

Covid-19 and the rapid reorganisation of general practice: Triage, shared decision making, hubs and pathways to care in hospital and the community.

The understanding we aim to capture in this piece was created through initially considering the various clinical presentations, and iteratively generating and testing ideas through existing networks. Patients have not yet been involved. It does not represent the model in Devon, which is still to be decided, or the views of Devon CCG. We recognise the work others are doing and would like to link and share ideas.

Background

Ensuring patients with, or likely to have, Covid-19 receive optimal care is testing health systems worldwide. In the UK, community and primary care services, and interfaces with admitting hospitals are being rapidly transformed to manage the peak of the pandemic. We have spent the last 10 days putting plans into place in the Western Locality in Devon, served by University Hospitals Plymouth NHS Trust. This article attempts to summarise the key issues that need to be considered in deciding how to reconfigure services, providing practical examples of the range of pathways being considered.

The clinical challenge

We have to respond to patients with respiratory symptoms or confirmed Covid-19 cases with diverse needs: from infants to those living with frailty or multi-morbidity; from those who may be too worried to those who not worried enough.

The key clinical functions of triage and hubs are:

1. To ensure that those who can most benefit from critical care receive it in a timely way. This is not an easy task because the initial decline in respiratory function seen on presentation (in which oxygen saturation may be above the 93% threshold used in current NHS guidance to assess need for admission¹) may be followed by a rapid deterioration over several hours to a level where ventilation is required.
2. To ensure that those who are more frail, who are unlikely to benefit from critical care or who may decide against treatment escalation², are provided with compassionate ongoing social, nursing, medical and, if required, end of life care. This group may include some older individuals and/or those with multimorbidity and other risk factors. Some may choose admission knowing they may never see their loved ones again, others will prefer to be looked after at home, or will require care in nursing homes or temporary hospitals. Initial hub-based care may need to include fuller examination to assess the need for supportive care such as antibiotics or to treat other complications of conditions.
3. To identify and respond to people with significant non-Covid-19 illness who have been directed to a 'suspected Covid-19' pathway because of a co-existing new cough, contact with those self isolating, or existing confirmed Covid-19 status.

In the last two weeks, many practices have moved from single 'amber' rooms to dedicated buildings for Covid-19 assessment. Primary Care Networks like Darlington have helpfully shared their working practices. Innovation abounds with drive-up 'in-car' assessments in action and volunteer 'vital signs' home visiting services planned. CCGs are now supporting scaling up. Important decisions therefore need to be made regarding electronic health record (EHR) systems, sites, protective equipment, triage and retriage, hub components, pathways and lead providers.

Solving these practical issues has dominated many discussions. We identify examples of issues and emerging solutions below.

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Site location and configuration is critical:

- adequate drive in space, places for parking to wait and then drive into 'in-car' assessment spaces, and traffic management
- security – guard on site, management of entrances (not too many) and exits
- enough rooms for double running – doctor in one, cleaner in the other; consider tents/gazebos with sufficient privacy and minimal clean up requirement to reduce viral exposure to staff

Electronic Health Record systems and digital solutions:

- interoperability across GP systems
- whether to use out-of-hours system
- prescribing and access to remote prescriptions (EPS, electronic prescription service)
- need to collect data to monitor activity
- support for video assessment
- facility for electronic communication with patients: email/SMS
- potential for initial electronic triage for those who prefer, and more generally at peak of pandemic, if workforce is overwhelmed (e.g. as part of NHSx TOTAL TRIAGE programme)
- providing ongoing continuity by having telephone follow-up from hub for monitoring symptoms
- templates for consistency, systems for recall for follow-up, and coding to report and monitor work

Preventing staff illness and PPE:

In our discussions, concerns over exposure and becoming ill understandably repeatedly emerged as an underlying theme, exacerbated by lack of clarity about supply and national guidance specific to new hubs. Our group still have differences of view. Some pointers include:

- minimising exposure is key: keep distance when possible; use visors, hair cover; minimal gloved touch with assessments and conversations at a safe distance. Check the Covid-19 status of family members, or those transporting people to hubs, and ask all with coughs to wear masks during examination; use scrubs that can be changed following exposure; have shower on site to both be and feel clean after a shift
- scaling up of both 'in-car' hub-based assessments and 'at-door' visits for those who need it, where oxygen saturation is the key new clinical information
- 'double-triage' so that the examining clinician always carries out virtual consultation prior to any face-to-face contact
- two experienced clinicians agree any home visits
- when testing of staff is approved and validated deploy staff who are likely to be immune (the issue of testing for immunity is a fast-moving field at the moment)
- consider an upper age limit for staff doing face-to-face work in view of increased risk (i.e. not just those with long-term conditions and over 70 being exempt)
- looking out for each other very actively and having a personal wellbeing plan
- actively discussing cases where clinicians feel upset about morality of decisions not to admit and providing support after witnessing single or serial traumatic events

Practicalities of each potential point of assessment/pathway:

Detailed protocols are required for each step/component. Pointers for each step include:

- efficient running of video consultations; potential use of reception/administrative staff to ask about frailty and support patients to set up a video at their end in advance

- asking patients to come for ‘in-car’ assessments (pulse oximeter through window, respiratory rate, ‘eye-ball’ assessment)
- making ‘in-hub’ face-to-face consultations as brief as possible, while providing compassionate shared decision making when needed
- when no transport is available for hub visits, set up a ‘vital signs visiting service’: 2 GPs authorizing each visit, collecting vital observations (pulse oximetry, RR) and video link – perhaps only ‘at-door’ oximetry without entering dwelling
- support for those who find access to standard services such as those requiring interpreting along side video and those who are homeless has not yet been examined
- clarity about expectations for self-monitoring and call back as required; the role symptom checkers in self-monitoring remains unclear and rapid evidence review may be needed
- timescales and criteria for scheduling proactive review by hub. NHSE London and respiratory network guidance³ suggests follow-up for those with moderate symptoms every 12- 24 hours for 7-10 days since developing symptoms, but there may be challenges in implementing this.
- links with ambulance service; (this is an area we have not yet explored) need for on-site oxygen and resuscitation kit for those waiting at hub for admission
- clear pathway to continuing care if unsuitable for admission/critical care – proactive ongoing care including advanced care plan (ACP) partly remotely via video, and support from community nurses, social care and own GP. Guidance for configuration of such teams is also lacking, although general evidence on how care planning, interoperable IT and multi-professional approaches can help is likely to be applicable⁴.

Whole system issues also need to be considered. Data on activity can be aggregated. This can be examined against real time and future staff capacity. Modelling might be helpful for predicting numbers per week and numbers of weeks the hot cold split will need to continue for. Changes in system capacity at local and whole system can be created through changes in pathways (e.g. switching phone diverts on and off for practices with sudden loss of staff) and changes in deployment of staff.

Professional education and learning:

Primary care professionals have clear educational needs so guidance is useful as well as an understanding that ‘feeling’ confident in new context may take time. Areas for education and/or guidance development include:

- Covid-19 clinical trajectory; this is unusual and involves gradual respiratory compromise with pneumonitis for some, and sudden deterioration and need for ITU/critical care for a few (not always with increased shortness of breath)
- guidelines for admission and monitoring decisions based on clinical parameters (respiratory or whole system compromise), frailty (likelihood to benefit) and preferences for location of care (taking account that admission will mean separation from loved ones) are likely to be helpful; London NHSE and respiratory network have created comprehensive guidance for primary care³
- virtual and video consultation are new – emerging guidance based on rapid review of evidence is helpful⁵
- GPs have been less involved in palliative care this century and helpful new guidance and adequate supplies will assist in guiding hub based and onward care

Patient education:

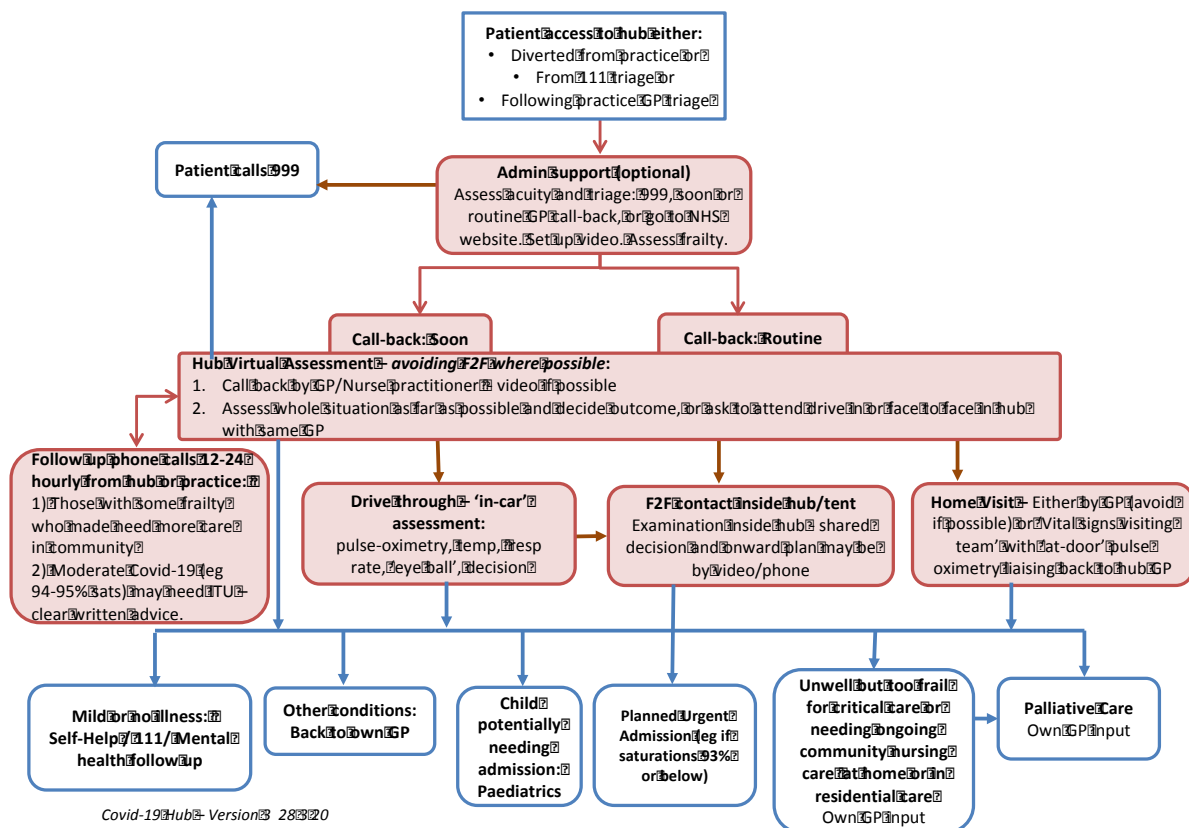
Patient support and information has so far focused on mild symptoms and self-isolation advice. The following needs have been identified and more will follow as we start to work with patients:

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- patient information to support shared decision making around admission decisions for those less likely to benefit from admission or critical care
- support and advice for family members and unpaid carers
- need for a self help guide providing accurate useful knowledge for monitoring progress, avoiding both false reassurance and increased anxiety (NHS 111/Choices is not specific enough about monitoring to support identification of those needing admission)
- mental health and practical support

Rarely discussed, but understood as central to care, was the need to apply the best of general practice care to these constrained new scenarios: person-centred approaches, choice of place of care, shared decision making, multi-professional team working. Guidance developed by local ITU consultants on how to apply shared decision making to admission and critical care decisions, by taking frailty and choice into account, is seen as invaluable (personal communication). There is also recognition of the importance of staff looking after each other emotionally in the face of making admission judgements based on likelihood of benefit, as well as witnessing trauma.

Figure 1. Covid-19 HUB- Generic Model



Three main models in terms of pathways and hubs could be envisaged:

- PCN based with GPs in practices.** Carrying out first line triage/decision making for those meeting the possible case definition criteria (e.g. new coughs or fevers), sending those needing to be examined to a dedicated site for in-car or within-building clinical assessment. These have got up and running quickly with minimal outside support, use the normal practice system and GPs can do virtual routine non-Covid-19 work while there.

