JOHNS HOPKINS MEDICINE

POPULATION HEALTH ANALYTICS

derstanding the Risk of or Coordination of Care in a UK Population

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COMPLEX PATIEN

- People with complex health and social care needs – typically those who have multimorbidity – will receive care from multiple health care professionals and different providers
- People who see multiple specialist across more than one provider will face two significant issues:
  - They will need to adhere to the advice of several specialists
  - They are at a greater risk of their care not being coordinated

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CARE COORDINATION MARK

The Johns Hopkins ACG System introduced Care Coordination Markers in order to identify populations that are at risk for poorly coordinated care

Used by themselves or in conjunction with other risk markers, this set of markers adds another dimension to enhance the clinical screening process

The basic premise behind the creation of ACG Coordination Markers is that individuals receiving poorly coordinated care have worse clinical outcomes and have higher medical expenses than individuals who are being provided coordinated care

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THE OBJECT

- To establish whether:
  - The care coordination marker in the ACG System developed on US data and American health care concepts be adapted to a UK health care setting
  - The allocation of patients to these three risk categories provide marker that successfully differentiates …..
    - **Likely Coordination Issues (LCI)** – the small percentage of patients who are likely to be most at risk of poorly coordinated care
    - **Possible Coordination Issue (PCI)** – patients who may be at risk of poorly coordinated care
    - **Unlikely Coordination Issue (UCI)** – patients who are unlikely to be at risk of poorly coordinated care
  - The marker useful to clinicians

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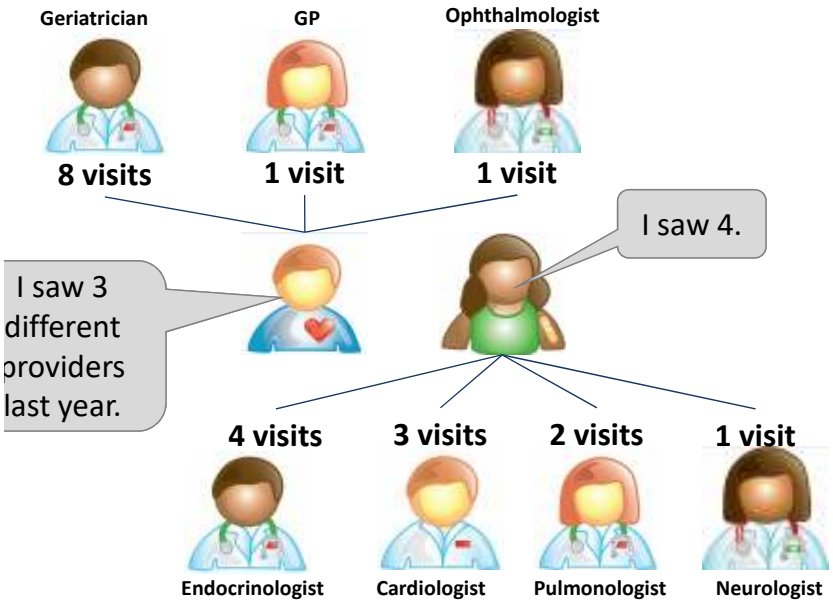
UNIQUE PROVIDER COU

ıe number of different providers each patient sees in a year



# of Providers Seen	% of Patient ID
0	0%
1	56.7%
2	32.0%
3	8.6%
4	2.1%
5	0.5%
6	0.1%
7 +	0.0%

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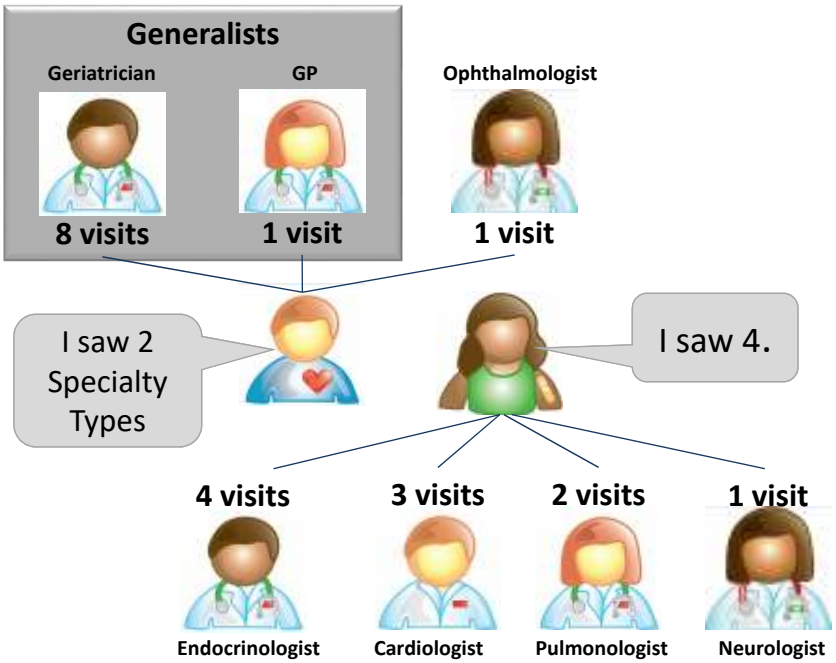
SPECIALTY COU

