Nottingham and Nottinghamshire ICS

Oncology

Clinical and Community Services Strategy

February 2021

This information has been placed in the public domain in order to benefit patients across the country as we believe the experience and approach may be useful for others, however we request that acknowledgement to the work in Nottinghamshire is made and referenced in all materials. This helps us to understand the wider impact benefits of our programme. Please cite 'this work has been informed by the Nottingham and Nottinghamshire ICS' when referencing.

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1. Executive Summary

The Integrated Care System (ICS) ambition across Nottinghamshire is to both increase the duration of people's lives and to improve the quality of those additional years, allowing people to live longer, happier, healthier and more independently into their old age. The aim of the Clinical and Community Services Strategy (CCSS) is to support the system to achieve this by shifting the focus of our health and care delivery from reactive, hospital based treatment models to a pro-active approach of prevention and early intervention, delivered in people's homes or in community locations where this is appropriate with a long term view of beyond 5 years.

Cancer is the leading cause of death in the UK, even above heart disease and dementia. Everyday, nearly 990 people are diagnosed with cancer in the UK, with approximately 450 people dying from the disease. Incidence rates have increased by 12% since the early 1990s largely due to the growing and ageing population and the number of cancer cases is projected to rise by more than 40% to around 514,000 new cases per year in 2035, with a greater increase in men than in women. This expected increase will also place an unprecedented burden in an already stretched healthcare system.

Some of the biggest risks and determinants to poor health across England also increase the risk of cancer. These include smoking, diabetes, obesity, but there are also inequalities found in areas of greater deprivation, cultural diversity and poor social and mental health wellbeing.

The NHS Long Term Plan (LTP) makes strong reference to ensuring improvements in cancer outcomes are made. There is an ambition to raise the proportion of cancers diagnosed at stages 1 and 2 from around half to three quarters of cancer patients by 2028. This oncology review seeks to align with national direction, maintain focus on local provision of oncology services and also acknowledges several programmes of work that are underway, including the ICS Cancer workstream and work of the East Midlands Cancer Alliance (EMCA). The review aims to ensure social care, mental health and well-being of those with a cancer diagnosis, or suspected cancer, and their families, is considered in providing equitable care and access across the Nottingham and Nottinghamshire ICS population.

This oncology service review has been undertaken as part of the ICS CCSS work stream. It has been supported by clinical experts and stakeholders in the development of place based service models for the future, to support the long term needs of our existing citizens. The review also focuses on embedding prevention in our population over the next 5-10 years, by shifting our culture from one of illness to one of healthier lifestyles and self-care.

The strategy identifies major stages in the journey of those with cancer and stresses a need to reorganise the way in which these services are delivered, from prevention through to longer term management. A whole pathway approach in the provision of oncology services is crucial in order to maximise the clinical outcomes for patients, their quality of life and experience of oncology services.

Fundamental themes have been identified along with key transformational opportunities and potential impacts have been developed which include: prevention and education strategies to promote wellbeing, healthy living and independence; improved access & shared communication about patients' past medical history from secondary care settings to community and primary care; appropriate treatments for adults with cancer from across the ICS; standardise access to services through improved integration between secondary and primary care including a strong focus on mental health care.

A transformational 'Bridge to the Future' highlights current service offers across the ICS and identifies some potential long term next steps that can be taken to achieve the identified opportunities with proposed timelines and the expected outcome for our citizens of Nottinghamshire.

The recommended next steps are vital in keeping the momentum of change in the future offer of improved prevention and better mental wellness for our citizens; providing the right tools for our population to support their wellbeing; providing strong communication links for our staff is vital to enable them to provide the best care for our citizens; the most appropriate models of care in hospital settings, neighbourhood and home need to be provided equitably across the ICS and be provided using best evidence, flexibly and in a patient centred holistic way for them to fulfil their maximum potential throughout their lifetime.

2. Introduction

Background and Purpose	In Nottinghamshire we have made great progress in improving people's health and wellbeing. Today, we can treat diseases and conditions we once thought untreatable. However, our health and care system faces change and this will impact on our services, for example, the growing prevalence of long-term health conditions places new strains on our system. There is inequality evident in both the location of services and in access to services. In some areas, it is easier to access a GP or than in others, or to find things to do to enable citizens to stay active and fit. The ICS ambition across Nottinghamshire is to both increase the duration of people's lives and to improve those additional years, allowing people to live longer, happier, healthier and more independently into their old age. The requirement for a CCSS came from the recognition that to achieve this ambition the system has to change as a whole, rather than just in its individual acute, primary care, community and social care elements. It is recognised that only by working together to describe changes in how care is provided across the system, rather than through individual organisations, will we deliver the scale of change required.
The ICS Clinical and Community Services Strategy	The aim of the CCSS is to support the system to achieve this by shifting the focus of our health and care delivery from reactive, hospital based treatment models to a pro-active approach of prevention and early intervention. This should be delivered closer to people's homes or in community locations where this enables better prevention, more supported self-care and earlier intervention to support citizens. The Strategy recognises that achieving this change is a long term programme that will be delivered over the next 5 years and beyond. This is also to enable a necessary long term investment in the health and care buildings and infrastructure in the system. An overall CCSS whole life model framework has been developed to focus on the need to support people through their lives from living healthy, supporting people with illness and urgent and emergency care through to end of life care. Citizens can experience different parts of the system at different stages in their lives. With the development of the overall Strategy framework the next phase of work is to review the 20 areas of service across the ICS that collectively form approximately 80% of the volume of clinical work in the ICS. This will ensure that overall the Strategy is described as a coherent whole and generates a programme of change for the whole ICS. This review of Oncology Services provides the opportunity to be such a review and is part of the third phase of work.
NHS Long Term Plan	The NHS LTP is clear that to meet the challenges that face the NHS it will increasingly need to be more joined up and coordinated in its care; More proactive in the services it provides; More differentiated in its support offer to its individuals. The ICS has focused on describing 5 areas of focus for the delivery of the NHS LTP. These requirements are reflected in each of the service reviews that collectively will describe the CCSS **1. Prevention and the wider determinants of health -** More action on and improvements in the upstream prevention of avoidable illness and its exacerbations **2. Proactive care, self management and personalisation -** Improve support to people at risk of and living with single and multiple long term conditions and disabilities through greater proactive care, self-management and personalisation **3. Urgent and emergency care -** Redesign the urgent and emergency care system, including integrated primary care models, to ensure timely care in the most appropriate setting **4. Mental health** - Re-shape and transform services and other interventions so they better respond to the MH and care needs of our population **5. Value, resilience and sustainability -** Deliver increased value, resilience and sustainability across the system (including estates)

3. Approach and Scope

Approach	This strategy has been developed through an open and inclusive process which weaves together the expertise of clinicians and care experts with commissioners and citizens in determining the future shape of services across the system. There have been a variety of stakeholder and service user events to develop a clinical and community services model. An extensive system wide piece of work is taking place across a minimum of 20 services. The CCSS Programme Board have reviewed these services against a range of quantitative and qualitative criteria and agreed the third phase of seven service reviews. These include Gastroenterology, Depression and Anxiety, Heart Health, Colorectal, Urological Health, Oncology and End of Life Care. This document discusses the approach, scope, the key issues and potential transformational opportunities within Oncology services across the ICS. Health, social care, public health and the voluntary sectors have all been considered through reviewing the current service offer across the ICS. The service review was taken over approximately 14 weeks and there were two workshop held with stakeholders from across the ICS. An evidence review pack was developed which considered national and local best practice to inform the development of potential themes and new models of care where transformational change may take place across the ICS in the future.
Scope	For the purpose of the oncology review, the following focus was agreed: **In scope:** • Adults - including teenage and young adults (TYA) using adult services • Modalities • All cancers are in scope but breast, lung, colorectal, prostrate cancers will be in scope for performance and data analysis • Late Effects • Post Treatment Care – including community and home • Therapies – Interventional and support therapies, including psychological support **Out of Scope:** • Surgical treatments • Specialised commissioned services (RT is in-scope) • Paediatrics
Engagement	The Oncology service review has been supported by a tailored Oncology Steering Group involving stakeholders and clinical experts from across the ICS. They have provided expert advice, guided, confirmed and challenged assumptions throughout the period of review and connected to other workstreams. This group has formed part of the governance process along with the CCSS Programme Board. Two virtual workshops have been held enabling a wide breadth of stakeholders (Oncologists, GPs, CNS, healthcare scientists, allied health professional (AHP), Pharmacists, Heads of Service, Commissioners and others) to be proactively involved in re-evaluating current service offers across the ICS, in developing potential themes and agreeing transformational change for the future Clinical and Community Services Strategy. Patient engagement has enabled confirm and challenge of assumptions and play an active part in the co-design of any future service changes across the ICS.

