Blueprint

The Clinical Digital Resource Collaborative (CDRC) - An NHS owned Fully Funded Digital Resource for use in Primary Care

The Clinical Digital Resource Collaborative (CDRC) is a collaboration between the Academic Health Science Network for North East and North Cumbria (AHSN NENC), the North of England Commissioning Support unit (NECS), GP Federations and Clinical Commissioning Groups (CCGs) and is supporting primary care through the Covid-19 response through provision of fully funded digital resources for use in the primary care clinical systems, EMIS and SystmOne.

The CDRC has supported the development of powerful clinical searches, creation of dynamic templates, contextual alerts & patient status icons that identify clinical need at individual patient level and the provision of standardised regional referral information allows clinicians to streamline processes, improve communication, improve case finding whilst ensuring conditions are appropriately medicated to improving patient outcomes.

Last updated Kasia Janowska 27 Oct 2020

Background & Context

Organisation Description

The Clinical Digital Resource Collaborative (CDRC) is a collaboration between the Academic Health Science Network for North East and North Cumbria (AHSN NENC), the North of England Commissioning Support unit (NECS), GP Federations and Clinical Commissioning Groups (CCGs) and is supporting primary care through the Covid-19 response through provision of fully funded digital resources for use in the primary care clinical systems, EMIS and SystmOne.

Project Overview

The CDRC has supported the provision of resources within EMIS and SystmOne that provide clinicians and health care practitioners with accurate, real time data that enables the proactive management of patients health records with personalised care and aids decision making by identifying those patients who might benefit from optimised treatment, whilst also identifying patients with potentially modifiable risk factors.

The use of the CDRC resources within EMIS and SystmOne helps to reduce health inequalities and can lead to improved patient outcomes.

All CDRC resources are assessed and quality assured by NECS for safety and accuracy. The resources can be 'regionalised' upon request for priority conditions and specific parameters to reflect agreed and accepted clinical pathways and best practice.

Why the Blueprint is important

This blueprint is important from several perspectives:

1. **Alignment to the NHS Long-term Plan**

The NHS Long Term Plan (2019) highlights how the NHS should adapt to change and serve the changing population needs of the UK. It emphasises several significant factors to be considered, including managing the increasing number of patients with long term conditions.

2. **Digitising clinical systems**

The development of digital tools and resources that harness electronic patient records are often seen as being able to help improve patient care and streamline services for changing population needs. Digitising clinical systems and understanding how to use and utilise this data has been identified as key to improving patient care.

3. **Improving patient care**

The CDRC helps to link resources to optimise and deliver the best possible care for patients whilst making efficiency improvements, this is a key message highlighted throughout the Primary Care Digital Care Strategy.

Derwentside Healthcare Ltd is a GP Federation in a rural area of the North East of England that consists of 14 clinical practices. Between January - June 2019, 13 practices utilised a suite of digital resources designed by the CDRC within the clinical system SystmOne. These resources allowed identification and enhanced management of patients at risk from a range of five specific risk factors including:

1. detection of hypertension
2. prevention of cardiovascular events by lipid modification
3. detection of strokes and dementia by improving detection of atrial fibrillation
4. early detection of diabetes mellitus
5. early detection and diagnosis of frailty

Rates of diagnosis for the five risk factors of interest at baseline (January 2019) and six months after implementation of the CDRC resource were compared. This feasibility evaluation was termed the Derwentside Quality and Safety Initiative (QASI). The evaluation has shown that implementation of the CDRC resources has improved diagnostic rates for all the conditions that we pre-defined. Where a confidence interval included 1 it was considered no change. Diagnostic rates for all five risk factors targeted using the QASI improved with their OR>1, with hypertension and frailty having the greatest increase in diagnostic rates (figure 1).

