COVID-19 CLINICAL SOLUTIONS

What did you do?

We developed a remote monitoring web-browser application to provide a means to remotely record the patient's status and to produce a configurable dashboard to help us manage the potential crisis.

Who are you?

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What was the problem?

The potential to be overwhelmed by COVID-19 cases within our elderly population. We have over a thousand patients over 80 living independently or in care homes. The dashboard gives us the capacity to prepare for their cytokine crises due to the predictable course of the illness and to muster the support we can to cope with the peaks of demand.

What was the solution?

Planning for a potential disaster
As a largely rural practice the visiting commitment for managing sick COVID-19 patients is scary. The mortality rate is highest in the over 80s and we have a thousand of these. Reading up on experiences around the world, it is clear that the disease course is relatively predictable with the timings of viral pneumonia and cytokine storm.
- We know that 80% of adults have mild to moderate disease, which includes non-pneumonia and pneumonia cases.
- 15% have severe disease with dyspnoea, RR >30/min, SpO2 <93%
- 5% are critical with primarily respiratory failure, sepsis and multi organ failure.

Clinical assessment
The workload in assessing significant numbers of our elderly patients in their homes is seriously concerning. This made us look at what was really needed to carry out assessments and to provide care in the home. Clearly there is a need for visiting in terminal care but it became apparent that useful assessment could be done remotely.

Clinical observation
The critical findings in COVID-19 cases seem to be:
- SpO2 pulse oximetry
- Respiratory rate
- Pulse rate
- Temperature
- BP

Remote assessment
If we do get a deluge of cases in Suffolk then it is going to be very important to log consistently all the relevant clinical features in history and remote examination along with the date of first symptoms. This will have to be done by a range of staff (not just GPs) if the tsunami arrives. Aside from terminal care, I feel we should be minimising patient-facing contact both for our own health and because the consensus is that it adds little to the clinical assessment obtainable from a video consult. We could organise a daily SpO2 visiting round collecting data.

Virtual ward
The largely predictable chronology of the disease with the cytokine storm coming at about 10 days means that we need a dynamic real time virtual ward so we can use the data to predict deterioration and clinical need. If there were no hospital beds then we would still need to know what to expect so we could prepare for terminal care.

Where can we find out more?

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