4. Contents

Strategy Development	This Strategy Document consists of five key elements. These have been developed through a process of design and iteration at the workshop and steering group meetings and includes key stakeholders from across the system. The strategy has been developed with reference to the Evidence Review document and the patient focus group that has been held.
Priorities for Change	The work of the Steering Group and the workshop stakeholders identified and confirmed four key areas of focus that need to change in the ICS for oncology. These were based on a review of the current issues facing the ICS and the views of the Steering Group and workshop attendees. Some service user experience has also been incorporated into the development of the strategy.
Proposed Future Care System	Following the initial engagement, at subsequent steering group meetings, attendees started to develop the future care system for Oncology to address the Priorities for Change. The future care system is described against two dimensions: • **Location** split between - Home (usual place of residence) – Hospital (including both acute and MH) with 24/7 medical presence – Neighbourhood representing all community/primary care and ambulatory care settings • **Urgency** split between - **Emergency/Crisis** requiring a service provided 24/7 to avoid crisis or risk to life – **Urgent** requiring a service 7/7 but not 24/7 to meet urgent care needs – **Planned/Scheduled** reflecting any arrangement where an appointment is agreed between a professional and a citizen The intention of the system model is to focus future care delivery closer to home and also with greater levels of scheduled care to best use the available resources and reduce demand on urgent and emergency care services. The new system to address the Priorities for Change is presented for each location and then summarised overall for the ICS.
Transformation Proposal	The Transformation proposal describes the key initiatives or programmes that are required to deliver this new mode. As described earlier, for Oncology services, some of these programmes need to be developed in more detail. Namely, • **Priority** – What is the priority of the initiative in the view of the steering group and workshop attendees • **Alignment** – At what level of the system should we aim for a consistent approach for each initiative? This was split into two categories: ▪ Alignment to achieve **consistency** - In most instances this is ICS or Integrated Care Provider (ICP) level where with the greater value is perceived to be in an overall consistent approach. ▪ Alignment for **delivery** of the proposal - There are some instances where the recommendation is for delivery to be at ICP level, alternatively, it is at Primary Care Network (PCN) level where differential delivery would benefit the needs of very local populations • **Enabling Requirements** – What is required to enable each Programme to deliver? This includes workforce, technology, estate or service configuration. There are also requirements of culture or finance and commissioning to allow the system to work together differently • **Benefits and Costs** – Where available, the key benefits of the initiative at system level are summarised
Service Vision	The 'Bridge to the Future' was generated at a further virtual steering group meeting. It summarises the current challenges for the oncology system in the ICS now (Priorities for Change), what the ambition is and the outline steps to get there. Progress with the 'Bridge to the Future' and the partnering vision can be returned to with stakeholders as the work develops to review progress.

Oncology Emerging Key Themes

Pre-Optimisation

- Support/ Signposting & Patient Awareness
- Prehabilitation

Treatment Models

- Treatment delivery modalities
- Shift to Immunotherapy
- Acute Oncology
- Care Coordination including FU appts, Digital Offer

Living with and Beyond

- Psychological support
- Inequalities in Care and Support
- Late Effects

Whole System Approach

- Multidisciplinary Interface (Primary/ Secondary Care)
- Connecting the Oncology Care System

Psychological based prehab is evidenced to effectively reduce

- Psychological distress
- Functional impairment
- Recurrence of cancer

MacMillan Cancer Support

Post-diagnosis physical activity reduced breast cancer deaths by **34%**

Physical activity and survival after breast cancer diagnosis: meta-analysis of published studies

10-20% of cancer patients deaths can be attributed to malnutrition rather than to the malignancy itself ESPEN expert group recommendations for action against cancer related Malnutrition

Targeted Lung Health checks (TLHC) is across Mansfield & Ashfield districts only as part of the national programme.

56% of M&A's patients with lung cancer are diagnosed at Stage 4, compared to the England average of 52%.

58% of people diagnosed with cancer feel their emotional needs are not looked after as much as their physical needs

East Midlands Cancer Alliance

LUNG CANCER

	Stage 1	Stage 2	Stage 3	Stage 4
England	19%	8%	21%	52%
Notts ICS	17%	9%	20%	54%
Mansfield & Ashfield	17%	8%	19%	56%
Newark & Sherwood	16%	8%	22%	54%
Nottingham City	19%	10%	19%	52%
Nottingham N&E	17%	8%	21%	55%
Nottingham West	19%	9%	21%	51%
Rushcliffe	16%	8%	15%	61%

TARGETED LUNG HEALTH CHECKS – MANSFIELD & ASHFIELD

	Year 1	Year 2	Year 3	Year 4	Year 5	
	21/22	*22/23*	*23/24*	*24/25*	*25/26*	*Totals*
No. Lung Health Checks	7687	8276	0	0	0	15963
No. Low Dose CT Scans	4594	5785	4549	4778	623	20329
No. of Cancers Found	107	134	63	58	7	370
No. of Additional Cancers Found	86	108	51	47	6	298

298 additional lung cancers expected to be found.

Immunotherapy is currently available for a small proportion of patients, this will increase over time

NUH

Radio therapy:

	Attendances	Avg per month	Patients	Avg per month
2017	43,406	3,617	3,099	258
2018	42,414	3,535	3,178	265
2019	44,400	3,700	3,311	276
2020 to 31/8	23,642	2,955	2,028	254

Oncology Go Live!

Reduced face to face activity

Enrolment Rate
27 patients out of 66 patients on the pathway

Questionnaire Completion Rate
99.2% of patient questionnaires have been completed (118 out of 119)

Reduction Rate
119 appointments on the digital review clinic - 113 didn't require a face-to-face follow up appointment.

In 96.7% of cases the digital questionnaire correctly flagged up symptoms

Acute Oncology new cancer workload increased, patients referred up by 141% from 2018 to 2020

NUH

QMC only that have had AOS involvement	2018	2019	2020
New emergency cancer diagnosis	587	691	897
Complication of their known cancer and/or treatment	421	366	253

New cancer cases diagnosed in hospital as an emergency patient are rising.

Acute Oncology Admission Avoidance	2015	2016	2017	2018	2019
Total No. of patients contacting telephone triage/advice line	2398	6063	5114	6244	7177

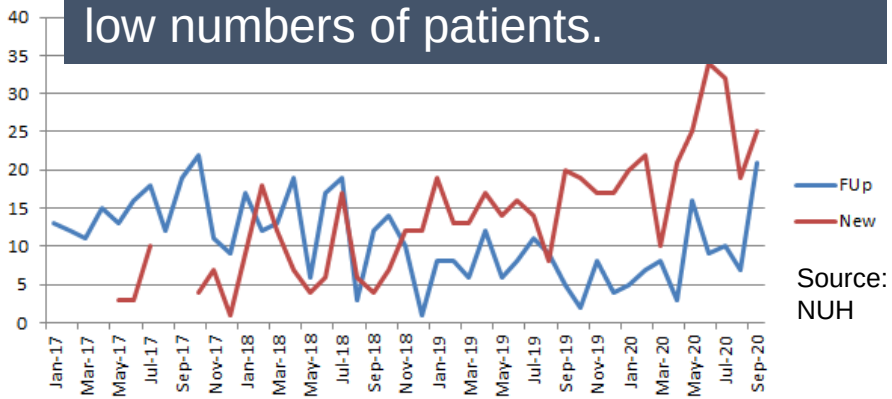
The telephone triage advice line has increased in demand 3 fold since 2015

X3

For patients who experience recurrence of disease, the prevalence of anxiety and depression rises to 50%.
East Midlands Cancer Alliance

67% of cancer patient's carers experience anxiety and 42% experience depression. Of these ¾ do not receive any support.
East Midlands Cancer Alliance

The Late Effects Clinic has relatively low numbers of patients.



Source: NUH

In addition to negatively impacting on quality of life, **mortality rates can be up to 39% higher** in cancer patients with depression.
East Midlands Cancer Alliance

58% of people diagnosed feel their emotional needs are not looked after as much as their physical needs
East Midlands Cancer Alliance

Participants in clinical trials have better outcomes but BME groups are less likely to participate. East Midlands Cancer Alliance

The overall benefit to society of treating patients with 10 sessions of cognitive behavioural therapy is £4,700. East Midlands Cancer Alliance

British South Asian patients more than TWICE as likely to be depressed following a cancer diagnosis (35.1% vs 16.8%)
East Midlands Cancer Alliance

Inequalities in survival between patients living in areas of high and low socio-economic deprivation. These inequalities in survival represent more than 2,500 deaths per year. East Midlands Cancer Alliance

5. Priorities for Change

The review identified 4 key areas of focus highlighting potential areas of change which include:

- Pre-optimisation (with emphasis on support/ sign-posting and patient awareness through a targeted education programme, helping to raise awareness on risk factors, identify symptoms and improve early detection. Prehabilitation and rehabilitation support needs to be provided before, during and after treatment for cancer across all pathways);
- Treatment Models (reviewing the treatment delivery modalities, considering a shift towards immunotherapy, preventing presentation at ED for acute oncology issues, whilst addressing care coordination including follow-up appointments and a digital offer);
- Living with and Beyond (with a strong emphasis in providing access to psychological therapies in a timely manner, addressing health inequalities, but building on the strengths of the Late Effects clinics to make it accessible across the ICS);
- Whole System Approach (ensuring the organisation and delivery of services is consistent through a multi-agency approach that includes 3rd sector organisations and charities supported through local authorities. Well interfaced systems so providers know their patients for a connected oncology care system).

Pre-optimisation	As mentioned earlier, it is forecast for an expected 514,000 new cases each year by 2035. This assumes the underlying risk factors associated with cancer do not change and demographic changes linked to the aging population, levels of deprivation and ethnic diversity and linked health inequalities continue. Mitigating these high risk factors and addressing the issues linked with behaviours like smoking, diet and physical activity can play an important and very positive part in the impact of the cancer on future health outcomes. It is important that the fundamentals of avoiding these risk factors and understanding the implication on health and wellbeing is clearly expressed in education and awareness programmes across the population. The HCPs in the ICS need to seek out teachable moments, taking the opportunity to embed sustained changes in health and wellness behaviour. Early detection and treatment are still paramount to help improve the outcomes of those that are diagnosed with cancer. To this end, meeting the NHS ambition of increasing the number of people diagnosed early at stages 1 and 2, requires the success of structured screening programmes and targeted campaigns to raise awareness in the hard to reach groups so some of these groups present earlier than evidence currently suggests. Evidence suggests that of those with cancer, less fit patients are more likely to die or have more complicated recovery, so fitness can affect the overall outcomes of cancer patients. '*Prehabilitation (prehab) prepares people for cancer treatment by optimising their physical and mental health through needs based prescribing of exercise, nutrition, and psychological interventions. It is being promoted as a way to improve treatment effectiveness and cancer survival. Prehabilitation aims to foster a sense of control and purpose in people preparing for cancer treatment through interventions that develop psychological and physical resilience.'* (BMJ, Aug, 2019). Cancer outcomes are linked to the risk of an individual being able to undergo the required treatments, and through provision of prehab, these risks can be reduced. Macmillan, report several benefits to providing prehab that include reduced length of stay (LoS), enhanced recovery following treatment, reduced post treatment complications, improving nutritional status, providing teachable moments to enable better lifestyle choices and enhanced quality of life. This no doubt depends on the cancer type, treatment and interventions. Whilst prehab needs to include personalised and holistic approaches to provide exercise (including at home), nutritional support, wellbeing coping strategies and lifestyle advice, it needs to be provided in a timely manner to ensure the benefits as part of a model of rehabilitation include time to maximise their effectiveness. It is believed some of these interventions should also continue during and after treatment.