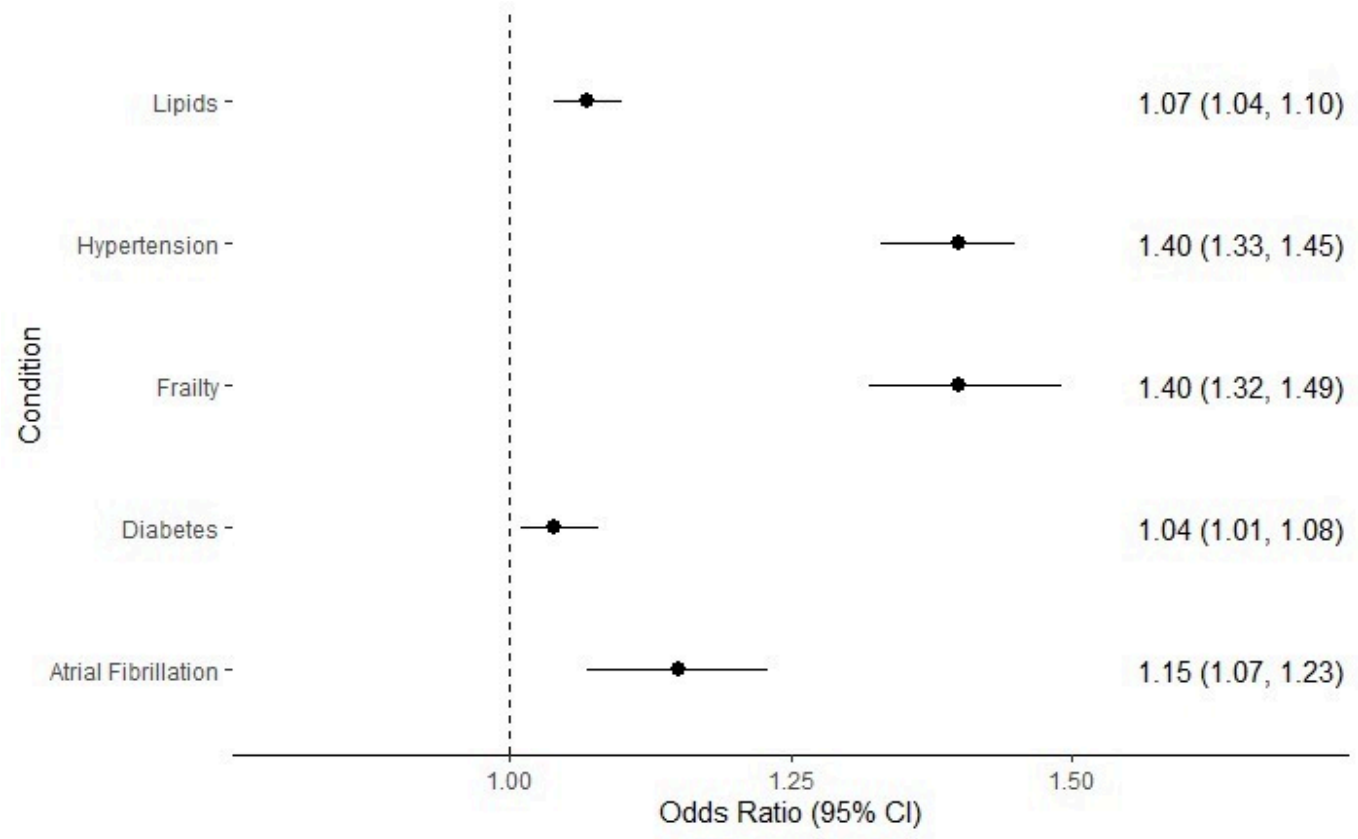


Figure 1 Odds ratios comparing diagnostic rates before and after implementation of CDRC

Through performing both qualitative (Grounded Theory and Framework Analysis) and quantitative methods (Chi Squared) evaluation we concluded utilising the CDRC within SystmOne can improve case finding of patients and ensuring appropriate medication. In addition, clinicians and health care providers were clear that the resource is easy to use, allows practice level searches, saves time, and can improve patient care and safety alongside assisting practices to achieve Quality Outcomes Framework (QoF) targets.

The CDRC has now been incorporated into the NENC regional Familial Hypercholesterolemia pathway which is to be further rolled out as part of the national Cardiovascular Disease (CVD) Prevention programme.

