

# Community Diagnostic Hubs Service Activity Mapping

Produced by  
Medway Council  
Public Health Intelligence Team

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# Introduction and Methods

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# Introduction

## Aim

- To map current diagnostic services in Medway and Swale ICP

## What we have done previously:

- Mapped health inequalities and conditions across Medway and Swale

## What we will present today:

- Mapped activity of diagnostic services 2019/20

# Data

Pathway	Diagnostics	Data Available	Data Status	Notes
Rheumatology	X-Ray	MFT and community hospitals		Presenting
	DEXA	MFT only		Presenting
Cardiology	Echo	MFT only		Presenting
	ECG	TBC	No data yet	Not presenting
Other	CT	MFT only		Presenting
	MRI	MFT only		Presenting
	Doppler	MFT and community settings	No community data	Not presenting
	NOUS	MFT and AQP	AQP data not complete	Not presenting

# Patient Settings for MFT Data

- Admitted Patient Care – Inpatient
- Admitted Patient Care – Day Case
- Outpatient
- GP Direct Access
- Emergency Care Department
- Other Health Care Provider
- Other
- Unknown (only assigned to Echo)

# Methodology: Data Sources

## Data Sources

- Hospital diagnostic service activity data: MFT (2019/20)
- LSOA population counts: Office for National Statistics (2019 mid-year estimates)
- GP population counts: People registered at a GP Practice, NHS Digital (April 2020)
- Deprivation scores: Indices of deprivation (IMD2019)