Treatment Models	In terms for treatments for cancers, after surgery (50%) radiotherapy is associated with around 40% of cure, with chemotherapy treatments accounting for around 10% of all cancer patients – but some patients are treated with all three. Although around 50% of cancer patients benefit from radiotherapy, there are some challenges to its delivery including the capital cost of the linear accelerators, with challenging business case approval routes and complex commissioning (specialised). Immunotherapy is a treatment for cancer that encourages the immune system to fight cancer. The immune system helps the body fight infections and other diseases. Although there is no evidence of immunotherapy being less risky, it is expected that immunotherapy will be increasingly utilised. In Nottingham University Hospitals (NUH), City campus, immunotherapy is given in the day case clinic intravenously and presents an ideal candidate for remote follow-up (FU). Immunotherapy may be started with a few combinations of chemotherapy and immune, or for some cancers as just immune (e.g. melanoma). When compared to chemotherapy, which is typically 6-9 months treatment, immunotherapy treatments can last up to 2 years. For this reason more clinics are needed, with an increase in day case activity expected, but the benefits are linked to better outcomes and survival. Some of the disadvantages include fatigue, fever weakness and nausea and vomiting. A clear advantage is that when a tumour responds to immunotherapy, the remission tends to last a long time (a year or more), unlike a response to chemotherapy, which may only be weeks or months – this is linked to chemotherapy only usually lasting as long as the drug is in the body, whereas immunotherapy can provide long-term protection against cancer, due to the immune system's ability to recognise and remember what cancer cells look like. Acute oncology includes care of patients with cancer who have unexpected complications of their disease or its treatment. In the ICS, known patients usually use Rapid Response Line, potentially preventing presentation at QMC emergency department (ED). The acute oncology team, at NUH may also care for new patients who present acutely to hospital for the first time with a likely cancer as a cause of their illness – this has seen a steady increase. Through development of screening programmes, such as the Targeted Lung Health Checks (TLHC), there is an opportunity to help reduce some of the acute oncology emergency presentations if rolled out across the ICS in the future. Pilots have evidenced a need to link this across other ICS workstreams where other non-cancer diagnoses are incidentally diagnosed. The tumour sites in which a steady increase in emergency presentation are observed, need to be reviewed with a view to address this problem through improved screening where appropriate, or alternative early intervention to improve earlier detection. A recent development linked to a digital offer includes the digital patient related outcome measures (PROMS). Currently in early stages at NUH (although delayed with the COVID pandemic) phase 1 is currently piloted with NUH patients, but can be extended to KMH patients. It provides an indication of patients 'wellness' to attend clinic and through remote appointments/ video review (using Dr-Doctor) it can improve patient experience. This is being used for prostate remote follow up appointments, in its early stages across ICS, but as mentioned above, immunotherapy is also strong candidate for remote follow up.

Living with and Beyond	The psychological distress that can sometimes arise from receiving a cancer diagnosis or having to live with cancer are often side-lined, leaving people to cope with depression and anxiety on their own. It is well known that cancer can have a significant emotional and psychological impact on people's lives, with fear, isolation, loss of self-esteem, economic burden often leading to depression and anxiety. Yet the psychological support received by patients often falls short of meeting their needs. Cancer patients are amongst the few cohorts that simultaneously have their mental, physical and social wellbeing impacted and their need for mental health support is often greater. The LTP states, 'All patients, including those with secondary cancers, will have access to the right expertise and support, including a Clinical Nurse Specialist or other support worker.' This needs to include equitable access to specialist psychological support for cancer patients through close working with MH teams across the ICS. Care plans should include whole family approach to include carer support, which is extremely important for patients. There are inequalities in survival between patients living in areas of high and low socio-economic deprivation. More than 2,500 deaths per year result in cancer patients from areas of higher deprivation. For patients living in affluent areas they have a greater chance of surviving up to five years after diagnosis. This is seen in the stage 3 and 4 diagnoses in the less affluent areas of our ICS that show reduced survival rates. Health inequalities have widened in the UK. Cancer Patient Experience Surveys report that black, Asian and minority ethnic cancer patients have poorer experiences of cancer care services than white people. Differences include delays in diagnosis, delays in referral to hospital doctors, provision of information, communications & interactions with HCP and access to help and support, less likely to have received treatment summaries, less likely to be advised of signs and symptoms to look for, less likely to have specialist follow ups and helped with long-term physical and emotional impacts of cancer and its treatments. Participants in clinical trials have better outcomes but BAME groups are less likely to participate. HCPs should promote access to all services in the holistic needs assessment (HNA). HCPs need to promote inclusiveness and have information in different languages and formats available for all patients. Areas of higher deprivation are linked with poorer lifestyles – less physical exercise, poor diets, increased levels of smoking and drinking. The support needed by some of these populations at higher risk should consider a targeted but holistic approach to support that reflects people's circumstances, social needs and personal objectives (what matters to them) and this might lead to any number of responses that improves both mental wellness in addition to physical health. It is also vital to maintain links and to work closely with voluntary, community and social enterprises (VCSE), social care colleagues, 3rd sector and voluntary organisations, housing, employment advisors, etc. who already work to support some of these groups. The sustainability of these VCSEs and 3rd sector organisations is paramount as strong relationships have been built with various communities over the years and without these existing foundations, it would prove a much greater challenge to gain the trust of these communities as well. The Nottingham Macmillan Late Effects Team provides advice and support to help patients manage both physical and psychological symptoms that they may be experiencing resulting from their radiotherapy and/or chemotherapy treatment. The aim is to provide highly specialist care for cancer patients throughout Nottinghamshire who have been cured of cancer but who are suffering from the disabling consequences of their cancer and treatment. The service provides support and sign posting for all tumour sites for any adult patient who has had chemotherapy and or radiotherapy and is 6 months post treatment. The service has developed to provide appointments face to face (F2F), by video or telephone depending on the patient's needs. The clinic offers a wide range of in house treatments including, pelvic radiation disease management; bowel & bladder advice; lymphedema management; pain management; sexual dysfunction; peripheral neuropathy; fatigue management or psychological therapies. Development of late effects digital patient related outcome measures (PROM) for the assessing and screening of late effects is in progress for each tumour site. The intention is for the tumour sites in high risk groups and those with significant unmet needs to complete PROMs prospectively to highlight late effects at an earlier time point to try and reduce the severity and negative impact on quality of life.

Whole System Approach	Creating a multidisciplinary interface between primary and secondary care teams can enhance the holistic elements of care from a current target driven process by encouraging more challenge in the development of care plans. This model has been adopted in other parts of the UK and where used, this partnership working between clinical teams from different settings has seen enhanced decision making, but also benefits from: • A patient-centric plan of care with better shared decision-making • Fewer inappropriate interventions that may have adverse effects on quality of life • Better communications with key partners in care & the patient • Pro-activity in prehab (pre procedure) and rehabilitation afterwards • Role could work with GP or senior nurse with palliative experience and hospital/ community work experience This can work in one of two ways, either • For all relevant cases have a generic GP specialist purely for MDTs/liaison within secondary care (so won't know the patient) • For pre-selected patients invite the patient's own GP to join a MDT meeting virtually where this is felt to be of value in doing so (a similar model to this now happens in the community for MDT meetings for care home residents and links in a geriatrician as well as primary care) Bringing the oncology system together involves consistency in the approach, whilst maintaining the personalised care. Partnership working across more of the care providers should be encouraged to align care provision and prevent patients feeling isolated. This should include: • Treatment summary implementation • Work place liaison • Routine holistic needs assessment, integral to care plans Systems need to be developed to support effective communications between primary care, secondary care and community and social care providers. This requires innovative use of technology, virtual and remote appointments to provide care closer to home where appropriate. Should also include contracts that enable direct transfer of care between providers reducing burden on GPs to organise onward referrals when in the community. Including collaborative notes. Whilst there are several systems in use, such as SystmOne and PAS, some investments have been made to help tailor solutions for the ICS including support sharing of patient information through platforms such as patient knows best (PKB). IT tends to be a common theme across most reviews, so this needs to be considered pragmatically.

