Agenda Item 6.i

Report to:	Board	**Date:** 4 November 2021
Report from:	Ian Smith Acting Medical Director Maura Screaton Chief Nurse	
Principal Objective/ Strategy and Title:	Health Inequalities - Current priority of the NHS	
For:	Information	

1. Purpose

The purpose of this paper is to introduce the concept of health inequality(HI), highlight it as a current priority in the NHS and to facilitate the development of plans for how Royal Papworth Hospital (RPH) will contribute to address HI challenges.

2. Introduction

Addressing HI is a major priority for the NHS and specifically a target for the nascent Cambridgeshire and Peterborough ICS. It is an area for change in health care provision where RPH is well placed to make a major contribution. NHS England has published a number of documents on-line relating to HI with the following opening statement:

'Health inequalities are the preventable, unfair and unjust differences in health status between groups, populations or individuals that arise from the unequal distribution of social, environmental and economic conditions within societies, which determine the risk of people getting ill, their ability to prevent sickness, or opportunities to take action and access treatment when ill health occurs.'

(https://www.england.nhs.uk/about/equality/equality-hub/resources/)

There are a number of areas proposed for intervention including:

- Reducing variation in access to or quality of services
- Improving social determinants of health
- Engaging local staff in national and local interventions
- Supporting healthy behaviours among individuals
- Partnership working and strategy development
- Engaging communities

RPH has the opportunity and capacity to contribute to change in a number of these areas but perhaps could have most impact in reducing variation in access and quality of services and supporting partnership working across the ICS and EoE more broadly.

There are complex interactions between the incidence of different diseases and sex and ethnicity that make it difficult to tease apart where different outcomes are due to inequality and where they are explained by biology.

Previous work has been undertaken to address HI related to sex in our Trust. In the early 2000's there was a widespread misperception that obstructive sleep apnoea (OSA) was almost exclusively a disorder affecting men. Many research studies of treatment only recruited male participants. However in epidemiological studies while there is an excess of men affected the ratio is around 2 men for each women with the condition. In common with many sleep services the RSSC at Papworth had a referral ratio of around 8 men for each woman. In step with a number of centres worldwide the RSSC investigated this phenomenon and found differences in the way men and women present with OSA and made it a priority to publicise the results and explain this to medical trainees and our GP referrers. The ratio as of 2019 has shown a slight excess now of women

referred compared with what we believe to be the population distribution with 1.8 men for each 1 woman referred for investigation of sleep apnoea to RPH. This example shows the long term interest in HI at RPH and more importantly demonstrates that change can be achieved.

We have looked at recent data for the ethnic make-up of patients referred to RPH. An initial snapshot of data for the ethnicity of patients seen as inpatients and outpatients in September 2021 at RPH, shows that the distribution of patients likely reflects the population of our catchment area of East Anglia. The data for inpatients are shown below in **Table 1**. It should be noted that data were missing for 7.5%. These patients may have the same distribution as those where it was recorded. However if all of these patients fell into a BME group this would show a great excess compared to the population around us which could indicate greater morbidity in that group. For outpatients the proportion of unknown ethnicity is over 20% making the data even less useful for assessing equality on this basis in the hospital's referrals. Improved data collection has been identified as an action.

Table 1

Row Labels	Count of Ethnic Group	
Asian or Asian British - Any other Asian background	14	0.75%
Asian or Asian British - Bangladeshi	3	0.16%
Asian or Asian British - Indian	28	1.51%
Asian or Asian British - Pakistani	7	0.38%
Black or Black British - African	5	0.27%
Black or Black British - Any other Black background	6	0.32%
Black or Black British - Caribbean	9	0.48%
Mixed - Any other background	14	0.75%
Mixed - White and Asian	7	0.38%
Mixed - White and Black Caribbean	2	0.11%
White - Any other White background	111	5.98%
White - British	1644	88.58%
White - Irish	6	0.32%
Grand Total	1856	
% Where Ethnicity not defined	7.52%	

Economic and social deprivation is more easily measured and is strongly associated with worse health outcomes. Much of the drive to reduce HI is focused on trying to reduce differences in outcome by measures of deprivation. A map showing measures of social deprivation is shown in **Figure 1** below.

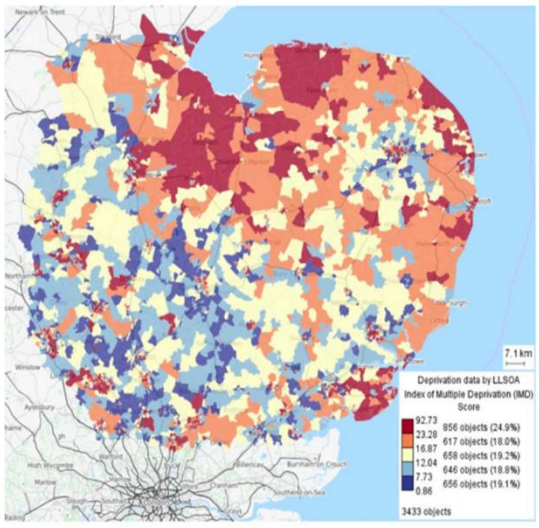

Figure 1: The Index of Multiple Deprivation (IMD) Score is available for geographical areas with reasonable granularity. The areas of greatest social deprivation are shown in red and centre on Peterborough and around the coast especially in South Essex including Southend and Thurrock. The areas of least social deprivation are shown in blue.

