Using a linked database to identify inequalities in Chronic Kidney Disease in a diverse population: creating opportunities for collaborative quality improvement

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Background

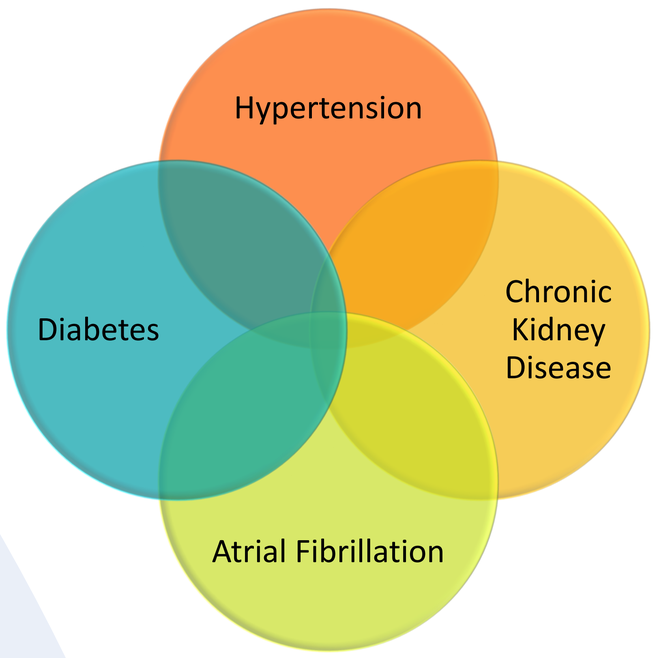
The Lewisham and Greenwich population health and care team work with a linked data base which allows them to track their population through routine, community, mental health and acute medical services. It also has some one-off links to social care data.

The population health team uses this platform to provide insight work, deliver granular data for clinical quality improvement work (including evaluation), provide support for system re-design and support community organisations, public health and local authority with aggregated data in two diverse boroughs in South East London.

The team comprises of data analysts, engagement specialists and clinical fellows.

Aims

1. To develop a framework of data which can be used to co-ordinate projects relating to cardiovascular disease
2. To use this framework to drive up the quality of population health work throughout the borough through encouraging a focus on early detection of disease and multi-morbidity

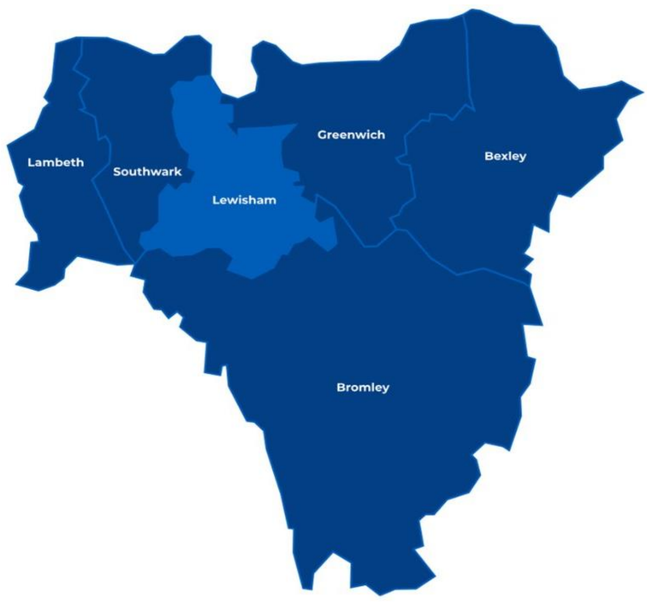


Stratifying patients across diseases

The whole population can be categorised into the following groups for diseases such as CKD, hypertension, diabetes and atrial fibrillation. The overlap between groups can then be identified; for example, those with uncontrolled hypertension can also be tested for CKD or have undiagnosed CKD coded. These groups can be stratified by factors such as socio-economic deprivation to prioritise activity.

Low risk without diagnostic criteria
Workstream 1: High risk without diagnostic criteria (including untested)
Workstream 2: Not diagnosed with diagnostic criteria
Workstream 3: Diagnosed but not optimised
Diagnosed and optimised to clinical guideline
Workstream 4: End organ damage

Lewisham borough is relatively young, deprived and diverse



Six boroughs of South East London

Total population registered to a GP :
338, 545

Proportion aged > 65years:
32,370 (9.6%)

Proportion in the most deprived quintile:
81, 154 (24%)

Proportion of black, Asian, or minority ethnicity:
147, 568 (44%)

People with biochemical evidence of CKD in Lewisham

Workstream 2: Not diagnosed with diagnostic criteria

Patients have significantly better outcomes if they have an coded diagnosis for CKD in their electronic patient record.

The recorded prevalence of CKD in Lewisham is low at 2.3%. The table below shows the characteristics of those with biochemical evidence of CKD (two eGFRs <60ml/min/1.732 taken three months apart or two albumin creatinine ratios (ACRs) >3mg/mmol taken three months apart) split by whether there is a corresponding clinical code for CKD in either primary care or secondary care electronic records.

Characteristic	Biochemical evidence of CKD	Coded diagnosis of CKD in primary or secondary care electronic patient record
	N = 10,663	n= 7585 (71.1%)
Sex:		
Male	4866	3426 (70.4)
Female	5764	4131 (71.7)
Age (years):		
18 – 39	209	204 (97.6)
40 – 49	684	415 (60.7)
50 – 59	1756	1123 (64.0)
60 – 69	2393	1748 (73.0)
70 – 79	2585	1749 (67.7)
>80	2921	2318 (79.4)
Ethnicity:		
White British or other	4206	3105 (73.8)
Black African, Caribbean, Black British or other	3928	2808 (71.5)
South Asian, Asian British	556	348 (62.6)
Chinese	108	72 (66.7)
Other Ethnic group	508	347 (68.3)
Mixed Ethnicities	395	265 (67.1)
Not stated or unknown	932	615 (66.0)
IMD quintile:		
1 (lowest)	2903	2083 (71.8)
2	4702	3355 (71.4)
3	2258	1564 (69.2)
4	707	514 (72.7)
5 (highest)	53	38 (71.7)
Unknown	7	3 (42.9)

Collaborative quality improvement for undiagnosed CKD

Working with a primary care network (PCN) within Lewisham we have identified patients with uncoded CKD within their PCN and stratified the list by co-existing co-morbidities (cumulative cardiovascular risk). We were able to provide patient identifiable data for patients with uncontrolled hypertension, diabetes and uncoded CKD who will now be seen by a specialist nurse for a holistic cardiovascular review. The population health team with provide further cohorts for action and track changes in care for patients undergoing review. We can also stratify by social determinants of health to promote equity given the disparity of outcomes for those in lower socio-economic groups.

NHS Lewisham and Greenwich NHS Trust

Population Health Management
Using integrated data to build healthier communities