Utilising the CDRC to identify patients with potential atrial fibrillation (AF) through a structed guide, for example CDRC can help identify patients with an AF indicator code but that not diagnosed with AF. This search can ensure we identify the patient with potentially undiagnosed AF which can cause a catastrophic stokes which can lead to lifelong care or death.

Technical Prerequisites

The following technical pre-requisites need to be in place before implementing the CDRC resources:

- SystmOne or EMIS clinical IT systems.

Other Prerequisites / Additional Information

- ‘sign up’ to the CDRC distribution list for communication.
- A dedicated clinical and managerial workforce to triage patient records.
- A small support team to maintain localised implementation outside of NENC.

GDE Blueprinting Team

Development Lead:

Jody Nichols - CDRC Implementation Lead

Subject Matter Experts:

Dr Gareth Forbes - CDRC Co-Founder

Dr Jonathan Harness - CDRC Co-Founder

Dr Tom Zamoyski - GP Clinical Lead

Billie Moyle - Primary Care Data Quality Lead

Executive Sponsor:

Professor Julia Newton - Medical Director ASHN NENC

I-Lin Hall - NECS Delivery Insight Manager

Other:

Michelle Waugh - Project Support Officer

Planning & Preparing

Pilot and Feasibility Evaluation

Timeframe: March 2019 - June 2019

Why?

This Quality and Safety Initiative (QASI) evaluation was put into place to demonstrate the effectiveness of CDRC in a regional clinical setting. The CDRC developed clinical resources within a current clinical system (SystmOne) that are free to use. Utilising both qualitative (Grounded Theory and Framework Analysis) and quantitative methods (Chi Squared). We have found evidence that utilising CDRC resources within a clinical system (SystmOne and EMIS) can identify those who might need optimised treatment and potentially modifiable risk factors, for several conditions including:

- atrial fibrillation
- hypertension
- diabetes
- lipid modification
- early detection and diagnosis of frailty.

Who?

- Derwentside Health Care Ltd
- Dr Gareth Forbes – GP Lead
- Jody Nichols – CDRC Programme Lead
- Prof Julia Newton – Newcastle University academic and Medical Director for the Academic Health Science Network for North East and North Cumbria
- Dr Jon Rees – Sunderland University Academic

How?

- Evaluation push forwarded to Derwentside health by Dr Gareth Forbes
- Quantitative data collection by Dr Gareth Forbes
- Quantitative data analysis Dr Jon Rees
- Qualitative data collection and analysis – Jody Nichols
- Overview and write up of evaluation – Jody Nichols and Prof Julia Newton

Key Learnings & Advice

- **Management by a single person/organisation would have made the data collection easier.** Management of processes across a number of organisations made the project overly complex.

- There were a number of challenges to collection of the qualitative data as availability of both clinical and clinician time were limited. Perhaps instead of 1-2-1 interviews **a single focus group might have worked better.**

Key Decisions

- My role within this process was to design, develop and implement the qualitative evaluation. I decided the evaluation methodology, I chose framework for the evaluative piece which allowed me to **explore the perception of the tool from the people / clinicians that utilise it.**

Creating the Teams

Timeframe: June 2019- December 2019

Why?

To maximise the output and productivity of CDRC various teams were established in order to utilise individual expertise and experience to bring the very best to the table. Each team was delegated with a different responsibility to prioritise with individuals having defined roles.

Who?

The teams were defined and created by:

- Jody Nichol – CDRC Implementation Lead
- Tom Zamoyski – CDRC GP Clinical Lead

The specific teams created were as follows:

- Steering Group – Key stakeholders within NENC region
- Implementation Team – CDRC implementation team, active members from the steering group
- Clinical Huddle – Weekly catch ups with clinical leads to enable clear resource development
- Digital Resource Reference Group – AHSN NENC strategic group
- Engagement Team – CDRC engagement / marketing / communications team

How?