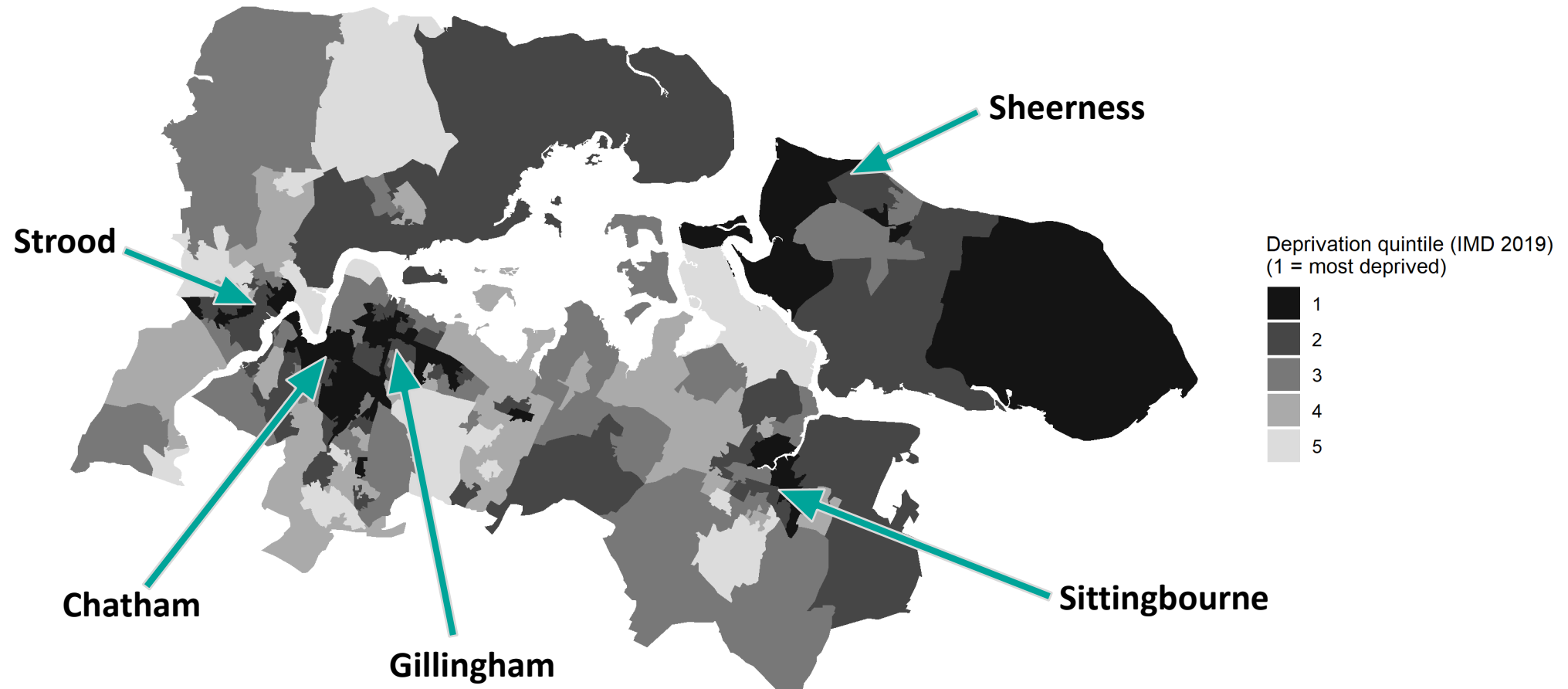
## Deprivation Quintile Assignments

- National deprivation quintiles were calculated by ranking all LSOAs in England and then assigning them to five groups depending on their ranking. Quintile 1 represents the most deprived LSOAs and quintile 5 the least deprived.

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# Medway & Swale ICP: Areas of Deprivation

LSOAs shaded by national quintile



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# Methodology: Mapping

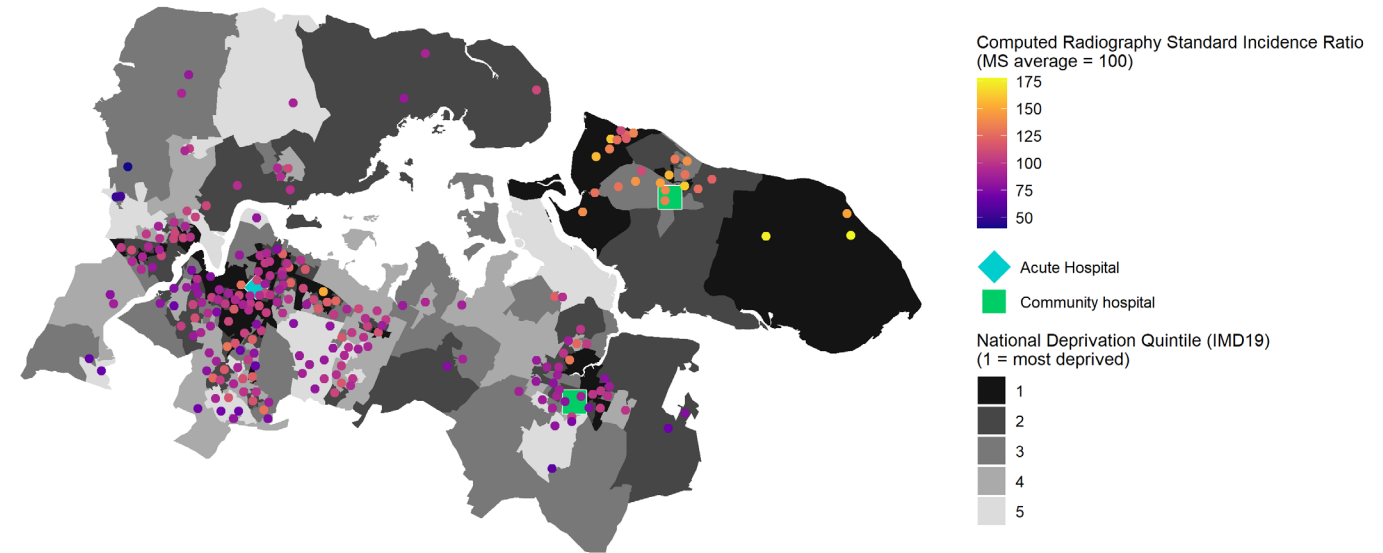
## Data are presented by LSOA

- Each dot represents the population weighted centroid for each LSOA

## Age Standardisation and Standard Incidence Ratio

- Age standardised rates are calculated using the indirect method
- SIR are the ratio of the number of observed incidences of activity to the number of expected incidences
- If the SIR is above 100, there are more incidences than expected
- The reference population was Medway and Swale as a whole

Computed Radiography: age-standardised activity rates by Lower Super Output Area in Medway and Swale  
Examinations performed between April 2019 and March 2020  
Dots represent population weighted centroids for LSOAs



