MRC Grant (MR/W014432/1)

Tackling multimorbidity at scale: Understanding disease clusters, determinants & biological pathways

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MuM-PreDiCT 24th Project Management Meeting

24th March, 2023 Friday

10 am 12 pm, online via Zoom

Action points

1-Mum-PreDiCT mid-term report to be submitted.

2-For miscarriage outcome the Birmingham team to discuss the separate issue with CPRD data.

2-Plan the meeting/s to discuss the remaining definitions of the cohort.

3-FC to share a glossary of terms for the PPIE to make a better understanding.

4-Add an agenda item as a summary/update of the work package at each monthly meeting.

5- Plan to draft a blog on the progress of the project so far.

Data Management meeting (10 am-11 am)

Attendees- KN, CM, AAL, KP, HH, SIL, MB, ML, AS, JK, MS

Mid-term report for MuM-PreDiCT has been drafted adding all the accomplishments and the progress across work packages. The plan is to make data discoverable and accessible on the Health Data Research Innovation Gateway where we will provide a comprehensive data dictionary, data model, and metadata of our work. This can only be done once we have completed the definitions for all studies and accompanied them with publications.

Base cohort requirements (cohort of pregnancies, deliveries, and children) for the different outcomes. The phenome definitions, the preferred data source for outcomes, base cohort, and follow-up period were discussed for each outcome after deciding on general rules General rules- If an outcome only occurs in 2nd or 3rd trimester, > 20 weeks, then the starting population should be 'All Birth'. If an outcome only occurs in 1st trimester, and doesn't progress to birth, then the starting population should be 'All Pregnancies'. In European studies, we use all births (live births, stillbirths, late fetal deaths) as the denominators. NIMATS also captures all booked pregnancies, 20-24 weeks still late miscarriage, After 24 weeks IUFD / stillbirth, PAS will capture any miscarriages in secondary care. Neonatal

outcomes –both mother or baby's hospital records. Mental health – suggest diagnosis code + medication, and not symptoms

Miscarriage-both primary care and secondary care, follow up 42 weeks(in CPRD linking to HES might reduce the numbers as not all linked, to discuss) Earliest data 30w (24w+6w)

Termination of pregnancy-42w from the start of pregnancy, all pregnancies

Hyperemesis gravidarum- Primary and Secondary care linked HES,42 weeks

Vomiting- Symptom code, antiemetic prescription, all pregnancies, 42w from start of pregnancy

Gestational hypertension and pre-eclampsia-Diagnosis code, HTN code and HTN meds. Exclude preexisting HTN. All pregnancies at least 20w, follow up 42+6w

Gestational diabetes and Obstetric cholestasis -diagnosis codes, all pregnancies, 42w from start of pregnancy + 6w postpartum

Placenta abruption-diagnostic codes, all births, 42w from start of pregnancy + 6w postpartum

Placenta insufficiency-diagnostic codes, all pregnancies, 42w from start of pregnancy + 6w postpartum

Venous thromboembolism, diagnostic codes, All pregnancies, 42 + 12w

Chorioamnionitis- diagnostic codes, primary and Secondary care, all births, May have some with PPROM and chorioamnionitis and result in early pregnancy loss, Include if recorded well.

Intrauterine fetal death- Diagnosis code, Primary, Secondary care mother's record, All pregnancies, 42w from the start of pregnancy and 6w postpartum, Will be in SMR and NIMATS it will be mother's records. SMR – can identify whether stillbirth was intrapartum

Stillbirth- Diagnosis code, Dataset specific variable, All births recorded as stillbirths >24w,

May combine both outcomes stillbirth and IUFD. Other outcomes to be discussed in the following meetings

All team (11 am-12 pm)

Attendees- KN, FC, NM, RP, SH, KP, JK, BT, SIL, MM, MB, FF, LL, ZW, ML, LK, CG, JW, CM, AS, MS

PPI- Update-More one to one meetings with PPIE. Next meeting may or early June, Newsletter 2 -3 times a year in a poster format for the updates for PPIE. Dissemination discussed to parents, pregnancy journey. PPIE attending work-package meetings- so far positive feedback and trying to understand the work packages, maybe a summary of the databases or provide a glossary of terms and a short summary of the update in each work package meeting. Discussed a few key themes emerging from deep dives as fear of

separation from baby, fertility treatments, what comes first illness or treatment, more information to parents, and long-term health conditions emerging from pregnancies. Shared the experience of attending and discussingMuM-PreDiCT projects at the conference in SA and Leeds. Planning a blog or a one-page report of the progress made in the project

WP1-Update-clusters have been finalised and the clinical interpretation is almost ready. It is understood that the clustering works mainly in highly prevalent conditions and may mask other associations. The work on trajectories is progressing well and the protocol for the determinants is almost finalised

WP2-The data collection is complete and work on data analysis is in progress. PPIE analysis meetings has been important in deciding key factors. Planning for co-production workshop to be initiated

WP3-The core outcome set has been finalised with 11 outcomes(5 maternal and 6 child outcomes

WP4- The EUROmediCAT data-sharing agreement is still in process. The signal detection protocol has been submitted for peer review BMJ open. How to define drug exposures in different data sets has been finalised and CPRD protocol is being drafted.

WP5-The umbrella reviews for cancer and mental health progressing well. The umbrella review for metabolic conditions is almost finalised. A scoping review has been initiated to identify the association between pregnancy complications and the development of autoimmune conditions. The prediction model CVD is progressing well. Presentation on the umbrella review looking at the association of autoimmune conditions and adverse pregnancy outcomes

SB led grant MRC Partnership grant MIREDA (Maternal and Infant Research Electronic Data Analysis) which brings together the electronic cohorts (e.g. Born In Wales, Born in Scotland Born in Bradford, ELIXER and MumPredict) in the UK. This is to harmonise data across the UK in order use natural experimental methods to evaluate interventions.

Mum-PreDiCT annual meeting 2023-planned for 27th June 2023 which will be followed by the ECR workshop on the 28th.Virtual dissemination event planned for September 2023

Conferences-Many abstracts were accepted for the RCOG conference in June 2023

Upcoming conference- Public health science -15th May abstract submission deadline

https://ukpublichealthscience.org/?mc_cid=b2d57292b7&mc_eid=fbb64c12fc