

MARCH 2023

Surgical Development Programs



HTC is part of a growing coalition of medical focused NGOs created and led by Ohana One, a southern California NGO, to help reduce surgical care disparities in developing countries by providing training and educational resources via new, innovative, largely executed remotely, technologies. To date, the Ohana One coalition includes 50 NGOs, 160 surgeons, 90 hospitals, across 48 countries and 15 medical specialties.

This new program is designed to attract medical practitioners, both those willing to serve as subject matter experts, or “mentors” as well as those desiring assistance or, “mentees”. Each application is unique and requires different best-fit technologies and educational elements. In some cases, the application results in a one-to-one surgeon relationship; in others the program provides support to larger groups of lesser trained surgeons, mentored by distant “centers of excellence”.

Surgical Training Programs is an important recent addition to HTC’s longer standing programs. Ohana One estimates the lifetime impact of a surgeon could be as many as 10,000 patients. If we are able to help improve skills in even 100 surgeons in developing countries, that impacts 1 million kids over time! HTC needs to also grow its current programs to help kids needing more immediate surgical care; but Surgical Training Programs importantly addresses the magnitude and imbalance of surgical skills worldwide, perpetuated by the shortage and geographical imbalance of surgical educators. While this program, and technologies, are focused on surgical skills, the tech tools and educational materials could further be used to help train all medical professionals over time.

The following is a summary of new technologies currently in use, and others being explored with Ohana One. If you are interested in learning more, and/or have a specific need/project in mind please email us at: htchildren@qwestoffice.net



Augmented and Merged Reality

VUZIX®


TELEVU™
 Always There!


HELP LIGHTNING®


Great for remote surgical training or any type of field training.

Vuzix Smart Glasses equipped with either TeleVU or Help Lightning software

Provides remote observation and guidance by mentors to their mentees who are performing live surgeries. Or, the roles could be reversed and mentees could observe their mentors performing surgeries. Mentors can use the Augmented Reality feature to visually interject their finger or pointer to help their mentee locate an area the mentor feels needs highlighting. Online internet is required and connectivity upgrades can be assisted. Protocols for hospital and patient consents have been developed and tested in over 50 situations across multiple countries and different medical specialties. Ohana One has vetted Vuzix and both TeleVU and Help Lightning as best in class and monitors for recent advances. TeleVU and Help Lightning offer different options that may better meet the needs of differing medical specialties.

HTC Florida-Georgia chapter is working with the Nigerian government under the direction of Dr Amadi to provide healthcare in rural providences where it is hard to staff experienced doctors. Working with Ohana One, 10 smart glasses were procured to connect medical staff in the rural providences with Dr Amadi's call center in Nairobi to assist with patients requiring more advanced medical knowledge.

HTC Seattle's Dr Marshall Partington (mentor) has provided smart glasses technology to Dr Kush Aeron at Helping Hands Hospital in Dehradun, India (mentee) to remotely assist Dr Aeron with hand surgeries. An additional application using smart glasses is being explored with another HTC chapter to expand their work remotely in war torn Ukraine.

Virtual Reality



Immertec

3D Surgical Broadcasting

Allows remote viewers to observe live surgery being streamed 3D, capturing the experiences of in the ER observations via headset goggles. Surgeries can also be pre-recorded and viewed at a later date. Standalone recording equipment designed for OR use is provided. A designated equipment operator can also be available until the broadcasting site decides to train their own internal operator.

- ✔ **Great for group remote surgical training. Excellent option if a trainer/mentor is teaching an updated or new procedure to a group.**

FUNDAMENTALVR

FUNDAMENTALSVRGERY ✨

Virtual Reality Cadaver Lab Workstations and Apps

This technology goes beyond observation allowing users to practice specific surgical skills, over and over, in a virtual cadaver lab, accessed via headset goggles. The app importantly includes educational diagnostics, developed by our selected subject matter expert to measure and confirm the understanding of the user. Previously prepared videos and documents supporting the subject matter can also be designed and stored in the app. Working with FundamentalVR (FVR), a leader in medical VR apps, we are developing our first app and workstation, including FVR's Haptic feature, which helps users understand and feel the tensile sensations required for specific surgical interventions. We are concluding the design of the initial app now, and would hope to have the app and workstation in beta tests by early 2024. The workstation is also designed to support additional multiple apps across different medical specialties, developed over time.

- ✔ **Great for immersive learning in surgical or field procedures.**



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Tech Menu



Medical Records



Offline Electronic Health Records for Remote Communities

A mobile electronic medical records system, accessible on any device including cell phones or tablets, for use by outbound medical teams or distant understaffed practitioners. EMRs can be created offline and uploaded later. Backpack EMR could be very helpful to ensure continuity in patient care particularly where multiple surgeons provide care over time.

- ✓ **Great for comprehensive medical record keeping in low resource, low to no bandwidth situations.**

Community Building



OO App

About to enter beta test, the OO app links all Ohana One ngos, participating practitioners, and hospitals to allow all coalition members to ask for advice on specific patient treatment issues, to find help for patients in locations with particularly scarce resources, , and connect rapidly with those who can offer assistance.

- ✓ **Great for collaboration with the global surgical community.**

