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Bwrdd Iechyd Prifysgol
Cwm Taf Morgannwg
University Health Board

AGENDA ITEM

3.2.4

POPULATION HEALTH AND PARTNERSHIPS COMMITTEE

POPULATION HEALTH MANAGEMENT: UPDATE

Date of meeting	(06/10/2021)
FOI Status	Open/Public
If closed please indicate reason	Choose an item.
Prepared by	Gemma Northey, Consultant in Public Health
Presented by	Kelechi Nnoaham, Director of Public Health
Approving Executive Sponsor	Executive Director of Public Health
Report purpose	ENDORSE FOR COMMITTEE APPROVAL

Engagement (internal/external) undertaken to date (including receipt/consideration at Committee/group)

Committee/Group/Individuals	Date	Outcome
Primary, Community, Population Health and Partnerships	30/10/2019	NOTED
Primary, Community, Population Health and Partnerships	10/02/2020	NOTED

Primary, Community, Population Health and Partnerships	07/07/2021	NOTED
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ACRONYMS	
CTMUHB	Cwm Taf Morgannwg University Health Board
PSRS	Population Segmentation and Risk Stratification
DHCW	Digital Health and Care Wales
SWIYC	Stay Well in Your Community
CHWT	Community Health and Welfare Team
GP	General Practitioner
IPC	Institute of Public Care
IGRP	Information Governance Review Panel (for SAIL)
DPA	Data Process Agreement
DPIA	Data Protection Impact Assessment
SAIL	Secure Anonymized Information Linkage

1. SITUATION/BACKGROUND

- 1.1 This report provides an update on the population segmentation and risk stratification (PSRS) approach to Population Health Management in Cwm Taf Morgannwg University Health Board (CTMUHB) for the committee to see, discuss and endorse.
- 1.2 **Population Health Management** seeks to understand patient populations, groups or clusters by characteristics related to their need and use of health care resources. In CTM one PHM tool has been developed – the PSRS tool - which can help Primary Care Clusters, GPs, ILGs and other partners to decide how best to use limited time and resources to deliver anticipatory and pre-emptive care for patients. Segmenting the population based on a range of factors can identify groups by their holistic need and ability to benefit from anticipatory care.

- 1.3 The feasibility of the population segmentation and risk stratification (PSRS) approach was previously piloted in the Rhondda primary care cluster. The roll out of this approach now forms one Workstream of the *Stay Well in Your Community* (SWIYC) Programme of work supported by Transformation funding by the Welsh Government. The aims and objectives of the Workstream are available in Annex A and will form part of the wider Population Health strategy for CTMUHB. PSRS supports new models of care being implemented within the other work streams of SWIYC, in particular, the Community Health and Welfare Teams (CHWT) and Assistive Technology. As part of the work, PSRS is being fully evaluated by Welsh Government. Progress on implementation across CTMUHB and evaluation is provided in this update.
- 1.4 A refreshed business case was submitted to the Welsh Government in June 2021 to implement this approach across other Health Boards. This is still pending and no further update on this element is provided in this report.

2. SPECIFIC MATTERS FOR CONSIDERATION BY THIS MEETING (ASSESSMENT)

Implementation of PSRS for CTMUHB

- 2.1 As described in the last report, following the successful Rhondda Pilot the Data Quality Group and GPC Wales requested that roll out of the approach uses data from the SAIL Databank rather than create a new integrated dataset as done in the pilot.
- 2.2 This approach benefits from the well-developed information governance framework surrounding the SAIL Databank. However, SAIL was developed for research purposes and holds only anonymised patient data, whereas the programme requires the supply of de-anonymised data to respective GPs, which is being accommodated through the support of DHCW and Sollis, a data processing supplier. Further, there is agreement that while the LPHT PSRS project team will have access to named GP Practice data for analytical purposes, only anonymised data will be released and will be safeguarded by data safeguarding/confidentiality rules. The technical solution (see Figure 1) has taken some time to develop and has been revisited in the last months leading to final adjustments to SAILs IGRP and the DPA. Implementation is now planned to run from October 2021 to March 2022.
- 2.3 In summary, the Sollis system will be hosted within the SAIL environment. SAIL will make a location available to host their tool and

provide a subset of SAIL data. The PSRS analysis will take place within the SAIL environment using algorithms run by Sollis and include a data-driven segmentation model developed in-house by the LPHT Analytical team. Sollis will transfer the analysed data to DCHW for data processing and de-anonymization for GPs. Patient level data will subsequently be accessible to GP practices (for their patients only) via the GP portal managed by DHCW.

