



Saturday 13th April - 14th April 2019

AKU DENTAL HYGIENE HACKATHON CHALLENGE 2019

Tackling one of the 17 sustainable development goals of 2030:

Good Health and Wellbeing

Location: Pakistan

In developing countries, more needs to be done to improve access to dental care, especially in rural and poor areas of cities where dentists don't practice.

Glossary

Periodontal diseases – Periodontal diseases are infections of the structures around the teeth, which include the gums, ligament and bone. The first issue is on the gums, but in more severe cases this affects all tissues and can be extremely painful.

Betel nut - these nuts are harvested from the Areca palm and are chewed for their warming glow and stimulating properties. Due to these effects, betel nut is used in a manner similar to the western use of tobacco or caffeine and can be addictive.

Problem

1. Access to Dental Services

In rural parts of cities, there is little or no access to dental services. People have to rely on rudimentary and often ineffective solutions. In the long run, this worsens their dental health and often the only solution when they see a dentist is very extreme (teeth extraction) or more costly than it would have been in the beginning.

2. Cost of Dental Services

Many of those who have dental insurance postpone visits to the dentist because of the cost. This often puts our health in jeopardy because of the close connection between oral health and overall health. In addition to the above, healthcare (especially dental) costs are on the rise – even in developed countries.

3. Education and awareness of Dental Hygiene

There is little or no education given about periodontal infections and dental hygiene, and this is worst in the rural and poor areas. More patients would like to be proactive about their oral and overall health but there is no option to this currently.

4. Links to other diseases

There is a strong link between oral health and overall health and often this is overlooked. This misconception also fuels the lack of attention to dental hygiene.

Can you help to find a solution?

Patients are looking to be proactive about their dental needs as this will reduce the risk of infections or health-related issues in the future as well as reduce the cost of fixing any issues that arise.

The AKU Dental Hygiene program is seeking ways to provide care and knowledge (specifically in remote areas of Pakistan) to improve access and education of dental services and reduce incidence and prevalence of periodontal infection. Pakistan is ranked among the highest globally in head and neck cancer and gum infections. Commonly used substances such as betel nut and tobacco are known causes of the problem.

The Challenge:

Your challenge is to come up with a technological solution to help improve either all or some of the below:

- *Lack of education and knowledge of oral health and its related effects on other disease such as cancer*
- *Access to good oral care*
- *Incidence and prevalence of periodontal infection*
- *The overuse of betel nut and tobacco*

Further links for research

- https://www.huffpost.com/entry/why-a-trip-to-the-dentist_b_4992826
- <https://www.dentistryiq.com/articles/2018/07/teledentistry-an-exciting-new-tool-in-our-arsenal.html>
- <https://www.colgatetalks.com/proactive-dental-care/>
- <https://www.telegraph.co.uk/finance/personalfinance/money-saving-tips/11474741/Feeling-ripped-of-by-dental-treatment-This-is-how-to-fight-back.html>
- <https://sustainabledevelopment.un.org/?menu=1300>

Teams will be judged on a certain set of criteria that will be explained on the day, but we encourage you to pick one of these problems to tackle in depth rather than try and tackle all problems.

Good luck!