6. Proposed future care system

Home

Planned/Scheduled

Pre-Optimisation – Support/Signposting & Patient Awareness, Prehabilitation

- Improve screening - colorectal screening from home, bowel cancer screening test at home
- Consider prehab closer to home, together with psychological support at home
- Macmillan Holistic Needs Assessment – develop electronically
- Improve interface and collaborative with GPs, including access to electronic HNA
- Improve wider access to psychological therapies through IAPTs – align to MH plans for provision to those with LTCs and cancer
- No funding for dietetic provision at SFHFT
- Including prescribing of nutritional supplements, exercise, F2F
- Link to existing education, use of information centres, promote self-care

Sustainable by:

- Improved support and understanding of risks allows earlier understanding and prevention
- Promotes awareness to support self-care and independence
- Improved outcomes with prehab offer

Treatment Models – Treatment delivery modalities, Shift to Immunotherapy, Acute Oncology, Care Coordination including FU appointments, Digital Offer

- Nationally – cancer plans assumes acute presentations are reducing, which is not the case locally
- There is no specialist oncology pathway, have to work with the GP for any prescribing
- Patients nutritionally screened using MUST tool – need to improve access across ICS
- Community chemo, immuno – needs more work for this opportunity

Sustainable by:

- Awareness and appreciate of the need to offer home support with early contact – prevents deterioration and need for moderate to severe care.

Living with and Beyond – Psychological support, Inequalities in Care and Support, Late Effects

- Primary care MH teams – linking with LTC/IAPT/secondary care
- Develop self-care awareness with Apps to support wellbeing
- Access to information and support difficult for some living near county borders – remote access of information offer – funding varies in PCNs but same potential to optimise local populations health
- Health inequalities – more risk & poor mental health – harder to tolerate toxic treatments – exacerbating patients

Sustainable by:

- Improve MH to help motivate self-care of physical health - lifestyle.

Whole System Approach – Multidisciplinary Interface (Primary / Secondary Care), Connecting the Oncology Care System

- Link to community transformation work – opportunity to look at this together
- Know what is available 3rd sector and link to social prescribing.
- Facilitate collaborative work between care providers to reduce contractual restrictions and processes that hinder direct working and referrals in patient interest
- Continue mapping and support for a sustainable voluntary sector.
- ICT interfacing, currently need to contact NUH for patient data
- Need centralised documentation system to understand what care the patient is receiving from acute / community

Sustainable by:

- Provides home support and promotes self-care and awareness for prevention but also enables people to live more independently, reduces care packages
- Reduced hospital and social care appointments

Urgent – 24 hours

Pre-Optimisation

- Increased suicidality for head and neck cancers – response from Crisis Team normally triggered.

Sustainable by:

- Provides quick response enables earlier intervention and support to avoid crisis services

Living with and Beyond – Psychological support, Inequalities in Care and Support, Late Effects

- Access to psychological support before, during and post treatment accessible through crisis teams

Sustainable by:

- Improve MH to help motivate self-care of physical health - lifestyle.

Emergency/Crisis – 4 hours

Colour KEY to information source: Steering Group/ Workshop 1 Evidence Document/ Guideline Patient Focus Groups

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6. Proposed future care system

Planned/Scheduled

Treatment Models – Treatment delivery modalities, Shift to Immunotherapy, Acute Oncology, Care Coordination including FU appointments, Digital Offer

- Mobile units for treatments – immunotherapy, CT scans etc. serving patients closer to home
- Technology advances and AI (e.g. Phillips product that alerted to neutropenic sepsis) quite often fail to go beyond pilot due to funding and IG challenges
- Rapid diagnostic centres – should be around 3 per ICS (ICS imaging board discussing this). National policy has an aim to separate acute diagnostics from planned diagnostics – CT, biopsy, etc. – advantage of taking it out of hospital is that it prevents being over-activity driven) funding for this needs to be identified – kit costs, but also staffing costs – need to understand the metrics of this how it would work on a practical level.
- Palliative care coordination service

Sustainable by:

- Encourages early diagnosis at stages 1 and 2
- Improved use of technology

Living with and Beyond – Psychological support, Inequalities in Care and Support, Late Effects

- Psychological services generally inequitable across the ICS. SFH has a good service, but only care for SFH patients
- IAPTs is accessible, clinicians make referrals to the psychology teams
- Late effects – service based at NUH – for patients treated at NUH (includes @NUH patients). Referrals usually directed by clinicians, but should allow GPs to identify and refer when these patients are identified (perhaps years after their treatment) – using something like PROMS has an opportunity to improve access, can also self-refer but awareness of service needs to be out there. Metastasis, struggle for rehab if there are any neurological deficits.
- With ensuring palliative patients have equal access to pre and rehabilitation services
- Pockets of good practice based on client groups – oncology services may not be accessible for all – e.g. City care team providing services in City for Living with and Beyond Cancer. Macmillan looking at a system approach to help with this. Right by You service – CityCare provide this, COVID have disrupted the plans to launch this. Funding for practitioners is only until 2022.

Sustainable by:

- Improves patient experience, prevents impact on outcomes due to poor mental health

Whole System Approach – Multidisciplinary Interface (Primary / Secondary Care), Connecting the Oncology Care System

- General problem is where funding is for fixed term – pilots short-lived and not exploited. – Much of the work started in some of these areas will end up sitting on the shelf
- Removing red tape and considering how contracts can be employed that facilitate collaborative working for patient care
- National cancer experience survey, each organisation (but usually acute providers get feedback) – so SFH have oncology@NUH model and patients raise concern about not being to receive treatment at KMH. Although main treatments cannot be delivered there (RT, Chemo), there is more that can be delivered locally – mobile units (immuno, chemo) – area of opportunity.
- Data and sharing with multiple partners in multiple settings – PKB
- Different digital platforms creates a lot of the problems.

Sustainable by:

- Improves system connectivity and data sharing/ access

Urgent – 24 hours

Treatment Models

- Palliative care coordination service
- Need for community clinicians to be able to access the right speciality when a patient needs assessing quickly

Sustainable by:

- Provides appropriate response to palliative care needs when urgently needed
- Allows patients to be seen without need to present at A&E

Whole System Approach

- Emergency radiotherapy falls within 48 hours, sometimes get patients who are either in community or hospital and need that RT due to spinal cord compression that requires immediate RT – HCPs need to recognise this and ensure referrals are made urgently. This is part of the spinal cord pathway – but awareness needs raising of the pathways that exist.

Emergency/Crisis – 4 hours

Treatment Models

- Need for community clinicians to be able to access the right speciality when a patient needs assessing quickly.

Sustainable by:

- Allows patients to be seen without need to present at A&E

Neighbourhood

Colour KEY to information source: Steering Group/ Workshop 1 Evidence Document/ Guideline Patient Focus Groups

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6. Proposed future care system

Acute or MH Hospital

Planned/Scheduled	Urgent – 24 hours	Emergency/Crisis – 4 hours
Pre-Optimisation – Support/Signposting & Patient Awareness, Prehabilitation • Should be earlier than at the point of treatment planning - not always possible due to patient distress from diagnosis at this stage - so not in a position to engage • Recognising risk factors and responding where identified - early in primary care • Specific access to specialist interventions e.g. more complex nutrition delivery, specialist physio, fatigue management, financial support. psychological help Sustainable by: • Improves secondary prevention, planning for relapse • Understanding and supporting MH alongside physical health needs		
Treatment Models – Treatment delivery modalities, Shift to Immunotherapy, Acute Oncology, Care Coordination including FU appointments, Digital Offer • Radiotherapy remain acute – future possibility reduced number of treatments • More remote follow up and maximise PROM use • Digital – proper interface between system to support and acknowledgement one size doesn't fit all • Proactive and early intervention for people on treatment to reduce emergency presentations – interface with GP • QMC more medical cover as well as CNS. No difference with SFH • Chemo buses – patient selection and risk management, including medical cover (workforce considerations) Sustainable by: • Patients seen in right setting with closer working between settings	Treatment Models • Rapid response line – available 24/7 • Acute Oncology service in place Sustainable by: • Reduces hospital visits	Treatment Models • Awareness of when to refer in an emergency setting, including GP • Acute Oncology service in place Sustainable by: • Preventing avoidable presentation/ admissions
Living with and Beyond – Psychological support, Inequalities in Care and Support, Late Effects • Psychological support – huge inequalities (• IAPT – evaluating to consider future, but no feedback which needs to be considered. Co-location of services to keep patient at centre • Stepped model 1-4 – most people can support 1. Step 2 recognition of requirement for help, step 3 talking therapies, 4 complex and post traumatic and CBT. Opportunities aligned with step but not to bridge gap. Underpinned by training and support. Align with prehabilitation – not just physical. Greatest gap in NUH as there is a SFH model Sustainable by: • Improves recognition and psychological support of depression and anxiety	Living with and Beyond • Psychological support does require both urgent and emergency response as currently don't fit into crisis definition but do need support. Sustainable by: • Enable quick response to urgent intervention need .	
Whole System Approach – Multidisciplinary Interface (Primary / Secondary Care), Connecting the Oncology Care System • Non-specific cancer pathway- MDT – further development • GP in MDT with requirement for enhanced communication – possibly case basis or generic GP specialist for MDTs/ liaison with secondary care • Visibility of information across settings and with the patient, caution timing - challenges within organisation but also across settings. • eHNA – ambition to be completed for everyone, time, clinical demands as barriers to completion Sustainable by: • Effective service provision and follow up from discharge		

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6. Proposed future care system