- B. **A locality (system around the hospital) Hub.** This would receive referrals for a telephone/video assessment from both practices via a telephone divert (“press 1 if you have a new cough”) and from 111 (direct rather than via practices) during the day. Calls could be taken by on and off site receptionists, who would take a basic history and then GPs/nurse practitioners have a virtual consultation (telephone or video). This would allow decision making about whether further assessment is needed (e.g. in-car or in-hub, home visit for vital observations only or home visit by GP), or whether advice for self-care can be given (e.g. self-care or self-care plus follow up from hub). Links with teams in hospital (medical admissions and paediatrics) and community (ongoing nursing care) would be strong. Figure 1 encapsulates this model most closely.
- C. **Pan-CCG model based around the ‘out of hours’ (OOH) provider.** Across 3 hospital footprints, with all potential Covid-19 related calls diverted to an adapted OOH provider triage and assessment system. In-car assessments would be similar. This would operate in an out of hours and could be managed centrally in terms of workforce through existing rostering systems, and home visiting.

Various hybrids for these are possible. Practice based initial triage/care could be part of B and C as well. Practice based initial triage/care could be dominant initially to help as many GPs as possible become confident and ensure continuity, but be diverted to a hub (B) or OOH provider (C), as the peak is reached, or individual practices have workforce problems. The pan-CCG OOH provider model could be adapted (and perhaps made more resilient) with operational management focused on ‘hospital footprint’ and key locality interfaces; and by implementing practitioner-led initial triage rather than using automation or protocols.

Analysis and action

There is little or no evidence to draw on as to which system would be most effective in ensuring best outcomes. Instead, theoretical advantages, disadvantages and mitigations can be hypothesized for each option and components:

1. Practice based triage allows all GPs to become more skilled early over the next few weeks prior to the anticipated peak. This model encourages ownership, but could suffer from workforce fluctuation – unless flexibility allows it to be turned on and off. It may also encourage more variability in practice (and potentially concerns about over- and under-referral). In terms of economies of scale, a visiting service may not be viable at PCN level, but could be provided for a locality. This model is more likely to be flexible and reduce transactional inefficiencies.
2. Locality/hospital system approaches could encourage better links with the hospital and local community. They may be able to gain local GP ownership more easily than system approaches, but less so than mature PCNs. Centralising initial triage/decision may encourage consistency. They may be more able to generate efficient ‘in-car’ and visiting systems, but could, like a pan-CCG model, also be liable to burdensome inefficient and inflexible protocols.
3. Advantages of the Pan-CCG model are likely to include the existing management and clinical structures and systems and integration of in and out of hours services. It is not clear as to whether automated or protocolised triage is more efficient than GP led triage, but automation may be vital during GP shortages. This model may be better placed to overcome workforce challenges due to existing communication routes and rotas, and centralized systems for bringing in returning practitioners. However, bringing in GPs from PCNs will require good relationships and could suffer from a lack of local ownership, as well as stifle GP motivation, which may be better mobilised through existing PCN and other networks.

Lastly, making things happen quickly is critical. There are clear tensions between centralised planning; in which one organization takes control, and bottom up development of a network through bringing together emergent PCN action supported by guiding principles and sharing protocols. There is possible value in using evidence and experience about how to scale and adapt together. These may include rapid understanding of organizational systems and attitudes in relation to any changes, identifying key enablers and blockers. In the limited timescales available, it is also unclear whether and how rapid evaluation (based on narrative and quantitative data) to inform system improvement is feasible and helpful; we are currently exploring this. Likewise, modelling future capacity requirements based on service data from current epicentres and abroad may be helpful. Predicting and planning for an end to hot/cold general practice split is currently not on our to-do list.

What has been clear is that relentless networking through existing trusted colleagues, old friends and those you don't yet know, 'cold' (not just diarised) phone calls, use of multiple forms of social media including WhatsApp groups, as well as more traditional email and planned video conferences have been key to both creating emerging consensus and understanding differences which need resolving. Informality, kindness and humour have been vital, tempered by rigor and a willingness to question everything.

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