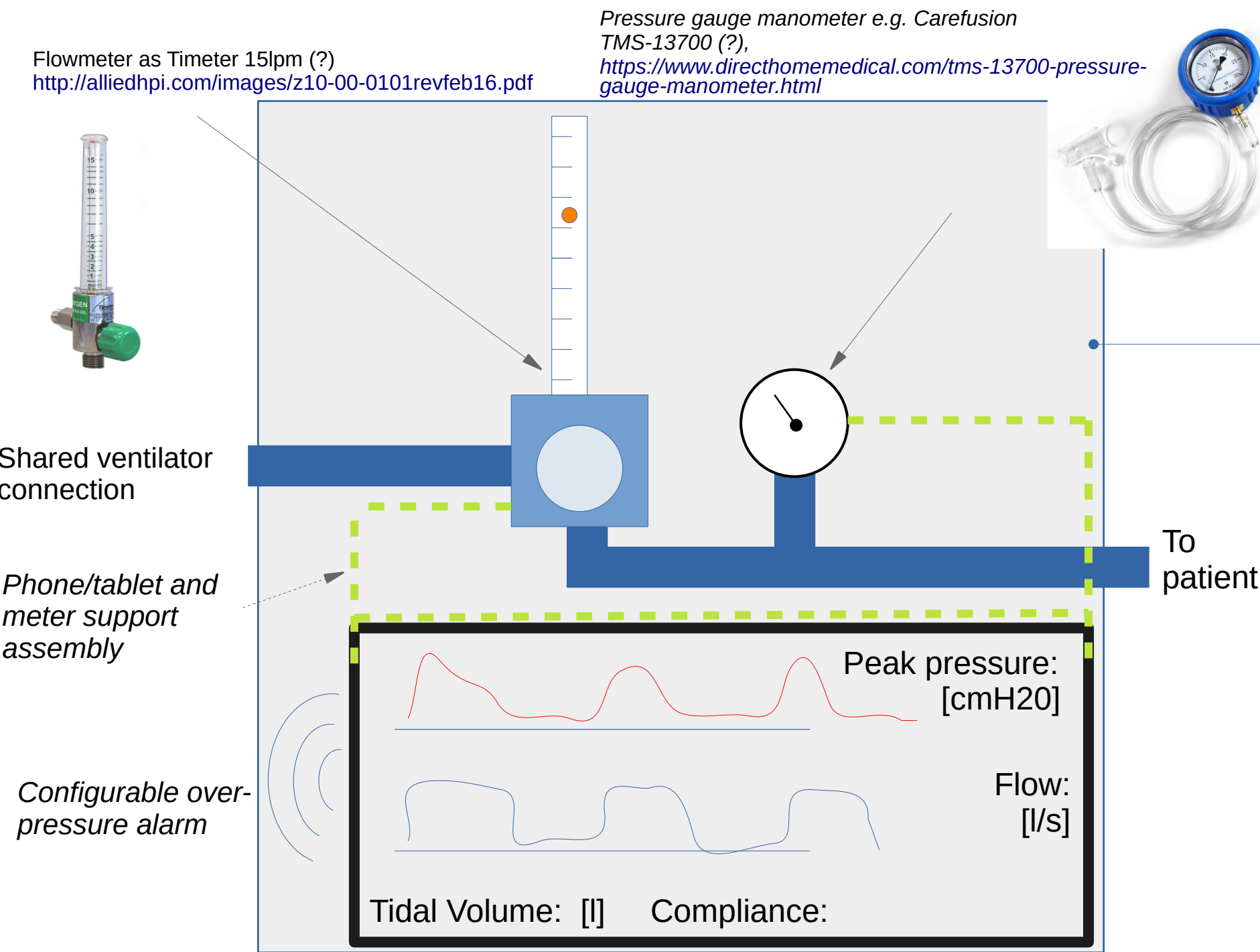


Using a phone/tablet to provide information to practitioners in the emergency case of shared ventilator use.