Source (activity data): Medway NHS Foundation Trust  
Source (deprivation data): Indices of Deprivation 2019, MHCLG  
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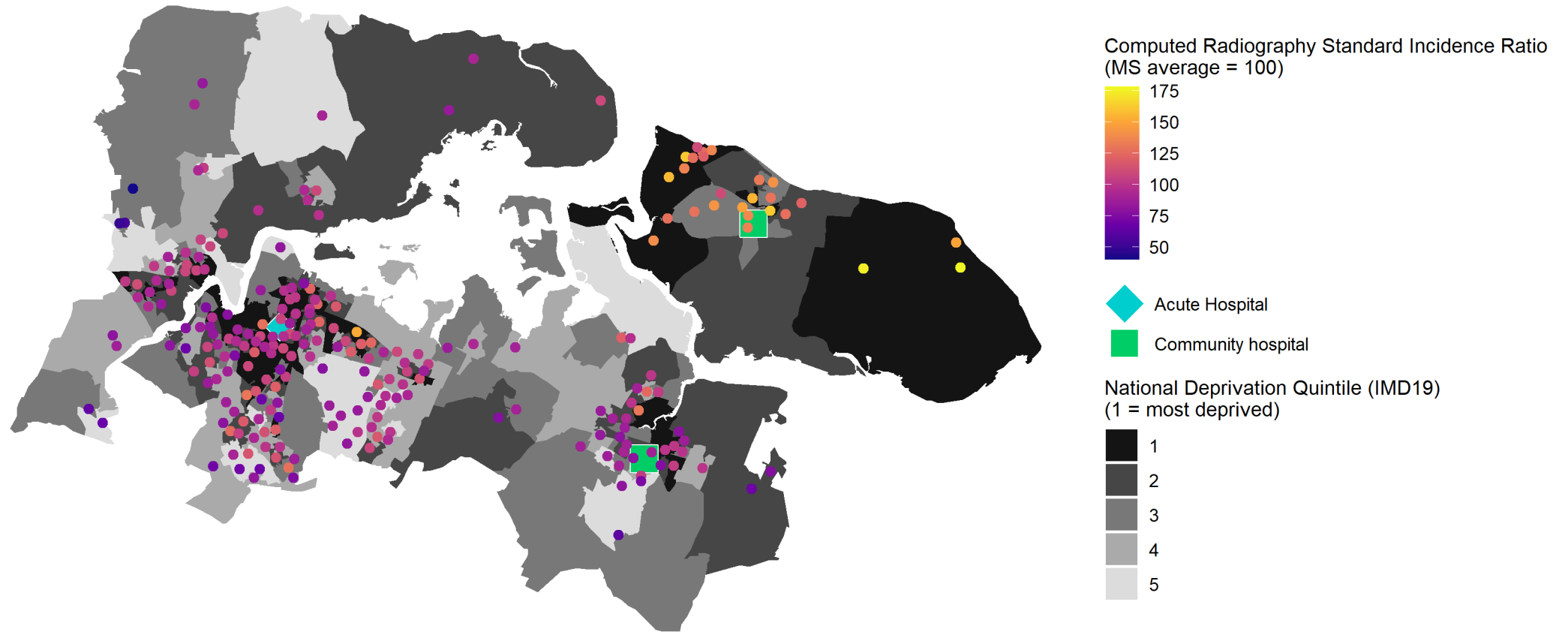
# Computed Radiography (X-ray)

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# Computed Radiography: age-standardised activity rates by Lower Super Output Area in Medway and Swale