- 2.4 The primary care data currently available within the SAIL Databank is available from SAIL consenting practices via Informatica and DHCW who complete the linkage and initial encryption and anonymization of the data to SAIL. This translates into an anonymized linkage field (ALF) within SAIL, which is an encrypted unique patient identifier (ID). This patient ID is completely anonymous and has no meaning to practices or secondary users of practice data. A mapping table will be utilized by DHCW, which will map the Audit+ patient ID to the clinical system patient ID once the data leaves the SAIL environment and is analyzed and transferred from Sollis. The clinical system patient ID can only be used by practices to identify their own patients and has no meaning to external users outside the practice. SAIL data will therefore remain anonymous but contain an identifier that practices can use in data fed back to the practice. This process will rely on implied consent as the basis for processing at common law, as this will be used for direct care purposes.
- 2.5 Further approval from the Secretary of State via the Confidentiality Advisory Group under Section 251 of the National Health Services Act 2006 will not be required. Small number suppression will be applied in line with standard data disclosure processes. This will be lawful at common law without any further approvals. Should any data be identifiable on its own or in combination with other data held in the dashboard at any point in future, a legal basis at common law will be established with the health bodies accessing the data.
- 2.6 A separate research project is being conducted by the LPHT in parallel with the above and looks at the degree of prediction achieved via the segmentation model applied for the Rhondda pilot. This has led to the development of a revised in house segmentation model which is now to be implemented and will be continuously assessed.
- 2.7 Implementation of the Programme has been delayed by the need for key staff to prioritize the Public Health response to the Covid-19 crisis. Following these delays and associated resource impacts, the project is following a revised timetable and plan. The rollout will now be implemented in two phases. Phase 1 will roll out to practices in the Merthyr cluster and aims to validate the data-driven model against data

gathered during Covid19 and review the provision of data to the LPHT and GPs. Phase 2 will aim to enhance the reporting and involve the roll out of PSRS to all remaining participating GPs in CTM.

- 2.8 Provision of anonymized data to LPHT is planned for December 2021, with provision of de-anonymized data to Merthyr cluster late November 2021. Phase 2 is planned for completion in the spring of 2022 (this is subject to the impacts of the third wave of Covid19 and associated winter pressures).
- 2.9 The governance arrangements for PHM in CTM are being developed. A stakeholder meeting is planned for early October 2021, as well as an overarching Steering Board for PHM. Note that PSRS is one component of PHM in CTM and progress will be reported via these new governance structures.
- 2.10 A high-level project plan based on the new data flows is available in Annex B.

Evaluation

- 2.11 The potential for using utilization-based cluster analyses to segment a local General Practice-registered population in the Rhondda cluster was assessed as a pilot during April 2018 – July 2019. A process evaluation assessed the feasibility of the approach and compared the use of a traditional expert-driven segmentation approach with data-driven utilization analysis. The findings have previously been presented and are available upon request.
- 2.12 An independent evaluation of work streams in the SWIYC is being led by the Institute of Public Care (IPC) at Oxford Brookes University. The LPHT will work with IPC to support the evaluation process and plan the time allocated to the PSRS Workstream. Logic models have been developed in collaboration with Cardiff University. The PSRS Workstream aims to evaluate the effectiveness of PSRS in identifying the health and care needs of the CTMUHB primary care-registered population. This is supported by two objectives:
- (1) To evaluate the predictive ability of population segmentation.
 - (2) To undertake a process evaluation to inform wider roll out of this approach, to other clusters and to other Health Boards.
- 2.13 There are three components of the evaluation of the Workstream to support these two objectives (see Table 1). The predictive ability of segmentation is being assessed as a separate research project in collaboration with SAIL. Further analysis of healthcare use post-PSRS implementation will be undertaken in future using SAIL data. Findings

from a process evaluation will support quality improvement cycles of the work within CTMUHB and any future roll out of the work across other Health Boards.