This step was completed by analysing the need and focus for the specific teams. The teams were created with the following focus:

- Steering Group - to offer oversight, guidance and set priorities
- Implementation Team - to perform the operational day to day progression of the project within agreed timescales and manage the risks and issues
- Clinical Huddle - to prioritise individuals requests for resources, offer clinical resilience, identify issues early in the process and update resources to reflect changes to clinical guidelines
- Digital Resource Reference Group – management of resource requests from AHSN teams
- Engagement Team – to promote and offer assurance

Key Learnings & Advice

- It is important to establish the individuals that would be key for each group
- It is important to understand that these groups could change and develop as the programme grows
- Not all groups need to be established at same time. The order of establishment was:

    1- Steering Group

    2- Implementation Group

    3- Digital Resource Reference Group

    4- Engagement Team

    5- Clinical Huddles

- It is also anticipated that CDRC will develop a board within the next 3 months which will negate the need for a steering group

Key Decisions

- The key decision for this activity is to **decide on the teams, and the remit of each team**, to ensure that the groups could effectively steer, direct, develop and implement CDRC regionally and nationally.

Process Mapping

Timeframe: June 2019- August 2019

Why?

It was important that individual organisations that formed the CDRC took ownership for aspects of the process for which they were best suited, and to ensure the safety of the resources and quick dissemination.

Individual organisations were responsible as follows:

- NECS took a clear role and led on hazard reviewing of the resources
- AHSN NENC took a clear role on dissemination, project management and developing 'clinical guides'
- Lead Clinicians took a clear role on developing searches, templates and resources in SystmOne and EMIS
- Both Dr Gareth Forbes and Dr Jonathan Harness acted as central points for contacts and resource requests

However, as the process developed it became apparent that the strain on the clinicians to develop the resources as well as being full time GPs' was too much and therefore the steering group decided to move the development of resources from the clinicians into the NECS primary care data quality team, with the clinicians having oversight and final overview.

From this an implementation team was developed which would ensure resources were developed in a timely manner.

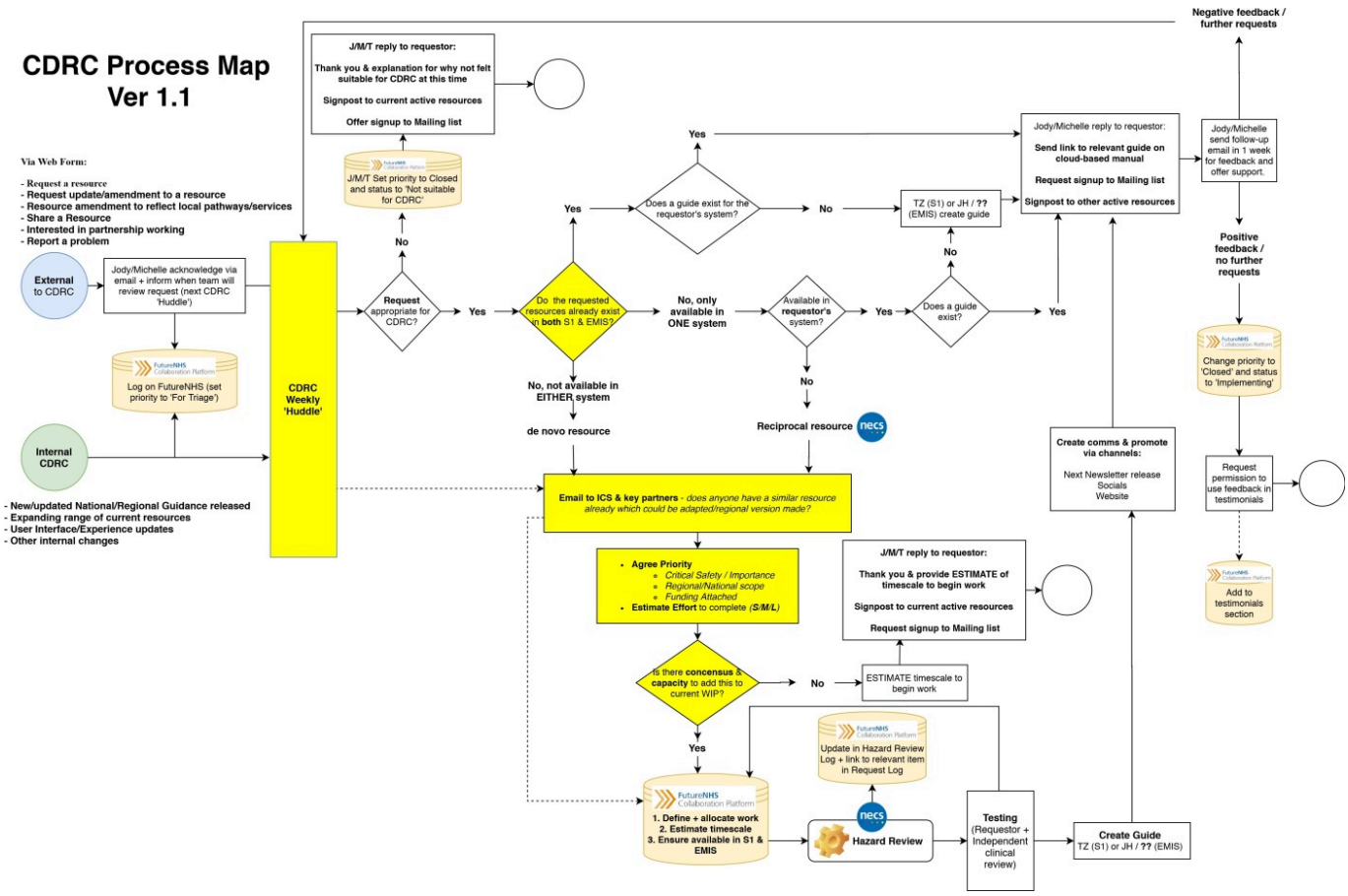
Who?

