NHS
Cambridgeshire and Peterborough
Clinical Commissioning Group

Risk Stratification Policy (Primary, Community and Secondary Care)

Ratification Process

Lead Author	Chris Gillings Associate Director of Business Analytics
Developed by	Chris Gillings Associate Director of Business Analytics
Approved by	IG, BI & IM&T Steering Group 14th February 2020
Ratified by	Integrated Performance and Assurance Committee 26th May 2020
Version	2.0
Review date	January 2022

Document Control Sheet

Development and Consultation:	This Policy has been developed by the CCG Business Intelligence Team to support a Primary Care request for the use of Eclipse Vista.
Dissemination	The Policy will be communicated to all staff and managers via the CCG extranet and public website
Implementation	This Policy will be implemented across the CCG.
Here Training	Training will be provided as relevant and in line with this Policy.
Monitoring	A report monitoring arrangements for effectiveness and compliance will be provided by the Associate Director of Business Analytics to the approving Committee (IG, BI & IM&T Steering Group)
Review	IG, BI & IM&T Steering Group
Links with other documents	The policy should be read in conjunction with: CCG Risk Assurance Statement CCG Data Access Request Service NHS England Risk Stratification guidance
Equality and Diversity	The Associate Director of Business Analytics has carried out an Equality Impact Assessment (Appendix 2) and submitted to the CCG E&D Advisor.

Revisions

Version	Page/Para No	Description of Change	Date Approved
1.0		New Document	
2.0		Revised to reflect IG, BI and IM&T Steering Group feedback.	26th May 2020

Contents

1. Introduction

This Policy forms part of the NHS England Risk Assurance Statement checklist and will allow NHS Cambridgeshire & Peterborough CCG and its GP member practices to select a Risk Stratification Provider. This Provider working as a data processor on behalf of GPs and the CCG will be able to process Secondary Use Services (SUS), commissioning data sets (approved under CAG 2-03(a)/2013) and GP data for risk stratification purposes.

This Policy shows that the organisation is acting in line with current legislation i.e. 'CAG 7-04(a)/2013 compliance for CCGs' published by NHS England - https://www.england.nhs.uk/ig/risk-stratification/.

2. Purpose and Scope

2.1 Risk Stratification will enable GPs, supported by the Clinical Commissioning Group, to target specific patient groups and enable clinicians with the duty of care for the patient to offer appropriate interventions. It will also support Commissioners to understand service use and to target interventions to improve care pathways.

2.2 This Policy applies to NHS Cambridgeshire and Peterborough Clinical Commissioning Group (CCG) salaried employees, prospective employees (who are part-way through recruitment), contractors/sub-contractors, agency staff. Governing Body members and members of Committees, and member practices of the CCG, expanded to incorporate all GPs and practice staff. The Policy will be subject of review and if necessary, amendment as and when required.

3. Duties and Responsibilities

3.1 CCG Integrated Performance and Assurance Committee

The CCG's Integrated Performance and Assurance Committee will be responsible for overseeing this Policy and will ensure that systems and processes are in place to support all those within the scope of this document (set out in Section 2. above). The Integrated Performance and Assurance Committee will receive assurance via the IG, BI & IM&T Steering Group that the CCG remains compliant with the Policy.

3.2 CCG IG, BI & IM&T Steering Group

The CCG's IG, BI & IM&T Steering Group will provide assurance to the Integrated Performance and Assurance Committee that the Risk Stratification Policy is regularly reviewed and that it is in line with current legislation.

3.3 GP Practices

The risk stratification tool will be available to all practices to enable them to identify patients at high risk of hospital admission and implement change. Health Inequalities should be considered when implementing change as part of clinical decision making.

3.4 CCG Staff & System Partners

A risk stratification tool will be available to CCG Staff and System Partners to enable them to identify patient cohorts at high risk of hospital admission or of developing long term conditions. This will support planning and delivery of services. Health Inequalities should be considered when implementing any service change through completion of Health Inequalities Analysis. Where a clinician has a

legitimate clinical relationship with a patient, they will be able to identify that patient, in all other cases the information will be pseudonymised.

