ACADEMY OF
MEDICAL ROYAL
COLLEGES

**Information and Digital Technologies - Clinical Requirements 2020**

**Introduction**

The Strategic Clinical Reference Group (SCRG) chaired by Claire Marx with representation from Colleges and other clinical professionals provides clinical input to the Health and Social Care Information Centre (HSCIC) National Information Board (NIB) and seeks to ensure that the NHS information and digital strategy reflects and meets clinical priorities.

The SCRG is developing a focussed list of clinical requirements which will set out a generic description in plain English of what clinicians would expect in 2020 from their work environment with regard to information and communication technologies.

The document will hopefully shape the priorities and work programme of the NIB but also provide a common narrative to engage with policy makers, Chief Executives, programme directors, and vendors describing what clinicians expect.

The desired outcome is to achieve the maximum clinical benefit from the investment in information and digital technology.

The SCRG and the HCSIC believe that this has the potential to become a powerful document reflecting clinical priorities which drives digital agenda in a way that has not happened before.

This work will form part of the Academy's programme on informatics and digital technology agreed at the last Council meeting and will, in effect, be the practical iteration of the Academy's clinical vision for informatics. The work is being led by our Clinical Associate, Farzana Rahman

**Method**

The SCRG is seeking to consult widely amongst clinicians and professional organisations to get as wide support as possible for a final document. Members' views and suggestions for the document are therefore being sought.

This document is purposefully designed to be short such that it represents priority business issues for clinicians. The intention is therefore to keep the list to no more than 30 items. **Therefore new proposals will be only be accepted on a "one in one out basis" i.e. if you want to suggest an additional or alternative priority you must clearly state which item should be dropped from the list**

Please send any comments or proposed changes to the document to Farzana at Farzana.rahman@aomrc.org by **Friday 29th April.** (Please note that Farzana will be working overseas until the end of April).

**Information and Digital Technologies - Clinical Requirements 2020**

The Royal College of Radiologists overall comments:

The RCR is pleased that the AoMRC is trying to steer the conversation and agenda around clinical informatics in the UK. The RCR agrees with the overall aims of this document, however, we have significant concerns about its current structure, format and contents.

Overall, the document is too vague. There are some aspirational terms, but lack of detail. In addition, the scope of the items varies immensely, from overarching aims (e.g. point 1) to very specific targets (e.g. points 7 & 18). This exposes the underlying problem of the document - it contains aims and outcomes that should be contained at different levels of a hierarchy, but which in this document have been flattened into one.

Specific areas of concern are highlighted below; however there are some areas which are missing from the document. Specifically, there is little about the implications of some of these aims (see comments on points 5 & 6), and we think that the AoMRC needs to acknowledge this. In addition, there are some general, underlying principles that are not articulated. For example, there is an argument to encourage a standards-driven 'service' based approach in order to drive innovation and prevent single points of failure. There are also issues around Open Source software, and the training of undergraduates and postgraduates, but neither appears in the document. Furthermore, image sharing and connectivity are not mentioned. This follows on from the recent RCR survey, duplication of investigations because of lack of access to previous imaging and reports and the enhancement of a clinical radiological report if there is ready access to prior imaging investigations.

1. **A digital system would be present for all clinical encounters and it must be practical to use at the point of care without queuing or waiting.**

   **Re-wording suggestion**- A Healthcare IT system would be present for all clinical encounters. Clinicians should not need to rely on paper to document clinical encounters

   **Comments-** 1 - 4 are largely the same thing - what we expect from the underlying data flows.

2. **The digital system would enable access to all of the patient's clinical electronic data for that provider organisation without re-keying or without re-entering siloed [departmental] applications with more than one click.**

   **Re-wording suggestion** - All Healthcare IT system (Departmental systems in secondary care or GP systems)should have 1 click access to radiology reports, blood results, histopathology reports, clinic letters, discharge summaries etc. (URL/API based context linking between IT systems would be required)

   **Comments-** There should be single sign-on access to the multitude of departmental systems that exist in secondary care—e.g. PACS (radiology reports and images), Blood

results, histopathology results, clinical correspondence etc. (extra log-in and passwords by individual systems is hugely inefficient)

3. **The digital service would be able to locate all of the patient records in the health and social care system [if the patient has consented to these being made known]. The clinician can access these systems with consent of the patient or by making a professional decision when this is not possible e.g. delirium or loss of consciousness.**

   **Comments-** Patient Consent process must mimic the paper based consent methodology in use for many years in the NHS. Digitisation must not increase inefficiencies and extra steps for healthcare professionals who are already in shortage.

4. **Diagnostic and medication data will be encoded using national standards [technical and professional] and capable of being used to automatically populate provider records through copy and paste or some other mechanism so transcription time is saved and transcription errors eliminated.**

   **Re-wording suggestion-** Diagnostic test code and descriptions, medication data, surgical procedure codes, staff job-role, main specialty of consultants, patient location--organisation name/code where the treatment happened (secondary care or GP surgery), must be encoded using national codes as per NHS data dictionary. This is vital to plug and play interoperability for transferring of clinical information between secondary care and primary care.