Tom Zamoyski took the lead on this activity with oversight provided by the steering group

How?

Tom Zamoyski worked through the process steps of what needed to happen for a resource to be developed, from a resource request to deployment of the resource.

The process map attached as artefact.



Key Learnings & Advice

- **Ensure all key stakeholders are involved to ensure agreement and 'buy-in' to the process.**

Key Decisions

- The key decisions made during this activity were **focused on the process map**, and included the w**ho, what, and where for each process step**. These decisions were taken during a mapping exercise, using 'flip chart and post it notes' to work through each step of the process.**These decisions were made to streamlines processes and ensure a fast and effective model was put into place**

Artefacts & References

- process map v.1

Stakeholder Identification and Engagement

Timeframe: June 2019 – August 2019

Why?

The Stakeholder Identification step was important to ensure that there was effective collaborative engagement with the right stakeholders, to develop relationships and proactively seek out and value their opinions.

Who?

The CDRC engagement team, as part of an initial soft launch of the CDRC website www.cdrc.nhs.uk , developed a key list of stakeholders, from CCG's, PCNs, Clinical networks, IT leads, Practice nurse, practice managers, AHNS Networks, Commissioning Support Unit Representative, Cancer Alliance Networks, Commissioning Leads, Meds Optimisation Leads and key medical charity sectors.

Jody Nichols led on the work to identify the key stakeholders but was closely supported by the CDRC engagement group, which consists of a Marketing consultant, a Project Support Officer and a Social Media Manager.

How?

Jody Nichols, through her work as the CDRC lead over the last 18 months, has developed a list of engagement, contacts, interested parties and has updated this active list regularly to ensure the CDRC could stay in contact with interested parties. This stakeholder list has been central to a recent email campaign to make all parties aware of the new website launch as well as using social media to push out resources that have been developed.

Useful links are as follows.

www.cderc.nhs.uk

https://www.facebook.com/CDRCPrecision/

https://twitter.com/CDRC_Precision

https://www.linkedin.com/company/clinical-digital-resource-collaborative-cdrc-precision/

In addition, by working closely with the CDRC steering group, the well-established networks developed by clinicians were utilised.