Availability		Acute/ MH Hospital	Neighbourhood	Home
4 hours or less	24/7	• Developing clarity of when to refer in an emergency setting, including GP	• Palliative care coordination service	• Response teams for care of patients with enteral feeding/ obstructive dysphagia needing emergency care – unblock at home, bit admit when complex
Urgent Care/ within 24 hours	7 days	• Rapid response line – available 24/7 • Psychological support does require both urgent and emergency response	• Raise awareness of spinal chord pathways, links to urgent RT • Palliative care coordination service	• Ensure urgent access to psychological support before, during and post treatment
Scheduled	Appt based	• Create specific access to specialist interventions in both acute trusts e.g. more complex nutrition delivery, specialist physio, fatigue management, financial support. psychological help • Non-specific cancer pathway- MDT – requires further development • More remote follow up and maximise PROM use • Digital – proper interface between system to support and acknowledgement one size doesn't fit all – better exploit options such as PKB across all settings • Proactive and early intervention for people on treatment to reduce emergency presentations – interface with GP • IAPT/ psychological support - colocation of services to keep patient at centre - greatest gap in NUH as there is an SFH psychological support model • GP in MDT with requirement for enhanced communication – possibly case basis or generic GP specialist for MDTs/ liaison with secondary care • Visibility of information across settings and with the patient, caution timing - challenges within organisation but also across settings	• Improve use of cancer information centres to help raise awareness of symptoms – locally share via GP practices • Enhance PCN services to improve screening programmes and referrals – earlier detection at stages 1,2 compared to 3, 4 • Formalise means to consider developing technology with structured funding options across the ICS • Build close links with providers of psychological support to ensure access is developed across the ICS for cancer patients before, during and after treatment • Develop robust rehab offer across appropriate cancer pathways, including for palliative care patient service • Facilitate collaborative work between care providers to reduce contractual restrictions and processes that hinder direct working and referrals in patient interest • Consideration of local treatments and diagnostics to support local care provision across the ICS, including CT (mobile units), immunotherapy, appropriate chemotherapy regimes • Oncology more closely involved with implementation of Rapid Diagnostic Centres. • Data and sharing with multiple partners in multiple settings –improved interfaces, PKB	• Availability of cancer Information in all formats including remotely and in all languages to promote self-care. Who is responsible for info accessible to patients – who keeps up to date information when accuracy changes • Drive wider use of tools in eHNA for self-assessment by patients • Start prehab closer to home– coordination of sub-teams including psychology at home (IAPT 9-5 week days), prescribing nutritional supplements, therapies, identifying training needs of HCPs • Home support access to be equitable for all appropriate cancer pathways – reduce variability between cancer types • Appropriate outreach chemotherapy at home • Remote offer of late effects support at home via video/ telephone consultation

Level of Care

7. Transformation Proposal

Prevention, education and awareness with early detection:
- Early education on risks causing cancer and access to cancer information
- Awareness to identify early signs
- Support focus on targeted screening programmes (lung health check, colorectal CT scans)

High Priority

There needs to be a unified approach to education across the ICS, led by PH colleagues that considers a three tiered approach. Education of the ICS population to understand the lifestyle risks that may impact their future wellbeing and how some poor lifestyle choices, such as smoking, can present much increased risks to developing cancer. But also raising the awareness of the ICS population to be able to recognise early signs of cancer or changes in the body that perhaps need immediate investigation. We need to education and raise the levels of awareness in the workforce, to equip them with information to have brief conversations with people, when appropriate and when they recognise someone who may be at increased risk, for example due to obesity, or a smoker, and therefore more likely to develop cancer (or other LTCs). Finally, patients that have developed symptoms of cancer can self-manage their lifestyle as part of what would become prehab and rehab, so improving their general fitness and wellbeing to be able to cope better with treatments and improve their outcomes. This is one of the harder areas to influence, as studies have shown cancer survivors are more likely to develop cardiovascular disease, diabetes and osteoporosis as well as other primary cancers (*Is a cancer diagnosis a trigger for health behaviour change?, British Journal of Cancer, 2013; 108(11)).* These are linked with behaviours such as smoking, diet and physical activity and how the majority of cancer patients do not change their health behaviour after cancer diagnosis and treatment follow up 2 years.

The ICS needs to be proactive on screening programmes, and the pilot of the TLHC, hopes to identify more lung cancer cases at stages 1 and 2, which if not found early may not show symptoms until progressed to stages 3 and 4, where the survival rates are lower. With the low rates of early diagnosis this should focus on effective interventions for public awareness and use of tools (e.g. C the Signs) for proactive case finding and decision support intelligence. Through targeting high risk groups such as high deprivation populations & BAME should be considered aiming to reduce cancer incidence & improve outcomes of treatment & rehabilitation.

Impact & Benefit
- Improve outcomes and survivorship
- Less extensive surgery, reducing morbidity and reduced LoS
- See C The Signs website for evaluation of the cost benefits of this.
- Consider the merits of Cancer Education – difficult to identify the best place to go. Cancer Education Portal. (end of life website setup repository for this reason).
- Reduced inequalities gap

Alignment – For prevention, education and awareness the consistency should be aligned at an ICS level, with delivery aligned to each ICP

Access to psychological support before, during and post treatment:
- Home/ remote support as appropriate
- Improved co-located support in acute settings

High Priority

Many cancer patients are likely to suffer from challenges to all 3 areas of their overall health and wellbeing, including physical health, mental health and social wellbeing, feeling isolated and helpless. Patient with cancer and their families must cope with the stresses induced by physical demanding treatments for the illness and the permanent health impairment and disability, fatigue and pain that can result, even when there are no longer any signs of the disease. These effects contribute to emotional distress and mental health problems among cancer patients, and together can lead to substantial social problems, such as the inability to work and reduced income.

Failure to recognise and meet emotional/ psychological needs is likely to result in significant personal and financial costs to individuals and the system so warrants a plan to address better. The benefits of a robust psychological support service to cancer sufferers are well evidenced & documented but this has not yet transferred to itself to commissioning intentions. The EMCA have made recommendations, supported by the outputs of this review, to implement a '*EMCA psychosocial care model that will meet the psychosocial needs of people affected by cancer across the East Midlands region. This model encompasses the whole cancer pathway; from diagnosis, through treatment to living with cancer and beyond and during end of life.'*

Impact & Benefit
- Training HCPs allows them to low-level care for their own patients (continuity of care)
- Fewer crisis presentations is supporting psychological needs.
- Benefits to patients in work – keeping them in work, which in turn improves their psychological health (or at least doesn't worsen it)

Alignment – Ensuring psychological support was accessible early for patients needing it when on a cancer pathway was deemed a high priority and one that should be rolled out with a consistency aligned to the ICS, with more local delivery at PCN level

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7. Transformation Proposal

Robust offer of Prehab and Rehab across the ICS (aligned to Macmillan model):

- Nutritional assessment, advice and support provided through seamless acute and community services
- Exercise support before, during and after treatment
- Palliative care rehab

Medium Priority

A robust and sustainable prehab and rehab programme is required across the ICS. This can help optimise cancer outcomes through improved fitness and sustained changes in lifestyles and health behaviours.

Macmillan have carried out a comprehensive evidence review (2019) that details the clear benefits from access to prehab, largely linked to improved outcomes resulting a healthier body and healthier mind. It included interventions such as physical activity, psychological support, nutritional support or behavioural change interventions prior to cancer treatment. The overwhelming conclusion was positive, with improved outcomes for cancer patients where nutritional support, psychological support and adjuvant/neoadjuvant therapies were used, Developing prehab and rehab services need to be accessible to those diagnosed with cancer, across all settings of the ICS.

There needs to be joined-up care between acute and community rehabilitation teams (nutrition, psychology, exercise and palliation services) to ensure advice developed for patients during there hospital episode is easily transferred to the community teams, without the complex commissioning contracts causing delays and the need for GPs to intervene and refer on. Furthermore, currently the number of people that could benefit from onward community dietetic support, would not meet the threshold criteria and this should be reviewed along with the potential impact on activity, waiting times and staffing levels, if the criteria were relaxed. Discussions between acute and community partners has started for this, including the appropriate oncology patients that can benefit.

Rehab should also be routinely accessible to those in palliative care too and should consider innovative delivery methods to support opportunities for patient access to all patients including minority communities.

Impact & Benefit

- Improve response to treatment
- Quicker recovery with fewer problems during treatment
- Reduced anxiety with improved energy levels
- Reduce chance of cancer recurrence

Alignment – Improving the offer of prehab and rehab for cancer patients should be to a level of consistency aligned to each of the ICPs, with a delivery model linked to each PCN for local access assured.

Improved appropriate care closer to home:

- Consistent approach and access across all cancer pathways
- Outreach chemo, immunotherapy
- Late effects, remote/ video support, with more referrals identified through primary care **ICS**

Medium Priority

People who have recently had surgery and those receiving chemotherapy, radiation, targeted therapy, or immunotherapy are more at risk if they develop COVID-19 symptoms. Around the UK thousands of patients with cancer have had chemotherapy brought to them locally so that they can more safely receive treatment during the pandemic. Delivery methods have included chemo buses and the government had announced the accelerated rollout of stereotactic ablative radiotherapy (SABR), with an ambition to roll out SABR to every part of the country by April 2021.

Tremendous transformational opportunities have emerged from the pandemic, that would have previously have been thought unimaginable. The ICS needs to exploit these opportunities both during the pandemic and once national lockdown and the COVID-19 threat declines. This includes embedding some of the learning points and practices from the pandemic and this paves the path to include some novel treatments for cancer patients more locally, either at home where appropriate, or in the community settings, perhaps in community hubs.

Low late effects clinic numbers are likely to be due to lack of awareness by patients/ referrers and possible the referral criteria, but not needs. The Late Effects service currently provides access to via both video and telephone, and where patients are happy with this, it can enhance the equity of access across the ICS, particularly as primary care referrals are increasing.

Impact & Benefit

- Reduce acute follow-ups
- Release acute capacity
- Prevents patients having to come into hospital. These treatments for an injection and oral drugs could easily be done at home.
- Improved primary care awareness and referrals on to Late Effects clinics

Alignment – In order improve provision of care for cancer patients closer to home, it was agreed for consistency, this should be aligned to PCN level and delivery should be focused more locally for the populations at a PCN level.