The number of specialties a patient was seen by in during the year



No. of Specialties Seen	% of Patient
1	56.2%
2	22.6%
3	10.8%
4	5.1%
5	2.5%
6 +	2.8%

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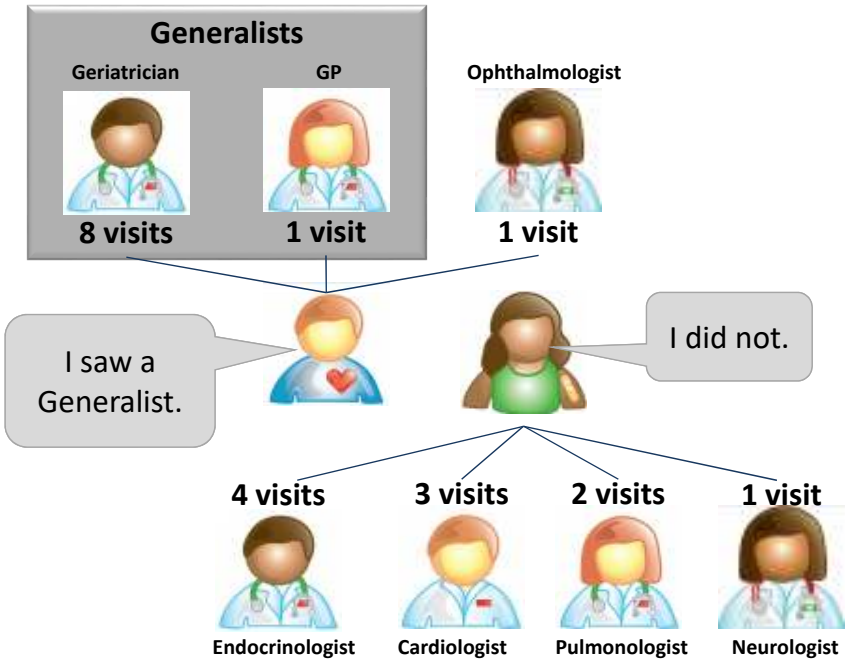
GENERALISTS SI

