Team Seldon	Simple Open Ventilator	Your logo here

Tech. & Team

What is your solution? Who is behind it?

Simple Open Ventilator's mission goal is to provide design, build, and manufacture instructions that will enable distributed construction of field expedient ventilators using locally obtainable materials. More importantly, it can be constructed by local tradespeople or handy people. No specialty equipment needed.

Gravity, flow, hydraulics, and basic tool skills are all you need to build a vent.

Mission Alignment

Does it meet the posted requirements?
MQ-C: 60bpm, 1000mL, and 60mmHg not possible through standard tubing. Will overpressure injuring patient
MQ-M: Built with PVC and industrial parts.
MQ-EE: Alarms need to be implemented
Tech: Science base on simple state machines, gravity, and hydraulics

Technical Viability

Does it work? Yes, the initial prototype already works. There is room for improvement.

See the video
https://www.youtube.com/watch?v=Anu_NY6iPGQ

Regulatory

Could it hurt people? Absolutely anything can hurt people. The design here was to enable distributed construction of ventilators with locally available materials.

Risks to Deployment
1 - Acquisition – Time to execute and pay
2 – FDA approval for using water potable parts for vent
3 – FDA approval for simple state machine software
4 – Distributed training for testing
5 – Sufficient available parts in supply chain
6 – Good enough user interface / Directions for Hosp Staff

Speed

How fast can we produce 10,000 units?
Design is purposeful in the ability to substitutee parts with locally available parts. We sourced all parts except microcontroller and relays form Home Depot or Appliance repair shop. System can be manufactured by a plumber and electronics /HVAC tech in about 4-8 hours. It could be then tested in groups at the local hospital. We could have 10k in less than 3 weeks – assuming cash in hand.

The ideal deployment would be to send kits out to all Home Improvement shops for local contractors to build.