   **Comments-** The second part of this point should be removed - mechanisms should not be specified in this document (and 'Copy and Paste' isn't the one we would specify). However, it would be beneficial to include some much more specific examples of what we expect performance wise. There is now a huge amount of info on page load times and user experience, and yet it is not often translated into the medical domain.

5. **It is expected that clinicians can prescribe medical devices [including apps] and education on how to use them properly to those willing to undertake some degree of self-care.**

   **Re-wording suggestion**- Clinicians should be able to prescribe apps, and these apps should be able to interoperate with the user's NHS record. We are aware of the fact that this requires substantial consideration of an effective prescribing model, in terms of licensing, costs, adherence, equity of access and data security, and yet we believe that the benefits are worth it. Commensurate with this, we look forward to the further development of RCTs of apps, including NICE appraisal and funding by the NHS.

   **Comments-** Points 5 & 6 are very novel. The prescription of apps would represent a huge shift. It has some interesting implications (the prescription charge is > the cost of ~95% of iPhone apps). This isn't a bad thing, but we need at least a sentence on the implications of this.

6. **Medical devices including apps which have software embedded and prescribed should be able to interoperate with the patient record and the NHS or patient should control all data on these devices subject to mandatory law unless an alternative is expressly consented by the patient.**

   No comment

7. **Clinicians should be able to make clinical decisions to interact virtually with patients [telephone, email, video-conferencing] OR not and these consultations should be able to be assimilated into the patient electronic record and the registered provider should not be financially penalised for these innovations in practice. [40% of ambulatory care should be virtual by 2020].**

   **Comments-** This point is laudable, but we are unsure about where the 40% statistic originated from.

8. **Patient initiated [from apps or wearables etc.] or patient recorded data should be 20% of a provider record by 2020.**

   **Comments-** The RCR are unconvinced that 'weighing' the data helps. Further clarification is needed surrounding how we measure the 20% of data, especially when comparing photos and free text.

9. **National decision support tools should be accredited by NICE & Professional bodies working together. The tools should utilise national record data standards.**

   **Comments-** We feel that this point could be combined with points 5 & 6. The risk of accreditation is that the process becomes slower.

10. **When certain problems or diagnoses are entered in the record red flag data should automatically populate the record for staff to affirm or refute their presence.**

    **Re-wording suggestion-**When certain problems or diagnoses are entered in the record, red flag alerts should automatically populate the record for staff to affirm or refute their presence. Failsafe alerts should be transmitted in a consistent manner using global interoperable standards between healthcare IT systems—e.g. Radiology reports failsafe alerts are transmitted in OBX 8 of HL7 ORU message to EPR or PACS systems—allowing receiving systems to display these alerts.

11. **The prescribing of all those with prescribing powers should be viewable within electronic patient records and all must be shared with the GP.**

    **Comments-** It would be more beneficial to ensure that everything that is prescribed to a patient should be viewable, not just the prescribing of those with prescribing powers.

12. **Community medication records can be used to semi-automatically populate hospital prescription charts and then modified in light of the patient's new situation. Hospital prescription chart medications should be able to automatically populate discharge summaries and community/GP medication records.**

    No comment

13. **Clinicians should be able to generate classification coding for remuneration automatically through national mapping tools and not divert their valuable time from making the patient the focus of their work to generating codes for organisational remuneration.**

    **Comments-** This point appears to repeat the argument made in point 4. Point 13 & 14 could be combined. However, they pull slightly in opposite directions - we want high quality coding, and yet not for clinicians to do it. This is a difficult circle to square. There are some approaches, from a variety of fields (everything from NLP to statistical ML to 'My favourites')

14. **National data for enhanced payment, CQUIN, safety, performance, provider fees should rely on data that should be recorded as part of good clinical practice or automatically mapped from it and this data should be part of the patient record using national record standards so clinical time is not spent on duplicate data entry and burden is reduced.**

    **Re-wording suggestion-** National data for enhanced payment, CQUIN, safety, performance, provider fees should rely on data that should be recorded as part of good clinical practice or automatically mapped from it and this data should be part of the patient record using national record standards so clinical time is not spent on duplicate data entry and burden is reduced. (same as 4—use of clinically useful coded data throughout the NHS means the same—e.g. national imaging procedure codes for imaging, national lab procedure codes, staff data (ID, job-role, specialty and organisation) throughout the NHS)

15. **End user query tools should be routinely available on all electronic record systems to enable clinicians to audit, innovate and quality improve their service as individuals or as a department or provider.**

    **Re-wording suggestion-** The system needs to support care, enable audit, and provide data for clinicians, patients and service designers & managers

    **Comments-** This could be combined with point 20 or should be reworded to emphasise that it is a core requirement.

16. **When a complaint is made all data entered or viewed by the clinical team within the registered provider to whom the complaint is directed can be made available to the clinicians, investigating manager or indeed complainant if appropriate. This should be done automatically.**

    **Comments-** While we agree with the sentiment, this is incorrect. If we want to say that the system should support complaint-handling, that is fine. However, making a

complaint to PALS should not, for example, trigger a data dump to the complainant. There are existing systems in place to handle some of this. They may need to be revised in light of eHealth records, but they are important.