2.14 The evaluation does not include evaluation of specific interventions, which are implemented using the findings of the segmentation, over and above identifying the added benefit that segmentation offers. For example, the Community Health and Welfare Teams (MDTs) which are being implemented as a separate Workstream within the SWIYC programme will be evaluated separately. However, this evaluation will work closely with this Workstream to ensure any outcomes, which support evaluation of segmentation, are measured using a prudent, coordinated approach.

Next steps

- Roll out of PSRS across CTMUHB using the proposed technical solution aiming for provision of data to primary care in November 2021 and LPHT in December 2021.
- Continue evaluation of PSRS and use this to inform delivery.
- Await a decision from the Welsh Government regarding provision across Wales.

3. KEY RISKS/MATTERS FOR ESCALATION TO BOARD/COMMITTEE

None

4. IMPACT ASSESSMENT

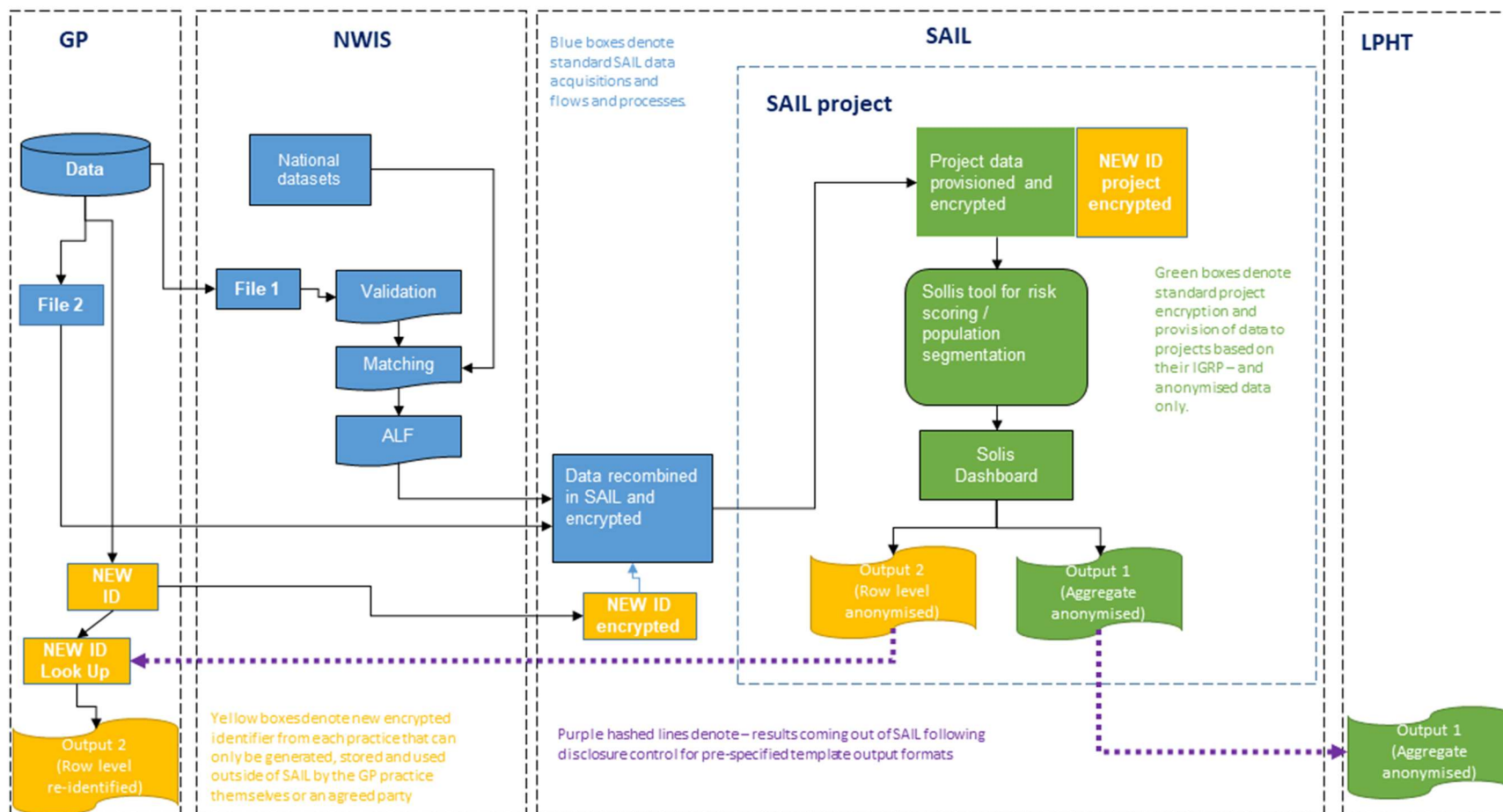
Quality/Safety/Patient Experience implications	There are no specific quality and safety implications related to the activity outlined in this report.
Related Health and Care standard(s)	Staying Healthy
	If more than one Healthcare Standard applies please list below:

<p>Equality Impact Assessment (EIA) completed - Please note EIAs are required for <u>all</u> new, changed or withdrawn policies and services.</p>	<p>No (Include further detail below)</p> <p>If yes, please provide a hyperlink to the location of the completed EIA or who it would be available from in the box below.</p> <p>If no, please provide reasons why an EIA was not considered to be required in the box below.</p> <p>EIA not required as this report is an update to population health management approach previously agreed. EIA to be completed in next stage of implementation.</p>
<p>Legal implications / impact</p>	<p>There are no specific legal implications related to the activity outlined in this report.</p>
<p>Resource (Capital/Revenue £/Workforce) implications / Impact</p>	<p>There is no direct impact on resources as a result of the activity outlined in this report.</p>
<p>Link to Strategic Well-being Objectives</p>	<p>Work with communities and partners to reduce inequality, promote well-being and prevent ill-health</p>

5. RECOMMENDATION

5.1 The Primary, Community, Population Health and Partnerships Committee is asked to **NOTE** the report and **ENDORSE** the approach to Population Health Management outlined in this report

Figure 1: Data flow for the proposed technical solution





Note: this map of data flow does not distinguish between current process that are already in place (data flows from GP to DHCW, and DHCW to SAIL) and processes that will be adapted as part of this project (data flows within SAIL and out to GP and LPHT via the Sollis application (operating within and outside the SAIL environment)). It also does not depict the project actions e.g. IGRP and DQS applications (please see project action plan).

This map requires an amendment for output 2, whereby it will be provided via DHCW (formerly NWIS) to the GP portal.



Table 1: Elements of the evaluation of the PSRS workstream

Evaluation aspect		Timescales	Aim(s)	Objective(s)	Data source(s)
1.	Predictive ability of segmentation	Under way since September 2020, segmentation model for rollout completed in June 21, report on predictive ability to be submitted in autumn 2021	To assess whether and to what extent segmentation can predict future health care use	<ul style="list-style-type: none"> a) To assess the predictive ability of traditional versus data-driven segmentation in relation to healthcare use (combined settings and individual measures) b) To determine the rates of transition between segments (stability of segmentation over time) and underlying factors driving this. c) To assess whether segmentation at cluster or Health Board level is different. d) To determine whether a new combination of existing variables in the segmentation could improve prediction of future healthcare need. 	SAIL Databank
2.	Analysis of healthcare use post segmentation and risk stratification implementation	TBC (will require a follow-up period of approximately 1 year post-August 2021)	TBC	TBC	SAIL Databank
3.	Process evaluation of implementation	Ongoing to support quality improvement cycles	To learn from the implementation of PS and use it to inform delivery	<ul style="list-style-type: none"> a) To assess the feasibility and practicality of using SAIL as a data source b) To determine the most effective data flow processes c) To determine whether GP practices can access the outputs of PSRS d) To estimate the resource demands on GP practices of using this approach e) To determine whether the LPHT has sufficient information to support primary care clusters in taking action on the outputs from PSRS f) To determine whether PSRS offers added benefit over population segmentation alone g) To determine whether the patients identified by PSRS would have been identified without PSRS and any resource implications this may have h) To establish the resource implications of this approach 	multiple