Examinations performed between April 2019 and March 2020

Dots represent population weighted centroids for LSOAs



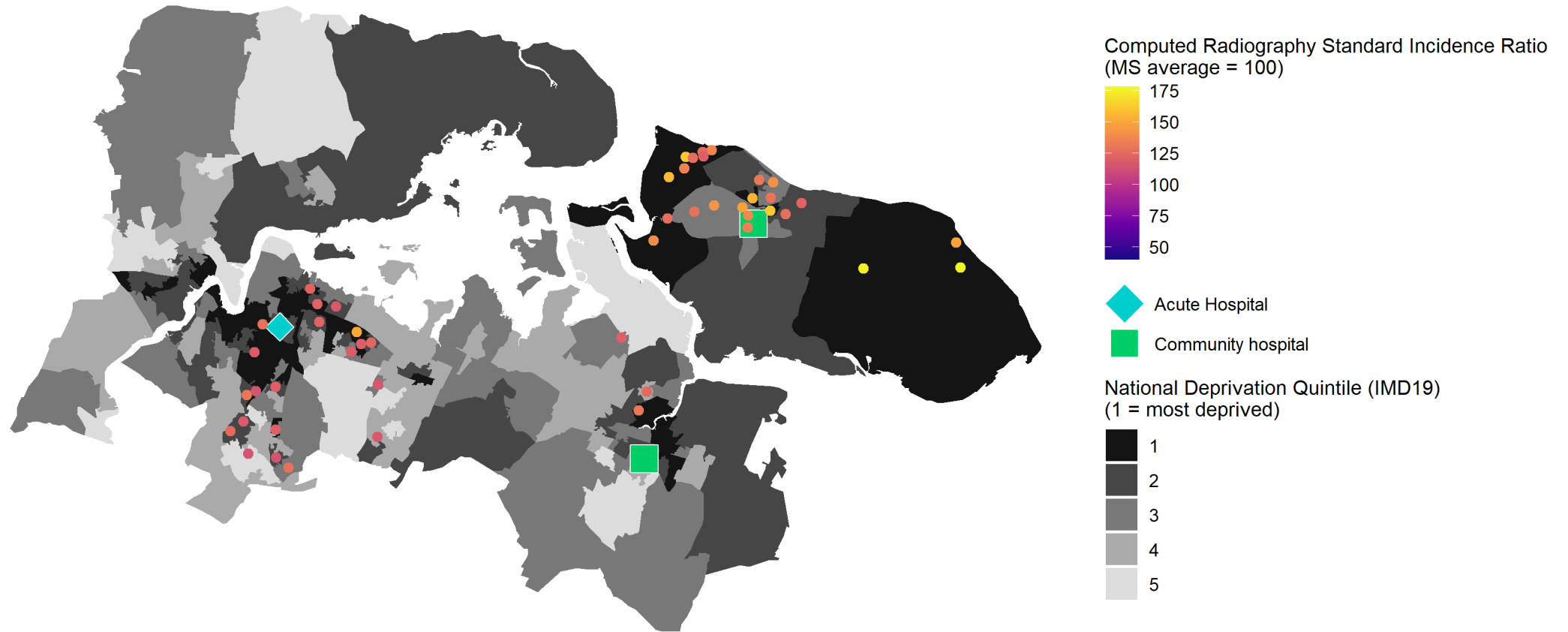
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# Computed Radiography: top fifth (20%) of LSOAs in M&S with highest age-standardised activity rates