Key Learnings & Advice

- Critical to the success is having **advocacy, collaboration and commitment from GPs, CCGs and patients**, with a dedicated workforce to triage patient records and manage patient care

Key Decisions

- The key decision for this activity was to **ensure that all key stakeholders were included**, and particularly key stakeholders that will not only use the product but also promote its use regionally and nationally.
- **Working closely with marketing executives within AHSN NENC, stakeholder engagement** was identified as a key processes for further roll out of CDRC

Artefacts & References

- stakeholder map would help to: develop key messages, develop a network of advocates and maintain list (ensure you utilise networks already established), develop website and social media sites
- www.cderc.nhs.uk
- https://www.facebook.com/CDRCPrecision/
- https://twitter.com/CDRC_Precision
- https://www.linkedin.com/company/clinical-digital-resource-collaborative-cdrc-precision/

Implementing

Resource, Resilience and Training

Timeframe: December 2019 - January 2020

Why?

As part of the CDRC journey it became apparent that not all individuals utilising the clinical systems will fully understand how to use the CDRC resources. To address any knowledge gaps of the staff using the resources, training guides and demonstrations were developed and made

available.

Who?

Tom Zamoyski developed the user guides, which have been developed as straight forward step by step guides to enable any from GP's through to health care assistant to use the searches, templates, and other resources available to them.

How?

Tom Zamoyski developed user guides in a stand format for consistency and made the user guides available via the CDRC website.

An example of a user guide (for Atrial Fibrillation) can be found at the following link:

https://cdrc.nhs.uk/wp-content/uploads/2020/05/AF_CDRC_userguide_SystmOne.pdf

Key Decision

- Show simple or complex do we make them
- Should we pilot and test within practices for usability?
- How should the guide look?
- **We chose to make the guides from screen shots of the clinical systems themselves, to allow for ease of use**. The guides were made as simple as possible for all levels of abilities to use. We tested the guides within a number of practices to understand if they through they could be improved.

Artefacts & References

- Standard proforma for user guide development - example

Agile Project Management

Timeframe: June 2019 – ongoing process

Why?

The development of a Futures NHS workspace to align communication as the resource request progress through the process was as important step in allowing visibility of the project across multiple organisations

Who?

Tom Zamoyski lead on the activity and completed the work, with Jody Nichols oversight.

How?

This was a complex piece of work which involved developing a process of recording the CDRC work steam including:

- Work log
- Hazard review process
- Back log
- Risk log
- Stakeholder engagement
- Tasks
- Events
- Communications

Key Learnings & Advice

- **The development of the NHS futures sites has taken months and is constantly changing as the project change**s, we are more than happy to share the detail on our sites but anticipate that each project would develop its own way of working and logging resources. NHS futures sites itself is designed for cross organisational working and has been key in enabling this project to develop both regionally and nationally.

Key Decisions

- Key decisions around **how we monitor and record our work within the platform,** we collectively decided on the workstreams. We focused on ensuring we can follow clinical resource request from start to end and that everyone with the implementation team had access.

Artefacts & References

- Futures NHS main page

Ongoing Clinical Input

Timeframe: June 2019 – ongoing process

Why?

This activity is important as it provides a validity check for the functionality of the resources developed. This service was provided by the North of England Commissioning Support Unit (NECS) data quality team NECS and provides assurance for clinicians that the resources are safe and have been externally reviewed.

Part of our process requires a hazard review to be completed for all resources before the resource can be released for use within primary care. A hazard review is a quality check to ensure the functionality of the resource is correct and the resource follows the latest guidance whether regionally or nationally. These reviews a centrally logged and discussed at bi weekly implementation team huddles to review and ‘sign off’.

Who?

Hazard reviews for the resources were performed by Billie Moyles from NECS.

Once a resource has successfully completed its hazard review, then the resource was available to Jody Nichols AHSN to push out for regional and national use.

How?

NECS have been a key participant in the CDRC from conception and were keen to support the hazard reviewing of resources to ensure validity and functionality.

Key Learnings & Advice

- **Ensure that lines are communication are open and utilised to make sure resources are hazard reviewed in a timely manner**

Key Decisions

- Ensuring **resources are reviewed** in a timely manner is key and the **implementation team made key decisions on the time frames**

National FH Programme /CVD Events

Timeframe: January 2020 – ongoing process

Why?