4. Guidance

4.1 Risk stratification tools have had a profound impact on the delivery of health services across the developed world. These tools use relationships in historic population data to estimate the use of health care services for each member of a population. Risk stratification tools can be useful both for population planning purposes (known as “risk stratification for commissioning”) and for identifying which patients should be offered targeted, preventive support (known as “risk stratification for case finding”).

4.2 The 2019/20 planning guidance is clear in terms of providing information to support Primary Care Networks: “Ensure that PCNs are provided with primary care data analytics for population segmentation and risk stratification based on national data, complemented with local flows, to allow them to understand in depth their populations’ health and care needs for symptomatic and prevention programmes…..” This requirement is supported for development by the Primary Care Network Maturity Matrix:

Themes	PCN/Systems	Foundation	X	Step 1	X	Step 2	X	Step 3	X
Use of data and population health management	For the PCN	The PCN is using existing readily available data to understand and address population needs, and are identifying the improvements required for better population health.		Analysis on variation in outcomes and resource use between practices and PCNs is readily available and acted upon.		All primary care clinicians can access information to guide decision making, including identifying at risk patients for proactive interventions, IT-enabled access to shared protocols, and real-time information on patient interactions with the system.		Systematic population health analysis allows the PCN to understand in depth their population’s needs, including the wider determinants of health, and design interventions to meet them, acting as early as possible to keep people well and address health inequalities. The PCN’s population health model is fully functioning for all patient cohorts.	
				Basic population segmentation is in place, with understanding of key groups, their needs and their resource use. This should enable networks to introduce targeted interventions, which may be initially focussed on priority population cohorts		Functioning interoperability within networks, including read/write access to records.		Ongoing systematic analysis and use of data in care design, case management and direct care interactions support proactive and personalised care	
				Data and soft intelligence from multiple sources (including and wider than primary care) is being used to identify interventions.					
	For Systems	Infrastructure is being developed for PHM in PCNs including facilitating access to data that can be used easily, developing information governance arrangements & providing analytical support.		Basic data sharing, common population definitions, and information governance arrangements have been established that supports PCNs with implementation of PHM approaches.		There is a data and digital infrastructure in place to enable a level of interoperability within and across PCNs and other system partners, including wider availability of shared care records		Full interoperability is in place across the organisations within PCNs, including shared care records across providers.	
				There is some linking of data flows between primary care, community services and secondary care.		Analytical support, real time patient data and PHM tools are made available for PCNs to help understand high and rising risk patients and population cohorts, and to support care design activities.		System partners work with PCNs to design proactive care models and anticipatory interventions based on evidence to target priority patient groups and to reduce health inequalities.	

This policy is aligned to the NHS England CCG Risk Stratification Checklist, these conditions form the core conditions of this policy:

No.	Condition
1	Develop and implement a risk stratification policy. Where appropriate to the circumstances, this policy should be developed in collaboration with colleagues from the local: a) Commissioning Support Unit (CSU) b) NHS Digital Regional Office providing Data Services for Commissioners (often referred to as Data Services for Commissioners, DSCRO) c) Public health team d) Social care team
2	Conduct an ethical review to safeguard against unintended consequences, such as the inadvertent worsening of health care inequalities.
3	Develop one or more preventive interventions that will be offered to high-risk patients.
4	Select a suitable predictive model. The factors that should be considered in selecting a suitable tool include: a) the adverse outcome to be predicted; b) the accuracy of the predictions; c) the cost of the model and its software and; d) the availability of the data on which it is run. Information governance considerations affecting the choice of predictive model include whether the tool can be run using pseudonymised data, weakly pseudonymised data within an Accredited Safe Haven (ASH), or only identifiable data (i.e. confidential patient information); and whether the tool is compatible with privacy enhancing technologies (which are used to prevent unlawful access to confidential patient information).
5	Where the data are to be processed in identifiable form (i.e. confidential patient information) ensure there is a legal basis to obtain and process the data for these purposes. The legal basis is currently provided by the s251 approval, but longerterm arrangements to utilise pseudonymised data and reidentify only by those with a legitimate relationship with an individual should be developed or alternative legal basis sought such as consent.
6	Agree a defined data set to be used for risk stratification that is adequate, relevant, but not excessive – including the extent of historical data needed to run the model (e.g. two or three years' worth of data).
7	For predictive models that use GP data, consider how the GP data will be obtained (e.g., using the GP Extraction Service [GPES] or directly from the GP system supplier).
8	Determine whether to use automated decision taking or human review. With automated decision taking, the outputs of the tool are used directly to determine

