at UMSOD is $5,000 per year
The cost of recycling is estimated at $4,560 per year for recycling about 1,800 pounds of gloves ($2.53/pound). This breaks down to $760/300lb pallet.

An extra $500 is requested for supplies such as pallets, bulk bags, and recycling bins

- Cost to fund further case studies and review more recommendations is unknown, but based on the cost of piloting just the glove recycling program, estimate is $5,000

Total cost of this project for 1 year is $10,260. For long term success of the project, ideal funding will extend over 2-3 years. With 50% of funding, the project can support the current website and only one case study, the glove recycling program. This will limit our ability to implement any other pilot programs as a case study of further recommendations.

Team
When the project proposal was submitted, the team consisted of two additional members who graduated shortly after we received the funding. For the majority of the summer the case study was run by myself and the website was developed by Annabel. Looking into the future of this project, I will be the primary participant. Annabel will stay available for maintenance of the website. The primary issue is that I will be acting alone, without the support of a team as I did for the 2016 Dow Sustainability Fellowship. Even considering this, much of the future timeline involves work that should be completed by someone involved in the field of dentistry. If further funding is provided, I will create a team of dental students, faculty, and other practitioners to work with me in developing the website and case studies.

Team
- Shivani Kamodia: Dental Student, 2016 Dow Fellow, 2017 Dow Distinguished Project
- Annabel Weiner: Website Developer
- Zach Landis-Lewis: Faculty Advisor