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7. Transformation Proposal

Multidisciplinary working across all pathway settings:
- Non-cancer specific cross-system MDTs including GP representation
- Proactive and early intervention in primary care to reduce emergency presentations

High Priority

MDT meetings should aim to optimise management and improve pathways for cancer patients by improving communication between providers across settings and disciplines also promoting the benefits of holistic care across the pathway. Education of the MDT members, particularly GPs and senior nurse, would also occur with the benefit of safer practice. The MDT can allow discussion of complex patients perhaps characterised by (multiple) comorbidities, frequent exacerbations and admissions, social and mental health problems, unclear diagnosis and suboptimal responses to interventions. They should also include access to palliative care and end of life (EoL). To include palliative care co-ordination service (transformation proposal in EOL workstream). Broadening use of Respect forms also have a role here to empower patients to access the right care from the right source. There is already a UKONS tool for primary care to assist in triage of urgent presentations & complications of treatment in the community. It would be useful to develop this in electronic format.

Inclusion of a GP, would bridge the required interface between primary and secondary care settings and this may be better served by having a GP representatives from the PCNs. With the resulting improvement in education and awareness of GPs this can help with proactive and early intervention in primary care, leading to earlier detection and interventions with fewer emergency presentations.

There is huge potential for savings resulting from patients with advanced cancer being offered 'courageous conversations' about their personal priorities prior to being encouraged to accept palliative chemotherapy instead of palliative care. Through conversations about offering palliative care instead of chemotherapy, this may help with patients choice.

Impact & Benefit
- Remote virtual MDTs, can improve representation and increases the ability to connect with community staff
- Whole MDT process becomes easier to hold and provide improved outcomes, faster turnaround of MDTs in some cases

Alignment – To ensure an equitable approach across all areas, the consistency of this proposal should align at an ICS level, with delivery more locally at PCN level

Digital offer and technology:
- Develop required interfaces in systems across pathways, exploit use of upcoming technologies (PKB)
- Support innovation and technology with structured funding options
- Review IG to enable improved data sharing across partners
- e-Holistic Needs Assessment

High Priority

Improving access to patient information for care providers can improve outcomes by reducing delays, accessing most up to date information that is accurate. Different digital systems across the ICS makes this a difficult feat. Commissioners and providers should consider the current IT infrastructure and how it can be improved to allow timely interchange of data. This may mean consolidation of the existing multiplicity of IT systems in use. Governance reviews would be required to ensure appropriate data sharing agreements are in place. It may be more useful to consider the interfaces between systems rather than change all ICS partners to one ICT system, but the key is to allow instant sharing of vital information to allow timely decisions to be made reducing avoidable delays for patients between services and settings.

Connected Notts have been instrumental across the ICS having developed Public Facing Digital Services, allowing citizens access to manage their Health and Care online through the NHS App and Patients Know Best (PKB) platform.

The ICS needs to improve use of artificial intelligence (AI) and innovation to improve interaction with patients encouraging self-care and self-management through monitoring patients statistics remotely. Quite often successful pilots are not supported beyond the initial pilot stage,

An electronic HNA has been developed as a collaboration between Macmillan and NUH. Whilst this is in use, it needs to adopted more widely across the ICS with the patients allowing improved personalised care.

Impact & Benefit
- Improved data acquisition and sharing – provides learning and sharing of best data.
- Improves efficiency all around, reduces time for clinicians to receive data and so improves follow up care with data being available sooner. Would allow care plans to be put in place a lot quicker too.
- Shared systems are clinically safer, where results and data are secured in one system
- Electronic sharing of treatment summaries and holistic needs assessment

Alignment – Delivering a digital system for the ICS to be developed at an ICS consistency level, but also rolled out for delivery at an ICS level.

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7. Oncology Transformation Proposal

Transformation Proposals	Priority (High/ Med/ Low)	Alignment (ICS/ ICP/ PCN)		Workforce	Technology	Estate/ Configuration	Culture	Finance/ Commissioning	Benefits (*Less than £20,000 per QALY is cost effective)
		Consistency	Delivery						
Prevention, education and awareness with early detection: • Early education on risks causing cancer and access to cancer information • Awareness to identify early signs • Support focus on targeted screening programmes (lung health check, colorectal CT scans) • Address healthcare inequalities	High	ICS	ICP	• Use existing ICS teams to deliver programmes • Diagnostic Board to give early consideration of resourcing for rapid diagnostic hubs • Community HCPs to be educated to support early recognition of cancer – late diagnosis is very resource intensive – use HEE support • Targeted support/ education for hard to reach groups	• Early adoption of new innovations that work (e.g. blood test identifies 50 types of cancer) • Introduce AI to help overcome radiologist shortage • Have teams reviewing to endorse viable Apps (C The Signs) • Multi-language media	• Identify estate for RDCs – consider alongside community hub model • Cancer information centres – how can we utilise these more	• All HCPs should be responsible for prevention message • Collaboration between care settings to ensure implementation is trusted with buy-in • ICS needs education strategy • Know the high risk groups	• MH funding should cover those with physical health needs that require MH support • PH and LA supporting 3rd sector organisations with high risk groups for early diagnosis	• Improve outcomes and survivorship • Less extensive surgery, reducing morbidity and reduced LoS • See C The Signs website for evaluation of the cost benefits of this. • Consider the merits of Cancer Education – difficult to identify the best place to go. Cancer Education Portal. (end of life website setup repository for this reason). • Reduced inequalities gap
Access to psychological support before, during and post treatment: • Home/ remote support as appropriate • Improved co-located support in acute settings	High	ICS	PCN	• Close liaison with MH services to ensure the MH Strategy includes a robust plan to support cancer patients • Stepped Care model determine required support • Consider low level psychological support through 3rd sector	• Signposting options on F12 template • Cancer Care Review Template on SystmOne – has prompt for psychological assessment – raise awareness as not used widely across ICS.	• Ensure appropriate levels of psychological care are provided in the right setting (lower severity closer to home)	• Some of the issues arise because of the treatments – so perhaps a more treatment specific line of support is preferred here	• Invest earlier in young people to treat them. Psycho education –don't understand • common mental health • Funding to help implement the EMCA psychosocial care model	• Training CNS allows them to low-level care for their own patients (continuity of care) • Fewer crisis presentations is supporting psychological needs. • Benefits to patients in work – keeping them in work, which in turn improves their psychological health (or at least doesn't worsen it).
Robust offer of Prehab and Rehab across the ICS (aligned to Macmillan model): • Nutritional assessment, advice and support provided through seamless acute and community services • Exercise support before, during and after treatment • Palliative care rehab	Med	ICP	PCN	• Some prehab/ rehab can be delivered by generic therapists, some is cancer specific – use of wider workforce • Develop prehab strategies to be delivered closer to home • Social Prescriber Role to support signposting including cancer information centres	• Video consultation, virtual exercise programmes – also about timing with the window to intervene being specific • Interfaced systems for use in acute and community	• Care programme on rehab exercise on and after treatment delivered in community settings in partnership with Notts HC and Notts County Football Club	• Some different pathways have specific needs so not always able to use common staff groups • People often need to take information away to reflect	• Review of contracts to allow direct referral avoiding extra GP administrative burden • Additional resource for therapy staff to deliver this. • No prehab set up in the community – need to pull together as a system model	• Improve response to treatment • Quicker recovery with fewer problems during treatment • Reduced anxiety with improved energy levels • Reduce chance of cancer recurrence
Improved appropriate care closer to home: • Consistent approach and access across all cancer pathways • Outreach chemo, immunotherapy • Late effects, remote/ video support, with more referrals identified through primary care	Med	ICP	PCN	• Generic workforce for non-specific roles • Supportive therapies – treatments come as they are, no production so achievable • 7 day delivery for chemo – explore most practical model and train • Education and training and link to HEE current and future needs • Capacity for future immunotherapy closer to home and consideration of duration of treatment	• More virtual opportunities to build on closer to home ambition including Late Effects • Electronic prescribing system needs to be switched on in SystmOne. Acute settings use chemo care	• Depends on model – if community hub then needs a chemo unit / cancer treatment hub. Chemo bus. • IV treatment acute day case for first few doses • Consideration of mobile units?	• Need a way of monitoring follow up toxicity as an outcome measure to ensure safe and effectiveness of treatments • Remove stigma of cancer care seen as and acute specialist service – allow appropriate care to be provided closer to home	• Upskill & involve pharmacy with medication side of things • Confirm commissioning mainstreamed and access across NUH @ model	• Reduce acute follow-ups • Release acute capacity • Prevents patients having to come into hospital. Those that come in for these treatments for an injection and oral drugs could easily be done at home. • Improved primary care awareness and referrals on to Late Effects clinics
Multidisciplinary working across all pathway settings: • Non-cancer specific cross-system MDTs including GP representation • Proactive and early intervention in primary care to reduce emergency presentations	High	ICS	PCN	• GP with a special interest able to provide a holistic element to the MDT (also allows to bring in the palliative care element) • Having experience of MDT meetings for unknown patients, can help to provide objectivity to the discussion about the patient.	• Video conferencing • Embedding Treatment summaries in all cancer pathways • e-Posting outcomes of MDT to GP • Interoperability of technology • Booking systems		• Accepting the need for cross-organisational working models	• Non-cancer pathway going to develop further and is mainstreamed	• Remote virtual MDTs, can improve representation and increases the ability to connect with community staff • Whole MDT process becomes easier to hold and provide improved outcomes, faster turnaround of MDTs in some cases
Digital offer and technology: • Develop required interfaces in systems across pathways, exploit use of upcoming technologies (PKB) • Support innovation and technology with structured funding options • Review IG to enable improved data sharing across partners • e-Holistic Needs Assessment	High	ICS	ICS	• Dedicated IT teams need to resolve this problem • IT solutions to come with appropriate training resources (cf. RESPECT or EPaCCs roll out – came with training)	• PKB with relevant training – investment already made • AccuRX - very widely used in primary care, would allow documents to be sent from 2° to 1° care easily – also links into SystmOne – also provides option to send something to the patient and receive back • Wider access to e-HNA and treatment summaries	• Centralised IT teams across settings to provide accessible support for all – not passed from team to team	• Address the red-tape issues around data sharing • Interfacing should mean entries are only made once - the idea is to map out the systems to and from end2end users to allow data to be shared in a true fashion – single entry system		• Improved data acquisition and sharing – provides learning and sharing of best data. • Improves efficiency all around, reduces time for clinicians to receive data and so improves follow up care with data being available sooner. Would allow care plans to be put in place a lot quicker too. • Shared systems are clinically safer, where results and data are secured in one system • Electronic sharing of treatment summaries and holistic needs assessment