	which patients should be offered a preventive intervention. With human review, an appropriate clinician, with responsibility for the care of the individual patient, reviews which patients are to be offered preventive services. Their decision is based both on the risk stratification outputs and any other information known to them.
9	Ensure that any data service providers being used for risk stratification have appropriate information governance controls in place. These controls include but are not limited to: a) Processes to ensure that the data are not retained longer than necessary by the organisation conducting the risk stratification analysis (i.e. there should be a rolling programme of anonymisation or destruction as the data exceed the defined time period required for the risk stratification tool). b) Ensuring that the data is not processed outside the European Economic Area. Please note that s251 approval is not covered for offshore processing and as such would constitute a breach of the conditions of the s251 support.
10	Establish appropriate contractual arrangements with any data service providers that: a) Ensure there are appropriate organisational and technical measures in place to protect the data; b) Prevent the unauthorised re-identification, onward disclosure, or further unauthorised or unlawful use of the data and; c) Include mechanisms to manage the contract and audit how the data are being used. d) Include a local process for managing patient objections where the data are weakly pseudonymised or identifiable. Patients may object to the disclosure or use of their personal confidential information, and/or they may object to automated decision-taking. Patients' objections must be respected. If a patient objects to the risk stratification tool being used to make automatic decisions about their care then there must be a human review of their data and of the decision made based on their risk stratification score.
11	Develop a communications plan, including communication materials for patients (these materials may be incorporated into wider fair processing information).
12	Inform patients that their identifiable or weakly pseudonymised data may be used for risk stratification purposes.
13	Ensure that only those clinicians who are directly involved in a patient's care can see a patient's identifiable risk score.
14	Where a tool provides other clinical information (such as information derived from secondary care data), the GP must ensure that these types of data are relevant and that they have the consent of the patient to view this additional information.
15	Refer patients to preventive services only with their consent.
16	Using pseudonymous data, evaluate and refine the risk stratification model used and the preventive interventions offered according to its predictions.

5. Statutory and other Relevant Guidance

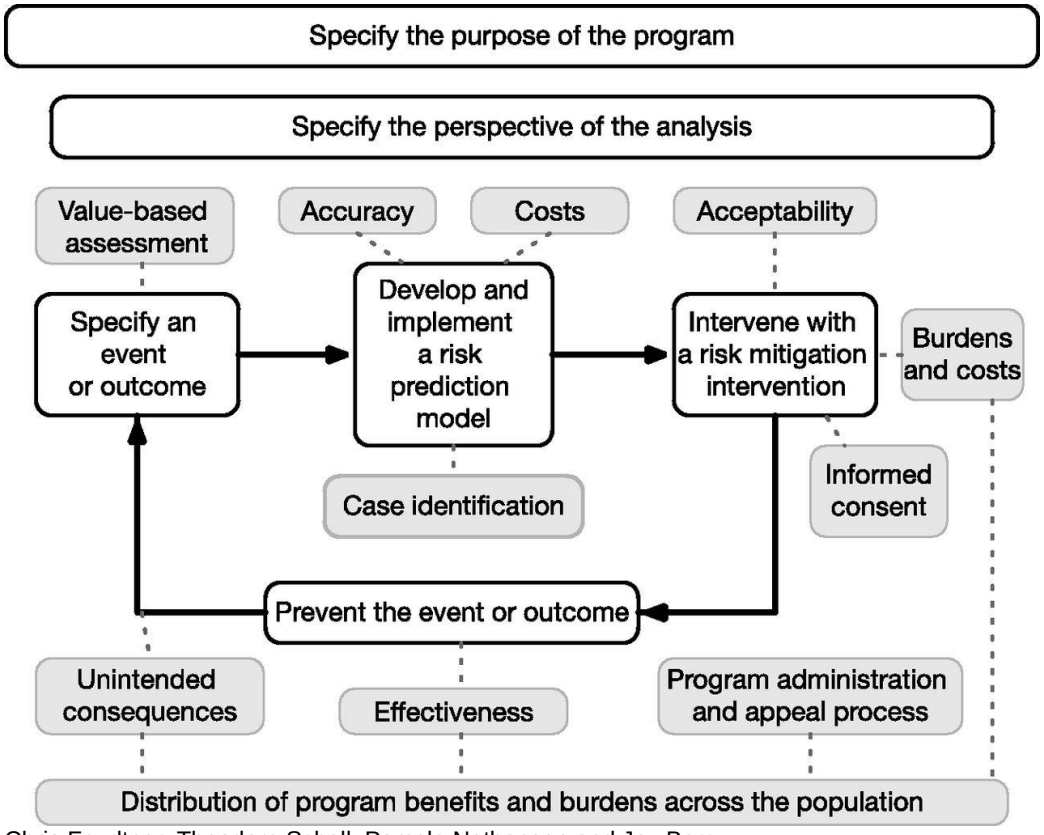
This document provides assurance that the CCG is opearing in line with NHS Englands application for the disclosure of Secondary Use Services (SUS), commissioning data sets (approved under CAG 2-03(a)/2013) and GP data for risk stratification purposes to data processors working on behalf of GPs and CCGs.