CDRC has been highlighted as a product that will be utilised nationally with identification and management of Familial Hypercholesterolaemia (FH) through the AHSN national networks. This activity has highlighted the key benefits of using a readily available set of resource and guides for the users of both EMIS and SystmOne.

The CDRC team has been attending local and national events to promote the use of CDRC, below in an example of an FH work submitted for a CVD event

https://cdrc.nhs.uk/wp-content/uploads/2020/05/FH-abstract-Heart-UK.pdf

CDRC has also been asked to present at several high-profile CVD events to highlight our continued good work, the National CVD prevention conference is one event, a copy of the information presented at the event can be found here:

https://cdrc.nhs.uk/wp-content/uploads/2020/05/CDRC-Overview.pdf

Who?

Julia Newton completed the FH activity, alongside Jody Nichols and Dr Gareth Forbes provided oversight

Jody Nichols completed the CVD conference activity with support from Dr Gareth Forbes and Dr Tom Zamoyski

How?

CDRC has highlighted as a model of good practice nationally within several AHSN and NHSE. Following the good feedback, we recommended CDRC for use within a national project. We completed numerous rounds of review to ensure the project for fit for purpose. CDRC was then awarded the AHSN national programme to identify patients with FH.

Key Learnings & Advice

- Ensure your **evidence to support your project is robust**
- **Gaining approval for a national programme is a lengthy process, take your time**

Artefacts & References

Examples of an FH work submitted for a CVD event

- https://cdrc.nhs.uk/wp-content/uploads/2020/05/FH-abstract-Heart-UK.pdf
- https://cdrc.nhs.uk/wp-content/uploads/2020/05/CDRC-Overview.pdf

COVID-19 response

Timeframe: March 2020 – ongoing process

Why?

During the COVID 19 response, CDRC became a regional focal point for resource development within clinical systems to help clinicians and primary care through the pandemic. The CDRC supported the COVID-19 response by developing, hazard reviewing and rolling out several resources including:

- Identification and management of patients with suspected CV19
- Guidance for vulnerable patients that need shielding
- Delayed Treatment Protocol for secondary care, including cancer

All the resources were well received regionally (through local networks) as well as nationally through the cancer alliance network, NHSE and AHSN.

Who?

All the CDRC team members supported this activity.

How?

1. New requests for resources during pandemic were raised by clinical staff
2. The new requests for resources were added to the Resource Request log
3. Dr Gareth Forbes (for SystmOne) and Jonathan Harness (for EMIS) developed the requested resource
4. Billie Moyles (NECS) completed the hazard reviews for the new resource
5. Dr Tom Zamoyski developed the user guides
6. Jody Nichols pushed out the new resources, both regionally and nationally

Key Learnings & Advice

- Most resources were developed in less than 48 hours, due to the necessity for rapid

deployment to support the COVID-19 pandemic situation. If we were to develop again (not in a pandemic) **it would be better to take more time to test the newly developed resources before release to gain user feedback.**

Key Decisions

- **The decision to release rapidly** as soon as the resources had completed their hazard review and without necessarily seeking user feedback.
- **The decision to communicate the availability of released resources both within and outside of our networks** to ensure clinicians knew the resources were freely available.

Sustaining

Metrics, Ongoing Evaluation Promotion

Timeframe: March 2020 – ongoing process

Why?

This activity is important since the development of metrics will allow collation of data to demonstrate the benefits of the CDRC, which may vary and be condition specific.

Continuing with an ongoing qualitative evaluation is equally important to ensure the CDRC continues to meet the needs of the end user, positive outcomes are recognised and promoted, and lessons for improvement continue to be learnt.

Who?

Jody Nichols led on this activity and did the work, with Prof Julia Newton and Dr Gareth Forbes providing oversight.

How?

- There was an ongoing process of collecting and validating evidence and publishing where appropriate.
- Metrics were regularly gathered from the website and social media channels in order to measure reach, and the number of hits, and downloads A recent application has been made to the Applied research Collaborative (ARC) for funding to further expand and publish

the initial QASI evaluation

- Development of strategic plan and marketing and communication strategy early in project development (in development)

Key Learnings & Advice

- We would recommend that you **have a strategic plan early in development on how you are going to measure and record your work.**

Key Decisions

- We make key decisions on **what form of evidence should be collect and when, qualitative, or quantitative and at what point.** We also needed to ensure we collected the right evidence in order for CDRC to be a showcase piece…i.e. **collect evidence with clinical relevance .**

Implementation into Other Clinical IT Systems

Timeframe: March 2020 – ongoing process

Why?