Whether a patient saw a GP, geriatrician or paediatrician



No. of Generalists Seen	% of Patients
0	8%
1	88%
2	4%
3	0%

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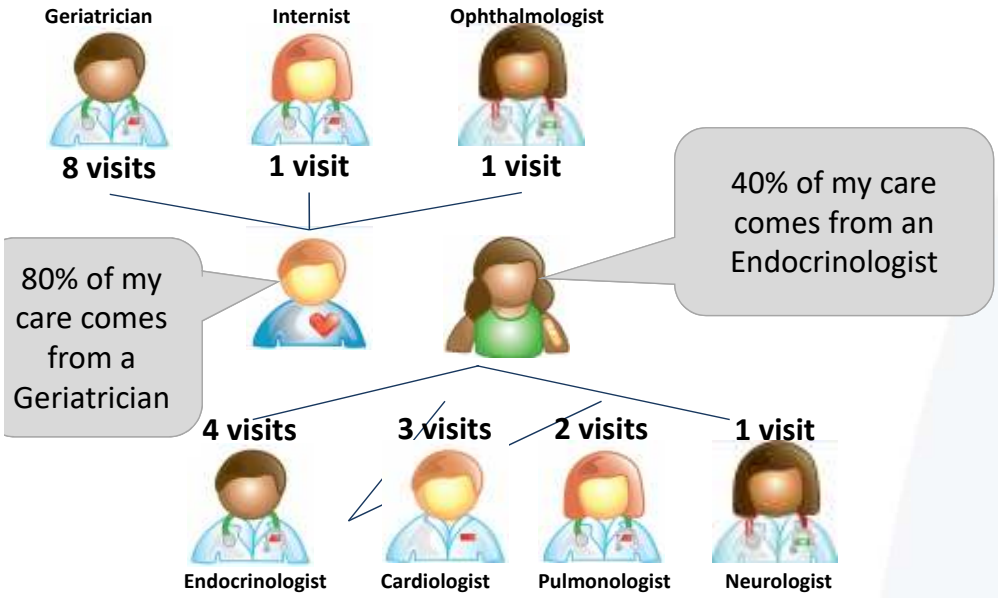
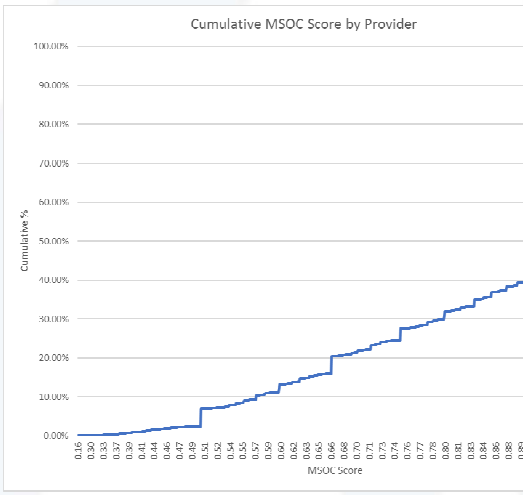
MAJORITY SOURCE OF CA

The percentage of care provided by the provider who saw the patient the most





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CUT POINTS FOR MARKERS & DISTRIBUT

Marker	Risk Level	US Threshold	UK Threshold
Unique Provider Count	High	≥ 7	≥ 4
	Medium	2-6	2-3
	Low	1	1
Specialty Count	High	≥ 6	≥ 5
	Low	< 6	< 5
Generalist Seen	-	Y/N	Y/N
Majority Source of Care	High	> 0.28	≥ 0.50
	Low	≤ 0.28	< 0.50

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ASSIGNMENT METHODOLC

Unique Provider Count = **3**
Specialty Count = **2**
Generalist Seem = **Yes**
Majority Source of Care = **80%**

→ **Unlikely Coordination Issue (U**

Unique Provider Count = **4**
Specialty Count = **4**
Generalist Seem = **No**
Majority Source of Care = **40%**

→ **Likely Coordination Issue (LC**

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CUT POINTS FOR MARKERS & DISTRIBUT

Distribution of whole population of 700,000 across the three risk categories was:

Coordination Risk	% of Patients
Likely Coordination Issues - LCI	2.15%
Possible Coordination Issues - PCI	5.47%
Unlikely Coordination Issues - UCI	92.38%
Total	**100.00%**

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IMPACT OF COST AND ACTIV

JB (Complexity Band) **Very High & High** Total Population c. 7

Category	No. of Patients	% of Patients	Mean Specialty Count	Mean Total Cost (£)	Mean Inpatient Activity	Mean Emergency Department Activity	Mean Ris Hospitalisat Month
LCI	1,205	8.6%	6.7	7,027	2.7	2.1	0.6
PCI	2,999	21.4%	5.7	6,104	2.4	1.6	0.6
UCI	9,816	70.0%	2.5	2,060	0.8	0.6	0.3
Total	**14,020**	**100.0%**	**3.5**	**3,352**	**1.3**	**0.9**	**0.4**

Likely Coordination Issue (LCI)

V

Unlikely Coordination Issue (UCI)

x 3

x 3.5

x 3.5

x 2

OPPORTUNI

- Three main use cases:
  1. An impactability marker that can be used where care management capacity is limited
  2. Identifying people suitable from support from a new role withing primary care in the English NHS – 'Care Coordinators'
  3. Flagging older people seeing multiple specialist who could have their care provided by a geriatrician instead

CONCLUSI

- The care coordination marker provides a good way of identifying a smaller percentage of people who have higher costs and levels of activity who should benefit from an intervention that improves the coordination of their care
- The US-based drivers of risk of poor care coordination are applicable in a UK health care setting but a recalibration was necessary
- The marker is proving useful for those involved in population health management activities

Next steps

- We plan to look at care density - measuring network density to assess the level to which providers share patients with the presumption is that providers with more patients in common have a higher level of coordination

Thank You

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