In August 2018, NHS England applied to the Confidentiality Advisory Group for an extension of the Risk Stratification CAG approval which was due to expire at the end of September 2018. The Confidentiality Advisory Group has confirmed that support for the use of GP's and CCGs Secondary Uses Data can continue for risk stratification purposes until the end of September 2020 (CAG 7-04(a)/2013). Post September 2020, the CCGs risk stratification approach, policy and guidelines will need acessing against any amended or updated legislation.

6. Evaluation

We need to ensure all interventions based on risk stratification are evaluated so that we can keep improving as a system. Each intervention will therefore need to create an evaluation plan before implementation. Support for this can process using Microsoft Project Online can be obtained the Programme Management Office - CAPCCG.PMO@nhs.net.

In terms of thinking through the key elements of an evalaution of a risk stratification intervention figure 1 below shows the key characteristics:



Chris Feudtner, Theodore Schall, Pamela Nathanson and Jay Berry
Pediatrics March 2018, 141 (Supplement 3) S250-S258; DOI: https://doi.org/10.1542/peds.2017-1284J

7. Risks

Risk stratification on its own wont impact Health Inequalities, however depending on how it is used it might impact access and outcomes if decisions are made by clinicians or commissioners that change a patient's pathway. An example of this is a false positive, where a patient is identified as being at risk and given further tests and treatments that were not needed. This issue falls into four categories:

1. True Positive (person is correctly identified as being at risk)
2. True Negative (person is correctly identified as not being at risk)
3. False Positive (person is wrongly identified as being at risk)
4. False Negative (person is wrongly identified as not being at risk)