Examinations performed between April 2019 and March 2020

Dots represent population weighted centroids for LSOAs

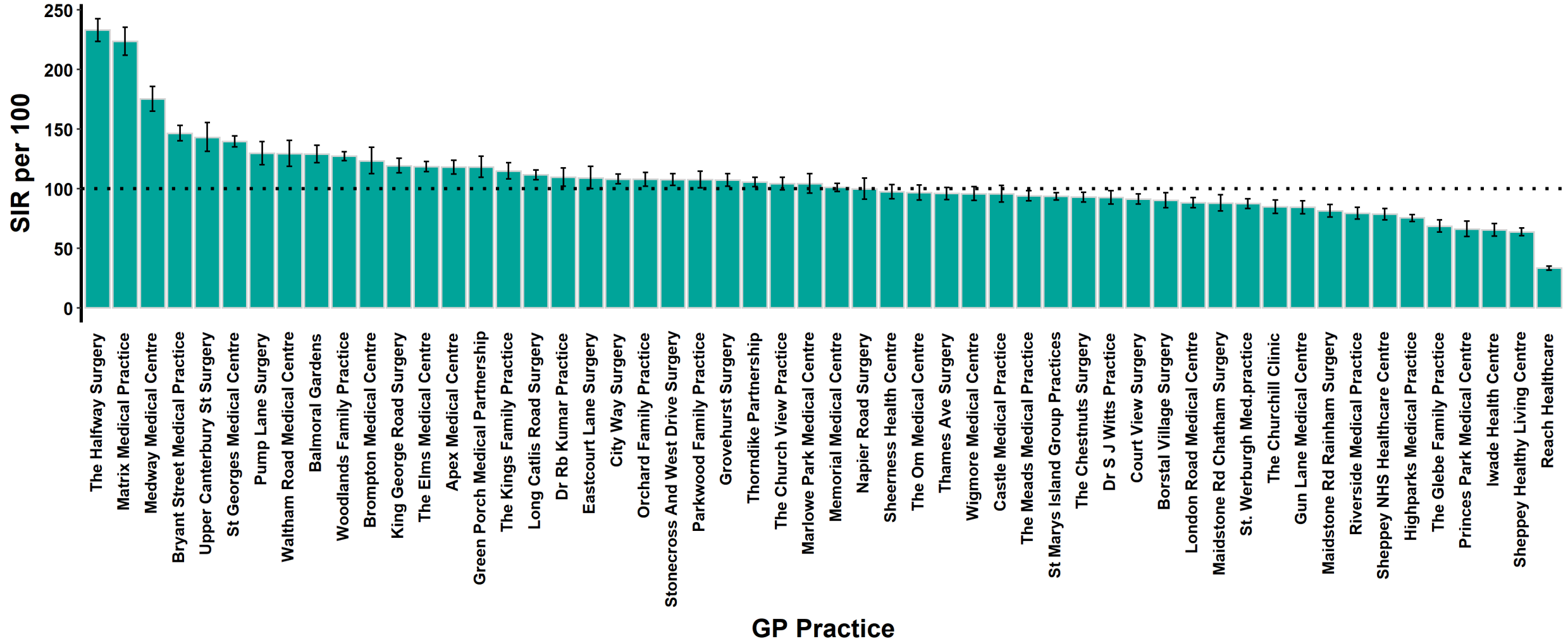


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Computed Radiography: age-standardised activity rates by GP Practice in Medway and Swale; M&S average = 100 (- - -)

Examinations performed between April 2019 and March 2020



Source (data): Medway NHS Foundation Trust, 2019/20  
 Source (population): Patients Registered at a GP Practice, NHS Digital, April 2020  
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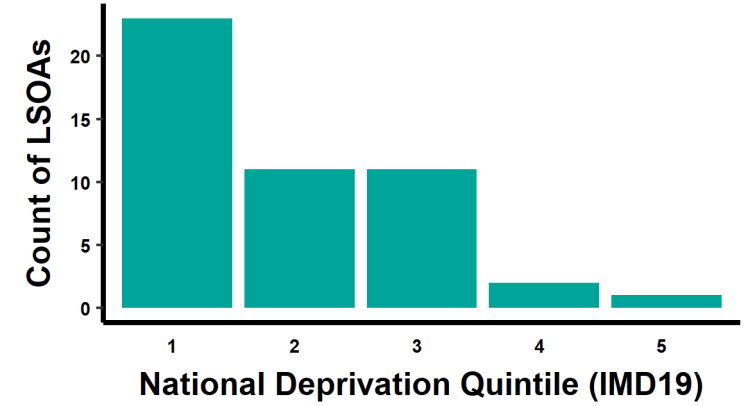
# Computed Radiography

SIR by national deprivation quintile in Medway and Swale  
Examinations performed between April 2019 and March 2020



# Top 20% of LSOAs with highest activity

Count of LSOAs by deprivation quintile



Top 15 LSOAs ordered by SIR			
LSOA	PCN	SIR	Dep Quintile
E01024580	Sheppey	177.4	1
E01024618	Sheppey	174.1	1
E01024621	Sheppey	162.5	1
E01024614	Sheppey	161.1	1
E01024615	Sheppey	156.8	1
E01024585	Sheppey	154.8	1
E01016160	Gillingham South	151.6	1
E01024581	Sheppey	148.9	1
E01024619	Sheppey	148.4	3
E01024595	Sheppey	142.6	3
E01024588	Sheppey	141.4	3
E01024597	Sheppey	139.6	1
E01032653	Sheppey	137.3	3
E01024610	Sheppey	136.0	1
E01024616	Sheppey	135.1	1