17. **Enable appropriately authorised clinicians to book ambulatory care encounters for people with primary, secondary or tertiary care colleagues using a standard e-referral system. This should include intra-organisational booking e.g. follow up of patients leaving hospital.**

    **Comments-** This is important but would be better if the second sentence was removed. It is unclear why intra-organisational booking is highlighted.

18. **It will be possible for any clinician who has undertaken a surgical operation or procedure or given an anaesthetic to support such a procedure to be identified locally and nationally from electronic records and in secondary use data sets.**

    **Re-wording suggestion**- It will be possible for any clinician who has undertaken a surgical operation, interventional procedure or given an anaesthetic to support such a procedure to be identified nationally from electronic records and in secondary use data sets—national codes should be mandated for use in all local records—GMC number of the surgeon and anaesthetist and national procedure code for the operation. Clinic visit information–new or follow-up should be coded with the following information for the author of the correspondence:

    a. National ID of the clinician—GMC if a doctor
    b. Job-role as per NHS Data dictionary
    c. Main Specialty (doctor) as per NHS data dictionary (otherwise main place of work)
    d. Organisation description as per NHS data dictionary.

19. **Care Plans will have a common clinical meaning and structure such that the content can be interoperable and shared between clinical teams and the IT systems that support them without the need to re-enter data.**

    **Re-wording suggestion-** Care Plans will have a common clinical meaning and structure such that the content can be interoperable and shared between clinical teams and the IT systems that support them without the need to re-enter data.

    a. Patient demographic data must contain the NHS number
    b. Staff/Author data must contain—National ID, job-role, main specialty/main place of work, organisation data coded as per NHS data dictionary

    **Comments-** This is admirable, but actually very hard. There are both conceptual and clinical disagreements over how one structures care plans for both different and the same procedures (an OP consultation with no follow-up is not the same as a diabetes care plan; not all diabetes care plans are the same). This should go into an aspirational box, with some easy examples to start with.

20. **Clinicians will be able to create a log of all the relevant activity they need to maintain their registration and regulation including procedures they have undertaken from EPR systems.**

    **Re wording suggestion**- Clinicians will be able to create a log of all the relevant activity they need to maintain their registration and regulation including procedures they have undertaken from EPR systems. They must have 1 click access to their workload figures—how many operative procedures they were primary surgeon, what procedures they performed as per national codes for procedures.

    **Comments-**This point could be included in number 15 or 18, as a separate point it feels repetitive.

21. **Clinicians working in outreach facilities should be able to access their original notes in order to maintain the continuity of care required by patients and professional standards bodies and not be limited by organisational barriers.**

    **Re-wording suggestion**-Clinicians working in outreach facilities should be able to access their original notes in order to maintain the continuity of care required by patients and professional standards bodies and not be limited by organisational barriers. This is again about patient based context linking—URL or API between healthcare IT systems.

22. **There should be national registers of practices or services so that clinical communications can go from one service or practice to another by secure email and patients have real time communication that accompany their care transitions.**

    **Comments-**This is a good, simple and important idea

23. **Audit trails should be available on all IT systems and those audit trails should be made available on request to patients. The employing organisations should be able to justify every access or be prepared to take action on those people accessing a person's confidential data without a legitimate and legally defensible reason.**

    **Comments-** Points 23 - 26. Agree, but see earlier comment about speed of response (point 3). These could be included in a more general statement at the start of the document as key elements that we expect

24. **Test results both radiological and pathological should be available to those professions who rely on them, where a clinician has a legitimate relationship to the patient, in order to, prevent unnecessary duplication, wastage of valuable resources and most importantly support better decisions.**

    **Comments-** the RCR feel that this point is repeating the argument made in point 2

25. **Clinical systems should be able to show a clinician his/her work load in the coming weeks so he/she can make instant appointments with patients at the point of care.**

    **Comments-** This point could be added to point 20 as a future workload assessment.

26. **The time needed to learn to use IT systems, critical for care, should be commensurate with the use of locums. Ideally this should be less than 1 hour.**

27. **Decision support should not induce alert fatigue and work-a-rounds.**

    **Comments-** This is truly difficult. There are substantial problems with defining this, and implementing it. DSS are a balance. It is difficult to get that balance right all of the time.

    This point could be included in point 9.

28. **Knowledge support should be the norm, with safety back up of forms, proformas, guidelines and checklists.**

    Comments- Knowledge support needs to be defined. As a first pass, we should use the guidelines which are already available. Better knowledge support is obviously ideal, but is demanding, and has a risk of being wrong.

    This could be added to point 9

29. **Record headings should support coded data and narrative such that the richness of clinical care is not lost and experiential learning excluded.**

    **Comments-** Agree, but see comments on 23 - 26.