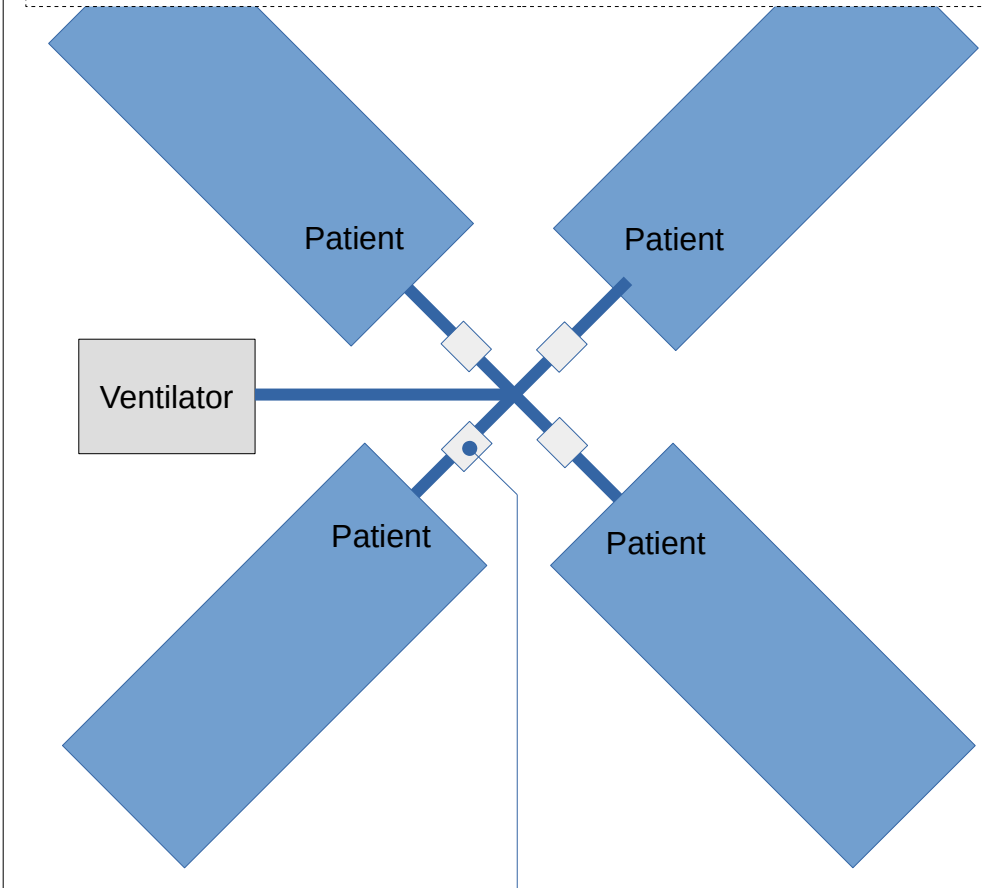
Background: In an emergency, it may be possible to support 2-4 patients from a single ventilator (Fig. 1.) [1-2]. However, this reduces the per-patient information feedback to the practitioners [3-4]. The proposed arrangement (Fig. 2.) seeks to allow per-patient information to be gained in a rapidly deployable way.

Figure 2. Proposed phone/tablet and flow/pressure monitoring arrangement



Phone/tablet app reads meters via camera.
Ideally not requiring server round trips.

Figure 1. Emergency shared ventilator arrangement, plan view. Air return omitted. Based on [1-2].



Three step plan:

1. Order flowmeters and pressure gauges (to reach 4x number of ventilators at hospital, 8x if return path also monitored).
2. Rapidly develop app to monitor meters. Use freelancer platforms, public calls.
3. Rapidly develop, or find and purchase stocks of generic phone/tablet and meter supports. Or find alternative generic solution from available inventory.

Sketch design (v0.0) by Lee Thomas (twitter @4c6565). N.b. I am not certain that meter models are correct, shown for indication only.

References:

[1] Charlene Babcock, COVID-19 How to Use One Ventilator to Save Multiple Lives <https://www.youtube.com/watch?v=uClq978oohY>

[2] Neyman, Greg and Charlene Babcock Irvin. "A single ventilator for multiple simulated patients to meet disaster surge." Academic emergency medicine : official journal of the Society for Academic Emergency Medicine 13 11 (2006): 1246-9.)

[3] Peter Sloane MD, Shared ventilator Movie https://www.youtube.com/watch?v=P55qUQ4Ev_s

[4] Meg (US healthcare professional) Two patients one ventilator <https://www.youtube.com/watch?v=pc9RV-5iK04>