NOTE: In further developing and implementing the proposals set out above as part of our focus, each partner organisation within the ICS will continue to ensure that they comply with their statutory duties and system/organisational governance processes, particularly (but not limited to) those relating to patient and public involvement; equality and inequality analysis

8. Enabling Requirements

Workforce	Enhancing the future health and social care for Oncology services, requires the following main considerations for workforce: • Working closely with MH colleagues to improve the access of psychological support • Cross pathway working (Primary and secondary and community care) for clinicians and primary care practitioners with specific development and expansion of local successful models delivering care through expertise through MDTs • Widespread training of healthcare professionals (HCPs) to empower them to provide appropriate advice or signposting for prevention of LTCs healthy living, self-help and early detection, perhaps building into mandatory training • Working with generic therapists and specialised therapists to develop a programme of integrated care through prehab and rehab • Incorporate role of social prescriber to improve signposting including for information at local cancer centres • Resourcing needs to consider for RDCs, especially radiographers
Technology	The main areas in which technology can effect transformation for oncology include: • Digital integration - If it is accepted that a single IT system may not be deliverable in the long term then focus should be on connecting existing systems successfully – more to do with access and permissions through improved interfacing • Support existing App developments/ promotions for signposting self-care resources or local services – based on NHS App/ PKB • Widespread use of eHNA across ICS • Increase development and use of AI to improve self-management and interaction with patients – keep the patients involved with their care • Exploit the onset of virtual working where appropriate, e.g. Late Effects to reach those remote areas of the ICS. • With the low rates of early diagnosis this should focus on effective interventions for public awareness and use of tools (e.g. C the Signs) for proactive case finding and decision support intelligence – this should form an active part of the IT strategy.
Estate	• There is an emphasis on making certain treatments more accessible locally, although this does not stipulate a hub and spoke type approach needing community hub space, there may be some central space required for local teams to work from • It is also crucial to ensure better local access is made available in some of the more remote regions and areas of higher deprivation or cultural/ ethnic diversity • Diagnostic hubs as a concept for basic diagnostics • Rapid Diagnostic Centres, being rolled out nationally, are a hot topic – need to consider estate for placement of 3 in the ICS – this is currently being considered by the ICS Diagnostics Board
Culture	• To drive a culture change we need shared and integrated use of workforce across organisations to enable the sharing of resources as there are limited staff groups and expertise, with the introduction of multi-agency approaches this should improve education across the workforce • All ICS partner organisations to be part of the collaborative providers of oncology care • Adopting strengths based, trauma informed, psychologically informed environment approach • Joint working to help people in a different way – liaison between professionals to support person-centred care • Partnerships between 3rd sector and organisations to ensure they understand the pathways better and how to refer/ signpost • Cultural change to support prevention – self-care, including early intervention to prevent emergency acute presentation • Workforce to address prevention – everyone's responsibility

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9. Oncology Services Future Vision

'Bridge to the Future'

From…		2022/23 Phase 1	2023-2026 Phase 2	2026+ Phase 3	To…
• Limited education across ICS population and wider HCPs of risks causing cancer • Screening and uptake can be improved • Poor support contract mobilisation for direct transfer of patients between acute and community pre & rehabilitation services • Inconsistent provision and access to prehab and rehab across ICS	Pre-Optimisation	• PH to lead on an education strategy, aligning to any existing work, need to target HCPs • BOPA align pharmaceutical care of patients with cancer – help expedite plans for education, plan for detection at pharmacy level • Make use of cancer information centres – use to support and signpost, events to raise awareness • Fully scope current prehab offer, exploit opportunity to plan to address prehab across other health conditions – create plan to have centralised prehab and specialised prehab – community hub/ acute	• Education programme in place, pharmacists to support a level of detection – as trusted local HCPs • Initially raise awareness and focus on training the workforce (to prevent imbalance in capacity and demand of 2ww) • Model may need to be reviewed to include clinics with diagnostics – community diagnostic hubs • Pilot prehab offer in selected tumour sites initially – in parallel with LTCs • Referral processes to support working closely across settings (acute and community offers)	• Education programmes embedded across all settings • Service offer to meet earlier detection and diagnosis • Prehab across settings working in coordination • Locally available basic diagnostics for early checking • RDCs in place to improve more advanced screening/ signs • Referral processes to support working collaboratively to improve patient care between acute and community settings	• Structured education and awareness programmes across the ICS, • Support to raise awareness and respond to early signs of cancer • Developed screening programmes to improve stage 1 and 2 diagnosis • Structured and accessible prehab and rehab services across the ICS
• Medical oncologist workforce challenges • Most chemotherapy/ Immunotherapy models currently acute restrictive (capacity challenges – day case) • No robust primary care interventions to reduce increasing acute presentation in ED	Treatment Models	• Plan resource levels for RDCs • Scope and agree in terms of delivery closer to home (resourcing, mobile units, local hubs, chemo, immuno) • Consider existing plans to address workforce challenges – NUH looking at ACP type roles – plan to complement community ask • Extended primary care roles can be considered at ICP level • Build COVID resilience from learning • Consider more treatments at SFH, clinical trials, immunotherapy • Review report from Primary Care Cancer QI (March 21) to understand tumour sites and reasons for increasing presentation to ED	• Initial access to RDCs, referral pathways defined with appropriate resourcing • Primary care advanced or extended roles for oncology in place – help alleviate acute pressures and support outreach clinics • Doctors, nurses, pharmacists to be involved in safe delivery of agreed local or home treatments, as agreed • Consider local treatments in community hubs, use Health Care at Home and outreach services • Focused effort on tumour sites showing increased acute presentation in ED to detect earlier	• Offer of equitable access to oncology services for ICS population stemming from primary care • RDCs actively supporting earlier diagnosis of cancers across the ICS • Collaborative working to support delivery of certain treatments closer to home • SFH providing access to more specialist treatments (not radiotherapy)	• Increase local offer of chemo and immunotherapy • Improved access to rapid diagnostics more locally • Proactive and early intervention in primary care to reduce acute presentation in ED • More follow ups locally in community • More palliative care beds to alleviate oncology beds.
• Poor access and support of psychological therapies • Inequalities in diagnosis of specific groups • Late effects limited to acute NUH site – insufficient primary care referrals	Living with and Beyond	• Detail ways to support Late Effects in the community (prevent survivors returning to acute setting) • Scope gaps in access to psychological therapies and IAPT in addition to existing VCSE, 3rd sector support and local groups • Develop plan to tackle inequalities in care provision for specific groups - BAME, South Asian, deprived groups, include consultation with these groups	• Coordinated working with GPs to improve Late Effects referrals with service provision emerging closer to home in the community • Improved access to IAPT aligned to MH plan to provide psychological support therapies to patients with LTCs (including cancer) • Improved integration and support for hard to reach groups • Patients with complex GI issues – need to develop onward referral pathway to specialist gastro services	• ICS-Wide Late Effects service available locally • Pathway embedded access to psychological support with links to prehab – access before, during and post treatments • Improved access and equitable support to oncology services for all diverse groups	• Improved virtual access to Late Effects and primary care involvement to refer on • Equitable and early recognition and support for psychological support • Improved education and awareness of high risk, hard to reach groups, with improved outcomes emerging for these groups
• Fragmented primary, community and secondary care services • Challenges with patient data sharing due to incompatible systems • Generally silo MDTs within acute settings • Low uptake of proven innovation/ technology pilots • Inconsistent use/ access to HNA	Whole System Approach	• Not just IT but ensuring everyone feels responsible for patient care • Define a system allowing a single log in across the ICS – use existing developments, e.g. PKB • Traceability for HCPs to know where a patient is in their treatment journey • Access to key patient information needs defining to allow design of Improved MDTs across settings – ensuring HNA is in the design plan and includes primary care representation (GPwER) – identify the missing link from PC perspective to improve decision making • Plan for enhanced treatment summaries to be clearer and available electronically together with HNA	• Interfaced systems to ensure patient data is readily accessible • Develop joint working towards integrated pathways of care across all settings – putting the patient care at the centre of service provision • More cancer pathway MDTs developed with primary care • Increased use of electronic HNA across settings	• Truly interfaced systems providing seamless access to information and data from across all settings in the ICS • All appropriate MDTs to include primary care representation (PCN based) • Routine use of electronic HNA	• Joint seamless pathways between primary and secondary care • Across system MDT|s • Robust interfaces between systems and optimised use of developed shared care systems such as PKB • Electronic holistic needs assessment and treatment summaries available across all settings

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10. Conclusions and Next Steps