Appendix 1 - Completed CCG Risk Stratification Checklist

No.	Condition	Status
1	Develop and implement a risk stratification policy. Where appropriate to the circumstances, this policy should be developed in collaboration with colleagues from the local: a) Commissioning Support Unit (CSU); b) NHS Digital Regional Office providing Data Services for Commissioners (often referred to as Data Services for Commissioners, DSCRO); c) Public health team; d) Social care team.	This policy, developed by CCG but will be shared with system partners and updated as required.
2	Conduct an ethical review to safeguard against unintended consequences, such as the inadvertent worsening of health care inequalities.	Equality Impact Assessment completed (appendix 2) Health Inequalities Analysis completed (appendix 3). Continuos evaluation required to safeguard against unintended consequences and build evidence base for Risk Stratification.
3	Develop one or more preventive interventions that will be offered to high-risk patients.	This will follow the implementation of Risk Stratification .
4	Select a suitable predictive model. The factors that should be considered in selecting a suitable tool include: a) the adverse outcome to be predicted; b the accuracy of the predictions; c) the cost of the model and its software and; d) the availability of the data on which it is run. Information governance considerations affecting the choice of predictive model include whether the tool can be run using pseudonymised data, weakly pseudonymised data within an Accredited Safe Haven (ASH), or only identifiable data (i.e. confidential patient information); and whether the tool is compatible with privacy enhancing technologies (which are used to prevent unlawful access to confidential patient information).	The current systems being reviewed by the CCG include Eclipse Vista (Prescribing Services Ltd) and RaidR (North of England CSU).
5	Where the data are to be processed in identifiable form (i.e. confidential patient information) ensure there is a legal basis to obtain and process the data for these purposes. The legal basis is currently provided by the s251 approval, but	Section 251 in place - CAG 7-04(a)/2013.

	longerterm arrangements to utilise pseudonymised data and reidentify only by those with a legitimate relationship with an individual should be developed or alternative legal basis sought such as consent.	
6	Agree a defined data set to be used for risk stratification that is adequate, relevant, but not excessive – including the extent of historical data needed to run the model (e.g. two or three years' worth of data).	Both RaidR and Eclipse Vista have data specifications in place.
7	For predictive models that use GP data, consider how the GP data will be obtained (e.g., using the GP Extraction Service [GPES] or directly from the GP system supplier).	The data will be extracted from practice clinical systems either manually or via Apollo.
8	Determine whether to use automated decision taking or human review. With automated decision taking, the outputs of the tool are used directly to determine which patients should be offered a preventive intervention. With human review, an appropriate clinician, with responsibility for the care of the individual patient, reviews which patients are to be offered preventive services. Their decision is based both on the risk stratification outputs and any other information known to them.	We will not use automated decision taking. The Risk Stratification outputs will be used by clinician to support decision making.
9	Ensure that any data service providers being used for risk stratification have appropriate information governance controls in place. These controls include but are not limited to: a) Processes to ensure that the data are not retained longer than necessary by the organisation conducting the risk stratification analysis (i.e. there should be a rolling programme of anonymisation or destruction as the data exceed the defined time period required for the risk stratification tool). b) Ensuring that the data is not processed outside the European Economic Area. Please note that s251 approval is not covered for offshore processing and as such would constitute a breach of the conditions of the s251 support.	Datacentres are hosted by The bunker secure hosting provides ultra-secure hosting solutions and is based in an ex-nuclear bunker in Kent. They have achieved ISO27001 and have completed their Data Security and Protction ToolKit. They provide services with the highest physical and logical security available. During 2015 Prescribing Services successfully completed IGSoC for the provision of an N3 connection directly into the Bunker. This allowed the creation of a hosting zone completely within the N3 network and only available to users within the N3.

10	Establish appropriate contractual arrangements with any data service providers that: a) Ensure there are appropriate organisational and technical measures in place to protect the data; b) Prevent the unauthorised re-identification, onward disclosure, or further unauthorised or unlawful use of the data and; c) Include mechanisms to manage the contract and audit how the data are being used. d) Include a local process for managing patient objections where the data are weakly pseudonymised or identifiable. Patients may object to the disclosure or use of their personal confidential information, and/or they may object to automated decision-taking. Patients' objections must be respected. If a patient objects to the risk stratification tool being used to make automatic decisions about their care then there must be a human review of their data and of the decision made based on their risk stratification score.	d) Primary care information is not extracted if a patient has withdrawn consent and this has been recorded in the clinical system. The DSCRO process national opt outs already.
11	Develop a communications plan, including communication materials for patients (these materials may be incorporated into wider fair processing information).	CCG Fair Processing Notice has been updated to include RAIDR and Eclipse.
12	Inform patients that their identifiable or weakly pseudonymised data may be used for risk stratification purposes.	As above.
13	Ensure that only those clinicians who are directly involved in a patient's care can see a patient's identifiable risk score.	Users are required to log on using a username and strong password combined with a second layer of authentication, which sends a single-use time-limited access code to the user's personal mobile phone or email address. All data will be transmitted using SSL encryption and will not be stored on local machines. Access to information will be logged to allow full auditing to take place.
14	Where a tool provides other clinical information (such as information derived from secondary care data), the GP must ensure that these types of data are relevant and that they have the consent of the patient to view this additional information.	Primary & Secondary Care data combined as part of RAIDR and Eclipse tools with longditudinal care record. Both systems