This activity is important to ensure that the benefits from the CDRC can be realised with other clinical IT systems. To spread CDRC nationally would require careful planning of a phased approach and consideration would need to be given to reduce the inequality that exists with the current resources only being available in the SystmOne and EMIS systems.

We are keen to engage with other suppliers of clinical systems and extend the collaboration so that the benefits of using the CDRC can be realised by other parts of the NHS.

Who?

This is a future extension of the current work, which would be completed by Dr Tom Zamoyski and Jody Nichols.

How?

This is a future extension of the current work. Since the planning for this work has yet to take place the precise steps are unclear. However, it is anticipated that contact would be made with all national providers of clinical systems with an offer to work together to make CDRC a product that can be utilised nationally and free of charge.

Full and comprehensive list of partners and a robust competitive analysis document is developed (contains sensitive information so unable to share at this point in time).

Long Term Sustainability / Partnership

Timeframe: March 2020 – ongoing process

Why?

This activity is important so that the NHS can realise benefits from the CDRC on an ongoing basis. We have been fortunate to receive funding from North Durham CCG and Northern Cancer Alliance Network this far which has helped to fund a pilot evaluation, development of a website and the development of a marketing strategy. The AHSN NENC and NECS have provided staffing resource to conduct the work required and both organisations are now developing a business case and JWA to ensure the long-term sustainability of the project without a cost implication to those clinicians that request access to the CDRC resources.

Whilst we established a CDRC steering group at the onset of the project which allowed key stakeholders to participate in open discussions and be part of the decision making process it was agreed we would need to establish a future CDRC Board to oversee the governance and to ensure transparent accountability going forward.

Who?

Jody Nichol – CDRC Implementation Lead

I-Lin Hall – NECS Delivery Insight Manager

Dr Tom Zamoyski – CDRC GP Clinical Lead

With overall approval from the CDRC steering group.

How?

This step was completed by considering several different funding models, with the benefits and complexities of each funding model being discussed.

Development of sustainability business plan (contains sensitive information so unable to share at this point in time).

Key Learnings & Advice

- It is important **all key partners and stakeholders are involved in decision making for funding models**. **Each of the models need to be presented in all relevant steering groups.**

- All models must be presented, and feedback given on most appropriate

Benefits & Outcomes

Core Capabilities

Records, Assessments, & Plans

The CDRC resources support clinical assessments, and care plans, by making relevant information readily available.

Orders & Results Management

The CDRC resources offer real time data to support consultations and decision support.

Decision Support

The CDRC resources are provided as a flexible implementation for the provision of real-time data that allows clinicians to prioritise specific conditions

Clinical & Business Management

The CDRC resources decrease variation in search criteria and can assist with orientation and improve consistency for clinicians who may work across organisational boundaries.

Interoperability, Data & Standards

SNOMED CT

The CDRC resources can help avoid regional variation in code translation to SNOMED CT between organisations and software systems.

System Transformation

Reducing unwarranted variation

Using the CDRC pre-designed and validated resources will improve cost savings through efficient patient centred care.

Care and Operational Delivery

Quality & Safety

Accessing the pre-designed and validated resources will offer consistency of care while minimising duplication of effort for staff.

Clinical Outcomes

The use of the CDRC resources will improve access for those clinicians responsible for identifying and managing a cohort of patients with a specific condition e.g. Cardiovascular Disease.

Staff & Patient Experience

Upskilling the workforce with an innovative digital resource will save time will increase job satisfaction for staff.

The CDRC resources enable improved access to consistent, accurate and up to date information and clinical guidance from multiple sources.

Resource Sustainability

The use of CDRC resources will help to improve performance management and increase income generated from the Quality and Outcomes Framework.