Project Name: Emergency Air Supply
Project Members: Ryan Yan, Bruce Woodburn, Brian MacMillan, Brad Wong, Dan Andrews, Glenn Battersby, Abhijit Pandhari, James Matthews, Jonah Shapiro
Project Description:

Team Members

Name	Role	Time able to commit	Contact Point for
Ryan Yan	Project co-lead	3-4h/day	PR, fundraising, operations, finance, liaising with other projects
Brian MacMillan	Fabrication	Evenings/Weekends	Mock-up
Bruce Woodburn	Project Co-Lead	Full time	System design
Dan Andrews	CAD/Design/Sourcing	As needed.	
Abhijit Pandhari	Local sourcing	As needed	Availability of resources for CRSU in other places outside Canada.
Brad Wong	Air Purity		filters
Glenn Battersby	High Pressure Gas		O2, Compressed air
James Matthews	RT		Clinical Consultant
Jonah Shapiro Dan Andrews	Search wizard Engineering		 Army Respirator

Updated Design Specifications and Needs Statements

Background considerations:

- Save lives

- See Clinical Respiratory Support Support Document onGoogle Drive

Needs Statement	Design Specification
For use in patients with mild to moderate respiratory distress (COVID and/or non-COVID) with increased oxygen demand	Produce continuous positive airway pressure (CPAP) and biphasic positive airway pressure (BiPAP)
Easy-to-assemble with readily available components, in both developed and developing settings.	Off-the-shelf parts available universally (common plumbing, pneumatic, and HVAC components)
Maximum benefit per cost and materials	Multiple attachment points along device for multiple patients.
Individualized settings	Each patient has their own controls
User-friendly	Control panel with pressure gauges

Goals for the project

- Goal is open source, use in developing world applications and overflow wards

Current Status of Project

Finalizing design, sourcing materials, and pending prototype assembly for testing and problem identification.

Current Roadblocks/Bottlenecks

- Building a mockup to showcase the design and some of the other projects, opportunity for PR - finding the people, venue and date for the mockup
- BiPAP valve: Searching for off-the-shelf device. One design in prototyping, ready for preliminary testing next week. Second design on paper

Existing Intellectual Property No known issues.

Report for design review on April 9th, 2020

Background Research (/10)

- Explanation of the clinical need/problem
- Identification of most promising crowdsourcing solution
- Identification of most promising well-established commercial solution

Addressing Hospital Clinical Need (/15)

- Assuming $3K budget: # of devices that could be produced by April 10th
- Assuming an additional $7K budget: # of devices that could be produced by April 24th
- Percentage likelihood of approval and use in hospital (please describe use case and estimate percentage)
- Number Needed to Treat (The NNT offers a measurement of the impact of a medicine or therapy by estimating the number of patients that need to be treated in order to save the life of one person.

Final formula of: (# device by April 10th + (# devices by April 24th)/5)) * Percentage likelihood of approval and use in hospital * 1/NNT

Community Clinical Need (/15)

- Assuming $3K budget: # of devices that could be produced by April 10th
- Assuming an additional $7K budget: # of devices that could be produced by April 19th
- Percentage likelihood of use in the community (please describe use case and estimate percentage)

- Number Needed to Treat (The NNT offers a measurement of the impact of a medicine or therapy by estimating the number of patients that need to be treated in order to have an impact on one person.)

Final formula of: (# device by April 6th + (# devices by April 19th)/10)) * Percentage likelihood of approval and use in home * 1/NNT

Design and Production (/40)

- Design specifications (/5)
- Design complete? Quality of design? (/5)
- Prototype complete? (/5)
- Manufacturing plans? (/5)
- Cost per device?
- Likelihood that ten devices will be ready for human use by April 10th (/10)
- Likelihood that the device will meet design specification (/10)

Filling a Need (/10)

    - If we don't do it, will someone else do it?

Misc comments (/10)

- Comments you would like to make about the project
- Project strengths
- Project weaknesses or risks
- Does the team want to continue working on this project next week?

Links to important team documents

Please list your main team documents/resources here.

Plan and Budget Request for April 10th-April 17th

- Basic timeline of key activities and milestones for the coming week?
- How much did you spend last week?
- Budget request for the coming week beyond what was already assigned to your team?

$100K Plan and Budget Request for April 4th - May 1st

Note: The value of our UBC SOS eVent group is its ability to crowdsource ideas, quickly prototype and build products and capitalize on the willingness of team members to volunteer their time in the context of the COVID crisis. We recognize that once the COVID-19 peak has passed, this group will disband because our mission statement will no longer be relevant. After the group disbands, UBC SOS eVent team members may continue working together, but they would do so with a different goal and mission in mind.