		signed off by NHS Digital.
15	Refer patients to preventive services only with their consent.	System uses human review does not automatically refer patients. Clinician would need to gain consent as per current working.
16	Using pseudonymous data, evaluate and refine the risk stratification model used and the preventive interventions offered according to its predictions.	All preventative interventions to be evaluated using CCG MS Project Online system to understand expected impact and actual delivery.

Appendix 2 - Equality Impact Assessment

Name of Proposal (policy/strategy/function/service being assessed)	Risk Stratification Policy
Those involved in assessment:	CCG Associate Director of Business Analytics
Is this a new proposal?	Yes
Date of Initial Screening:	January 2020

What are the aims, objectives?	To link data in order to provide better care and avoid patient exacerbations and hospital admissions.
Who will benefit?	Patients, GP Practices, CCG, Providers.
Who are the main stakeholders?	GP Practice and CCG
What are the desired outcomes?	Risk stratification aims to identify patients who are at high risk of an adverse event so that these people can be offered preventive care today aimed at averting costly, unpleasant health problems tomorrow. (NHS England)
What factors could detract from the desired outcomes?	Weak predictive accuracy of many risk stratification tools; the ethics of adjunct tools called impactability models, which may be used to improve the efficiency of risk stratification; and the lack of evidence for the effectiveness of many preventive programmes that are offered to high-risk patients. (NHS England)
What factors could contribute to the desired outcomes?	Using a variety of risk stratification tools. Engagement of Primary Care and system partners.
Who is responsible?	Chief Finance Officer
Have you consulted on the proposal? If so with whom? If not, why not?	Policy developed by BI Team in line with national guidance. Risk Stratification has been requested by Primary Care.

Which protected characteristics could be affected and be disadvantaged by this proposal (Please tick)		Yes	No
Age	Consider: Elderly, or young people		✓
Disability	Consider: Physical, visual, aural impairment Mental or learning difficulties		✓
Gender Reassignment	Consider: Transsexual people who propose to, are doing or have undergone a process of having their sex reassigned		✓
Marriage and Civil Partnership	Consider: Impact relevant to employment and /or training		✓
Pregnancy and maternity	Consider: Pregnancy related matter/illness or maternity leave related mater		✓
Race	Consider: Language and cultural factors, include Gypsy and Travellers group		✓
Religion and Belief	Consider: Practices of worship, religious or cultural observance, include non-belief		✓
Sex /Gender	Consider: Male and Female		✓
Sexual Orientation	Consider: Know or perceived orientation		✓

What information and evidence do you have about the groups that you have selected above?

N/A

Consider: Demographic data, performance information, recommendations of internal and external inspections and audits, complaints information, JNSA, ethnicity data, audits, service user data, GP registrations, CHD, Diabetes registers and public engagement/consultation results etc.

How might your proposal impact on the groups identified? For example, you may wish to consider what impact it may have on our stated goals: Improving Access, Promoting Healthy Lifestyles, Reducing Health Inequalities, Supporting Vulnerable People

Examples of impact re given below:

a) Moving a GP practice, which may have an impact on people with limited mobility/access to transport etc.

b) Planning to extend access to contraceptive services in primary care without considering how their services may be accessed by lesbian, gay, bi-sexual and transgender people.

c) Closure or redesign of a service that is used by people who may not have English as a first language and may be excluded from normal communication routes.

Please list the positive and negative impacts you have identified in the summary table on the following page.

1 Summary	
Positive impacts (note the groups affected) N/A	Negative impacts (note the groups affected) N/A

Summarise the negative impacts for each group:

N/A

What consultation has taken place or is planned with each of the identified groups?

N/A

What was the outcome of the consultation undertaken?