Conclusions	The review of Oncology services as part of the development of a Clinical and Community Services Strategy for Nottingham and Nottinghamshire ICS has been undertaken using a co-design model where patients, carers, key stakeholders and voluntary sector groups, have collaboratively worked together to shape a vision for the future care system. The work has progressed well working remotely and holding virtual meetings. Additional patient engagement will prove beneficial and will be revisited as time allows. The four key themes for improvement identified are: Pre-optimisation (with emphasis on support/ sign-posting and patient awareness through a targeted education programme, helping to raise awareness on risk factors, identify symptoms and improve early detection. Prehabilitation support needs to be provided before, during and after treatment for cancer across all pathways); Treatment Models (reviewing the treatment delivery modalities, considering a shift towards immunotherapy, preventing presentation at ED for acute oncology issues, whilst addressing care coordination including follow-up appointments and a digital offer); Living with and Beyond (with a strong emphasis in providing access to psychological therapies in a timely manner, addressing health inequalities, but building on the strengths of the Late Effects clinics to make it accessible across the ICS); Whole System Approach (ensuring the organisation and delivery of services is consistent through a multi-agency approach that includes 3rd sector organisations and charities supported through local authorities. Well interfaced systems so providers know their patients for a connected oncology care system). The review describes a future care system in optimal care settings and with care provided at different levels of urgency and envisages 4 high priority and 2 medium priority programmes to transform care: High – Prevention, education and awareness High – Access to psychological support Med – Robust offer of Prehab and Rehab Med – Improved appropriate care closer to home High – Multidisciplinary working across all pathway settings High – Digital offer and technology To achieve these there are a range of enabling requirements for the ICS across workforce, technology, estate, culture and financial systems. Collectively these initiatives can help transform and provide long term health improvement and sustainability in the area of oncology services in the Nottingham and Nottinghamshire ICS.
Next Steps	This strategy sets the future direction of development for oncology care in the ICS and it is proposed it will shape future work of the ICS in a number of ways: • The identified priorities and programmes should be used to inform commissioning ICS, ICP and PCN activity • The enabling activities require development and inclusion in the relevant ICS workstreams to inform their work programmes • The impact on estate and configuration changes require inclusion in a programme of pre-consultation business case development alongside the service changes recommended from other reviews, although the impact for oncology is less specific in relation to community hub space • The aggregate impact of the collective suite of service reviews should be used to shape focus of future service provision in acute/ MH and community settings in the ICS

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11. List of Common Abbreviations

1°, 2° Care	Primary, Secondary Care	EMRAD	East Midlands Ambulance Radiography	NRT	Nicotine Replacement Therapy
A&E	Accident and Emergency	ENCH	Enhanced Health in Care Homes	NUH	Nottingham University Hospitals
A&G	Advice and Guidance	EoL	End of Life	O_2	Oxygen
ACE	Adverse Childhood Experience	eSCR	Electronic Shared Care Record	OCCCF	Ophthalmic Common Clinical Competency Framework
ACP	Advanced Care Practitioner	ESD	Early Supportive Discharge	OCT	Optical Coherence Tomography
ADHD	Attention Deficit Hyperactivity Disorder	ESDT	Early Supportive Discharge Teams	OOH	Out of Hours
AF	Atrial Fibrilation	F2F	Face to Face	OPM	Office of Public Management
AI	Artificial Intelligence	FeNO	Frasntonal Exhaled Nitric Oxide	OTC	Over-the-Counter
AK	Actinic Keratosis	FT	Foundation Trust	PCN	Primary Care Network
AMD	Age-related Macular Degeneration	FTE	Full Time Equivalent	PCP	Personalised Care Plan
ANP	Advanced Nurse Practitioner	FU	Follow Up	PCR	Patient Care Record
App	Application	GBD	Global Burden of Disease	PH	Public Health
APPG	All Party Parliamentary Group	GOC	General Optical Council	PHE	Public Health England
ARTP	Association for Respiratory Technology and Physiology	GOS	General Ophthalmic Service	PHM	Population Health Management
ASC	Autism Spectrum Conditions	GP	General Practitioner	PID	Project Initiation Document
AT	Assisitive Technology	GPRCC	General Practice Repository for Clinical Care	PKB	Patient Knows Best
ATAIN	Avoiding Term Admission Into Neonatal units	GPwER	General Practitioner with an Extended Role	PN	Practitioner Nurse
BAD	British Association of Dermatology	GRASP-COPD	Guidance on Risk Assessment on Stroke Prevention for COPD	PR	Pulmonary Rehabilitation
BAME	Black, Asian and Minority Ethnic	H&SC	Health and Social Care	PSNC	Pharmaceutical Services Negotiating Committee
BB	Better Births	HCP	Healthcare Professional	PwER	Pharmacist with Extended Role (in skin health)
BCC	Basal Cell Carcinoma	HES	Hospital Episode Statistics	QALY	Quality Adjusted Life Years
BEH	Behavioural and Emotional Health	HES	Hospital Eye Service	QIPP	Quality, Innovation, Productivity and Prevention
BF	Breast Feeding	HV	Health Visitor	QMC	Queen's Medical Centre
BFI	Baby Friendly Initiative	IAPT	Improving Access to Psychological Therapies	RCEM	The Royal College of Emergency Medicine
BLF	British Lung Foundation	ICP	Integrated Care Partnership	RCN	Royal College of Nursing
BMI	Body Mass Index	ICS	Integrated Care System	RCOG	Royal College of Obstetricians and Gynaecologists
BMJ	British Medical Journal	ICT	Information and Communication Technology	RCOphth	Royal College of Ophthalmology
BP	Blood Pressure	IT	Information Technology	RNIB	Royal National Institute for the Blind
BSG	British Society of Geriatrics	IUC	Integrated Urgent Care	ROI	Return on Investment
BTS	British Thoracic Society	IUT	In-Utero Transfer	RoSPA	Royal Society for the Prevention of Accidents
CAMHS	Child and Adolescent Mental Health Service	KMH	Kings Mill Hospital	ROVI	Rehabilitation Officer for Visually Impaired
CAS	Clinical Assessment Service	LD	Learning Disability	RTT	Request To Treatement
CBT	Cognitive Behaviour Therapy	LMNS	Local Maternity and Neonatal System	SALT	Speech and Language Therapy
CCG	Clinical Commissioning Group	LNU	Local Neonatal Unit	SaToD	Smoking at Time of Delivery
CCSS	Clinical and Community Services Strategy	LOC	Local Optical Council	SBLCB	Saving Babies Lives Care Bundle
CES	Cranial Electrotherapy Stimulation	LoS	Length of Stay	SC	Social Care
CFS	Clinical Frailty Scale	LTC	Long Term Conditions	SCC	Squamous Cell Carcinoma
CGA	Clinical Geriatric Assessment	LTOT	Long Term Oxygen Therapy	SEND	Special Educational Needs and Disabilities
CoC T&F	Continuity of Care Task and Finish	LTP	Long Term Plan	SFH	Sherwood Forest Hospitals
CoO	College of Optometrists	LTV	Long Term Ventilation	SIGN	Scottish Intercollegiate Guidelines Network
COPD	Chronic Obstructive Pulmonary Disease	LV	Low Vision	SPA	Single Point of Access
COVID19	Corona Virus Disease 2019	MBCT	Mindfullness Based Cognitive Therapy	STP	Sustainability and Transformation Partnership
CPR	Cardio-Pulmonary Rescucitation	MDT	Multi-Disciplinary Team	TC	Treatment Centre
CQUIN	Commissioning for Quality and Innovation	MECC	Make Every Contact Count	TIA	Trans-Ischaemic Attack
CUES	COVID Urgent Eye-care System	$MgSO_4$	Magnesium Sulphate	TTO	To Take Out
CVD	Cardio Vascular Disease	MH	Mental Healthcare	UC	Urgent Care
CVI	Certification of Vision Impairment	Mid Notts.	Mansfield & Ashfield, Newark & Sherwood	UCC	Urgent Care Centre
CYP	Children and Young People	MMR	Measles, Mumps, Rubella	UEC	Urgent and Emergency Care
CYPF	Children, Young People and Families	NCGPA	Nottingham City General Practice Alliance	UECDI	Urgent and Emergency Care Digital Integration
DASV	Domestic Abuse and Secual Violence	NCH	Nottingham City Hospital	UTC	Urgent Treatment Centre
DNA	Did Not Attend	NHFT	Nottinghamshire Healthcare Foundation Trust	VI	Visual Impairment
DoS	Directory of Service	NHS	National Health Service	WHO	World Health Organisation
ECG	Electrocardiogram	NHSE	National Health Service England	PHO	Public Health Organisations
ECLO	Eye Clinic Liaison Officer	NHSI	National Health Service Improvement	NGO	Non-Government Organisations
ECT	Electroconvulsive Therapy	NICE	National Institute for Health and Care Excellence	EMCA	East Midlands Cancer Alliance
eCVI	Electronic Certfication of Vision Impairment	NICU	Neonatal Intensive Care Unit	TYA	Teenage and Young Adults
ED	Emergency Department	NIDA	National Institute of Drug Abuse	RTT	Radiotherapy
EFI	Electronic Frailty Index	NNU	Neonatal Unit	VCSE	Voluntary, community and social enterprises
ELBG	Ear Lobe Blood Gas	Notts.	Nottinghamshire	HNA	Holistic needs assessment
EM ODN	East Midlands Operational Delivery Network	NRC	National Rehabilitation Centre	RDC	Rapid Diagnostic Centre
EMAS	East Midlands Ambulance Service	NRCP	National Register of Certified Professionals		

12. Data Sources

Data Sources	British Medical Journal British Journal of Cancer Local Data from NUH, SFH, Social Care, CCGs, GPRCC, eHealthscope Cancer Research UK National Institute for Health and Care Excellence Macmillan NHS England NHS Health and Social Care Boards NHS Long Term Plan Office of National Statistics Public Health England World Health Organisation