Across the EoE excess mortality below the age of 75 is most marked for the areas around Peterborough, Luton and Southend on Sea, all associated with social deprivation. Deaths attributed to cardiovascular disease are particularly prominent.

Table 2

Indicator	Period	England	East of England region	Peterborough	Luton	Southend-on-Sea	Thurrock	Bedford	Norfolk	Essex	Central Bedfordshire	Suffolk	Hertfordshire	Cambridgeshire
Under 75 mortality rate from all causes (Persons)	2017 - 19	326	298	376	372	353	329	321	304	300	284	281	279	279
Under 75 mortality rate from all causes (Male)	2017 - 19	397	361	457	459	427	396	392	373	363	348	341	340	332
Under 75 mortality rate from all causes (Female)	2017 - 19	258	237	298	287	284	263	253	238	243	223	224	222	227

Across the UK as a whole the difference in life expectancy in 2019 was 9.4 years comparing men born in the most and least deprived areas of the country. For women the difference was 7.6 years. For both sexes the difference in the number of healthy living years was around 19 showing that people from deprived areas have not only shorter lives but are less well for a higher proportion of the life that they have. Given the ease of measurement and the strong predictive value of IMD data this will form the core of future project work in RPH relating to HI.

3. Current Project Work on HI at RPH

Work started in 2019 has looked at measures of social deprivation for people referred for investigation of obstructive sleep apnoea (OSA), to RPH, from across the EoE. Obesity and diabetes mellitus are both more common in areas of high social deprivation and strongly associated with OSA. We would expect therefore that there would be more people referred for investigation of OSA from areas of high deprivation but we found the opposite. The RSSC team examined 3,912 scheduled new patient appointments from 2019. The home addresses of these patients are the basis for shaded areas in Figure 1.

- People were 30% more likely to be referred from areas of low deprivation than high deprivation (referrals per million population)
- Referred patients were 100% more likely to have severe obesity, diabetes, or be a smoker if they came from an area of high compared to low deprivation
- Referred patients were 25% more likely to have severe OSA if they came from areas of high compared to low deprivation
- Patients from areas of low income were 60% more likely to DNA their appointment than those from the highest income quintile

The distance that would have been travelled to the appointment did not predict attendance or failure to attend. Thus it seems that any travel and perhaps having time away from work or childcare responsibilities was a bar to attending appointments for people from a low income area.

From these findings the RSSC has restructured its service for people being referred for investigation of OSA. Diagnostic equipment (oximetry) is now posted to most patients and the initial consultation is via the telephone for the majority. These changes have been in place for approaching 6 months and the plan is to revisit the analyses to see whether there has been any impact on referrals from GP practices and on attendance rates for those referred, broken down by measures of deprivation.

4. Other Projects in Planning

The home address of all patients referred to RPH is known and each can be allocated to an area ranked by IMD. One of the requests from the centre is that measures of deprivation are used in prioritising patients for treatment. As a starting point we plan to explore whether there is any apparent inequality of access to our services by ranking the IMD score for an individual's home address and looking for positive or negative associations with the priority for treatment that has been allocated by their clinician. Depending on the findings of the initial overview more complex analyses may be undertaken attempting to match patients on the basis of the severity of their underlying disease. Examples would be the severity of valve dysfunction in patients awaiting valve surgery.

Much in the way that the rates of referrals by population were undertaken for people with OSA, we will explore the rates of referral from areas defined by the IMD for other common disorders managed by RPH. To be meaningful we will need to look at large numbers of patients. Initial cohorts will include patients with coronary artery disease referred for revascularisation and patients with AF referred to the electrophysiology service.

There is a plan to follow up the work done with the OSA cohort approaching different GP practices which are based in areas defined as high and low deprivation according to the IMD. The intention is to interview the GP's about their knowledge of OSA and their experience of trying to refer patients to RPH for investigation. We aim to identify whether hurdles to referral lie predominantly with the GPs or with the patients. This will inform which future interventions might be effective. One proposed intervention is the further refinement of referral guidelines. In addition we will feedback to all GP's the results of referrals from their practices in comparison to other practices as we have seen wide disparity in the number of people screening positive and negative for OSA from different surgeries. We would hope that this will increase referrals from areas where it is likely there are more patients in whom OSA is unrecognised who could benefit from treatment. However potentially just as important to the overall health economy we would be aiming to reduce the number of unnecessary referrals from areas of low social deprivation of worried well people with a low probability of OSA. Depending on our findings for people with other health conditions there may be lessons learned that can be more widely useful.

5. Engagement with the ICS HI Agenda

The Medical Director of RPH is a member of the regional group chaired by Dr Fiona Head which is designed to address HI in the ICS. The work described in this document so far is over and above the involvement of RPH with the ICS to address IH. The Trust will be fully engaged with the projects proposed by the ICS group which are more heavily community based but key areas for RPH will be the provision of support and advice for people who are smokers or have alcohol related problems. Questions about these behaviours should always be asked when patients have contact with the hospital. We will contribute, where we are able, to wider support in the community. Opportunities are likely to arise related to educational programmes where our staff have relevant expertise particularly related to smoking and risk of cancer, chronic obstructive lung disease and coronary artery disease.

6. Conclusions

Addressing HI is a major priority for the NHS and one to which RPH will be able to make a valuable contribution. There are projects underway which we hope will be reporting results in the next few

months. Other projects will be launched shortly. We will, in addition, be making a full contribution to collaborative working with other Trusts including those in the community. Progress will be reported back through the hospital's governance structures.

Recommendation:

The Board is requested to note the Health Inequalities Report.