N/A

What changes or actions do you propose to make or take as a result of research and/or consultation?

Briefly describe the actions then please insert actions to be taken on to the given Improvement Plan template provided. N/A

Will the planned changes to the proposal: **Please state Yes or No**

Lower the negative impact?	N/A
Ensure that the negative impact is legal under anti-discriminatory law?	Yes
Provide an opportunity to promote equality, equal opportunity and improve relations i.e. a positive impact?	Yes

Taking into account the views of the groups consulted and the available evidence, please clearly state the risks associated with the proposal, weighed against the benefits.

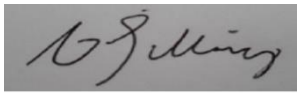
N/A

What monitoring/evaluation/review systems have been put in place?

Overview by CCG IG, BI & IM&T Steering Group

When will it be reviewed?

January 2022

Date Review completed:	09 January 2020
Signature:	
Approved by:	Equality and Diversity Advisor
Date approved:	10 January 2020

Appendix 3 - Health Inequalities Analysis

Evidence

1. What evidence have you considered to determine what health inequalities exist in relation to your work? List the main sources of data, research and other sources of evidence (including full references) reviewed to determine impact on each equality group (protected characteristic). This can include national research, surveys, reports, research interviews, focus groups, pilot activity evaluations or other Equality Analyses. If there are gaps in evidence, state what you will do to mitigate them in the Evidence based decision making section on the last page of this template.

Risk stratification will be applied to the entire CCG population and due to its nature may impact on all health inequalities or none. It's how the information is used that will impact on health inequalities and whether that changes the way clinicians deal with patients.

There are various papers on the impact of risk stratification, probably the most useful, succinct and relevant is one produced by NHS England; "Next Steps for Risk Stratification in the NHS" by Dr Geraint Lewis.

Impact

2. What is the potential impact of your work on health inequalities?

Risk stratification could reduce or increase health inequalities depending on how it is used.

3. Will this work produce any specific changes in inequalities in access?

Risk stratification on its own wont impact access, however depending on how it is used it might impact access if decisions are made by clinicians or commissioners that change a patient's pathway. An example of this is a false positive, where a patient is identified as being at risk and given further tests and treatments that were not needed. This issue falls into four categories:

1. True Positive (person is correctly identified as being at risk)
2. True Negative (person is correctly identified as not being at risk)
3. False Positive (person is wrongly identified as being at risk)
4. False Negative (person is wrongly identified as not being at risk)

4. Will this work produce any specific changes in inequalities in health outcome?

As above.

5. How can you make sure that your work has the best chance of reducing health inequalities?

Carry out an opportunity analysis of the proposed intervention to identify low-quality, high cost, poor-experience events. Then carry out an ethical review using a suitable framework of the proposed changes.

6. Would providing this service in an integrated way, either integrated within health service or integrated with social care, reduce inequalities in access to those services or reduce inequalities in the outcomes achieved?

N/A for the algorithm.

If yes, please briefly state the plan for this integration:

Risks

7. Are the risks to health inequalities clearly identified and part of your project risk register?

Clearly identified under Risks section of this policy.

Monitor and Evaluation

8. How will you monitor and evaluate the effect of your work on health inequalities?

As identified by "Next Steps for Risk Stratification in the NHS":
It is essential that any preventive programmes be evaluated properly – either as part of a formal research study or through local service evaluation and clinical audit. With any evaluation, it is important to establish a valid comparator group. Because of the phenomenon of regression to the mean, a pre-post study does not constitute a valid comparator group.
Instead, CCGs should consider using techniques such as pragmatic randomised controlled trials, propensity score matched cohort studies or regression discontinuity analyses.

Service utilisation and cost savings are likely to be key outcomes of interest for any evaluation, but other factors – such as patient experience, health outcomes and health inequalities – should also feature.

For your records

Name of person(s) who carried out these analyses:

Chris Gillings

Name of Sponsor Director:

Louis Kamfer

Date analyses were completed:

17/01/2020

Review date:

January 2022 (in line with Risk Stratification Policy)