ANNEX A: AIMS AND OBJECTIVES OF THE PSRS SWIYC WORKSTREAM

Aims

- a) To undertake population segmentation and risk stratification for the primary care-registered population of CTMUHB using data from the SAIL Databank.
- b) To provide GP practices with patient-level identifiable information on the health and care needs of patients registered in their practice using individually-assigned segments and risk stratification scores.
- c) To evaluate the effectiveness of population segmentation and risk stratification in identifying the health and care needs of the CTMUHB primary care-registered population.

Objectives

- i. To establish the processes by which data will flow in the project.
- ii. To set out the roles and responsibilities of all parties collaborating on this project.
- iii. To ensure all legal and information governance requirements for data sharing, processing and dissemination are met.
- iv. To ensure GP practices are provided with information on the segmentation and risk stratification of individual patients in a format that allows that information to be easily linked to patient records.
- v. To ensure the Local Public Health Team (LPHT) are provided with sufficient information to: (1) support GP practices in the interpretation and use of the data; and (2) to consider, advise and/or initiate effective interventions for patient segments and risk strata in their population.
- vi. To ensure that this project closely aligns, and that outputs produced are compatible, with any separate research projects undertaken by the LPHT to evaluate the effectiveness of population segmentation and risk stratification.
- vii. To undertake a process evaluation to inform wider roll out of this approach, to other clusters and to other Health Boards.
- viii. To evaluate the predictive ability of population segmentation.

ANNEX B: PSRS WORKSTREAM PROJECT PLAN

Task No	Week beginning - Update as Necessary	Start	End
1	Confirm viability of using SAIL	04.11.19	04.11.19
2	Produce Project Brief to clarify requirements	05.11.19	06.12.19
3	Confirm data flow & technical requirements for using SAIL	06.12.19	20.12.19
4	Sign off on data flow and technical requirements	20.12.19	20.12.19
5	SAIL /Sollis draw up aligned agreement on access.	04.12.19	20.12.19
6	Complete & submit application to SAILs IGRP	20.12.19	17.01.19
7	IGRP internal review process - 4 weeks	17.01.20	14.02.20
8	IGRP external review process - 8 weeks	14.02.20	10.04.20
9	Gain approval of SAILs IGRP	10.04.20	10.04.20
10	Draft DPIA for sign off	05.01.20	14.02.20
11	Commence Drafting DPA for sign off	14.02.20	10.04.20
	COVID PAUSE	Mar/April 20	Sept/Oct 20
12	Review and refresh plans	01.09.20	01.10.20
13	Supply ready to supply	01.10.20	01.01.21
14	Finalize contracts and agreements	01.01.21	01.04.21
15	Procure Server for SAIL to host Sollis	01.02.21	01.03.21
16	Complete drafting and sign off of DPIA	01.02.21	16.06.21
17	Complete drafting of DLA and CMTUHB sign off	01.02.21	16.06.21
18	Set up Server for SAIL to host Sollis	15.05.21	15.06.21
19	SAIL Provision Data batch	06.06.21	06.06.21
20	Sollis / LPHT finalize CMT Segmentation model for use	01.06.21	15.07.21
21	Final adjustments to IGRP and DPA	15.07.21	01.10.21
22	GP DPA sign offs gathered	01.10.21	15.11.21
23	Sollis Map and Process Data (PSRS)	15.11.21	07.12.21
24	SAIL check data outputs	07.12.21	07.12.21
25	SAIL deliver output 1 data to the LPHT + quarterly thereafter	07.12.21	07.12.21
26	SAIL deliver output 2 data to DHWC	11.10.21	28.10.21
27	DHWC process data and deliver to the Merthyr GPs – PH 1	28.10.21	26.11.21
28	DHWC process data and deliver to Merthyr	26.11.21	26.11.21
29	Data provision, processing and delivery to run Qtrly to LPHT	Jan 2022	Jan 2023



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30	Data provision, processing and delivery to run Qtrly to GPs	Jan 2022	Jan 2023
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