Source (activity data): Medway NHS Foundation Trust  
Source (deprivation data): Indices of Deprivation 2019, MHCLG  
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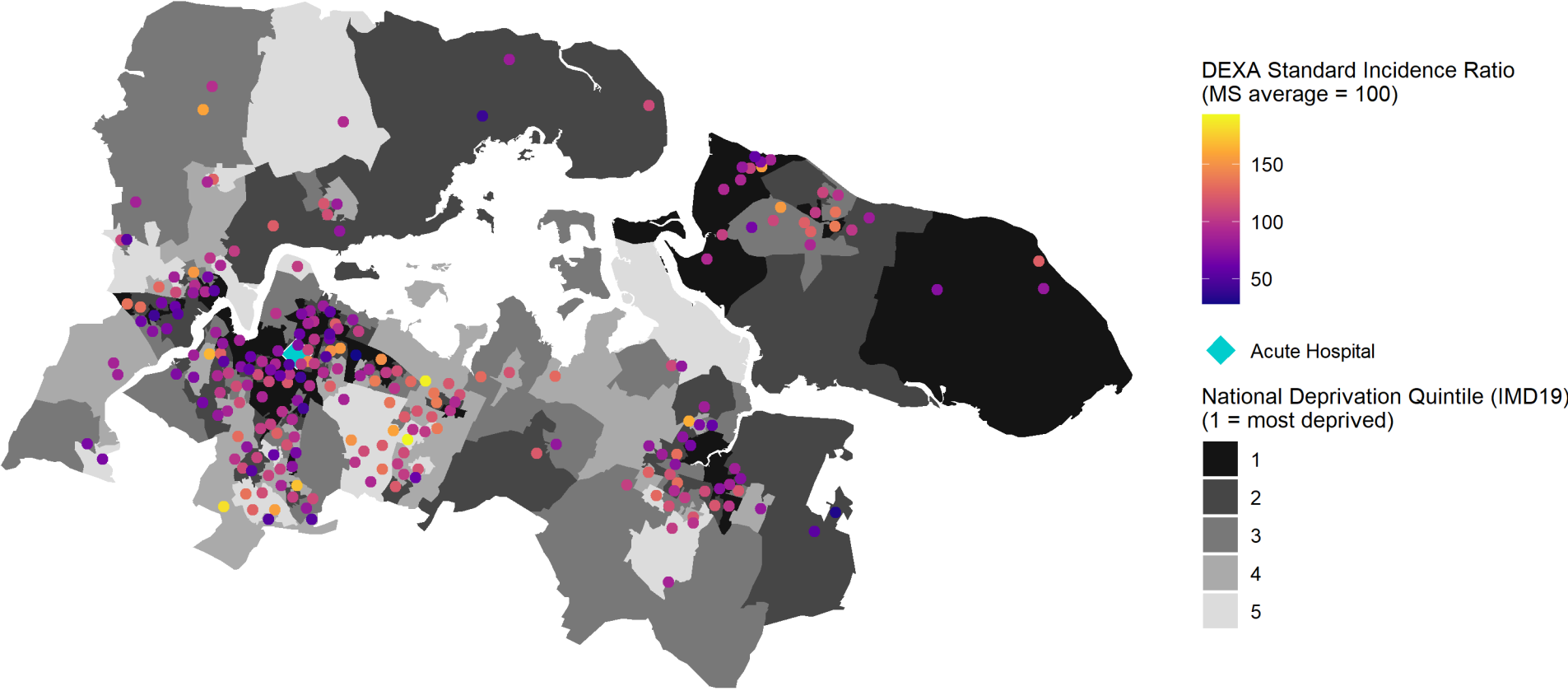
# Dual-Energy X-ray Absorptiometry (DEXA)

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# DEXA: age-standardised activity rates by Lower Super Output Area in Medway and Swale

Examinations performed between April 2019 and March 2020

Dots represent population weighted centroids for LSOAs



Source (activity data): Medway NHS Foundation Trust

Source (deprivation data): Indices of Deprivation 2019, MHCLG

Source (mapping): Office for National Statistics licensed under the Open Government Licence v.3.0

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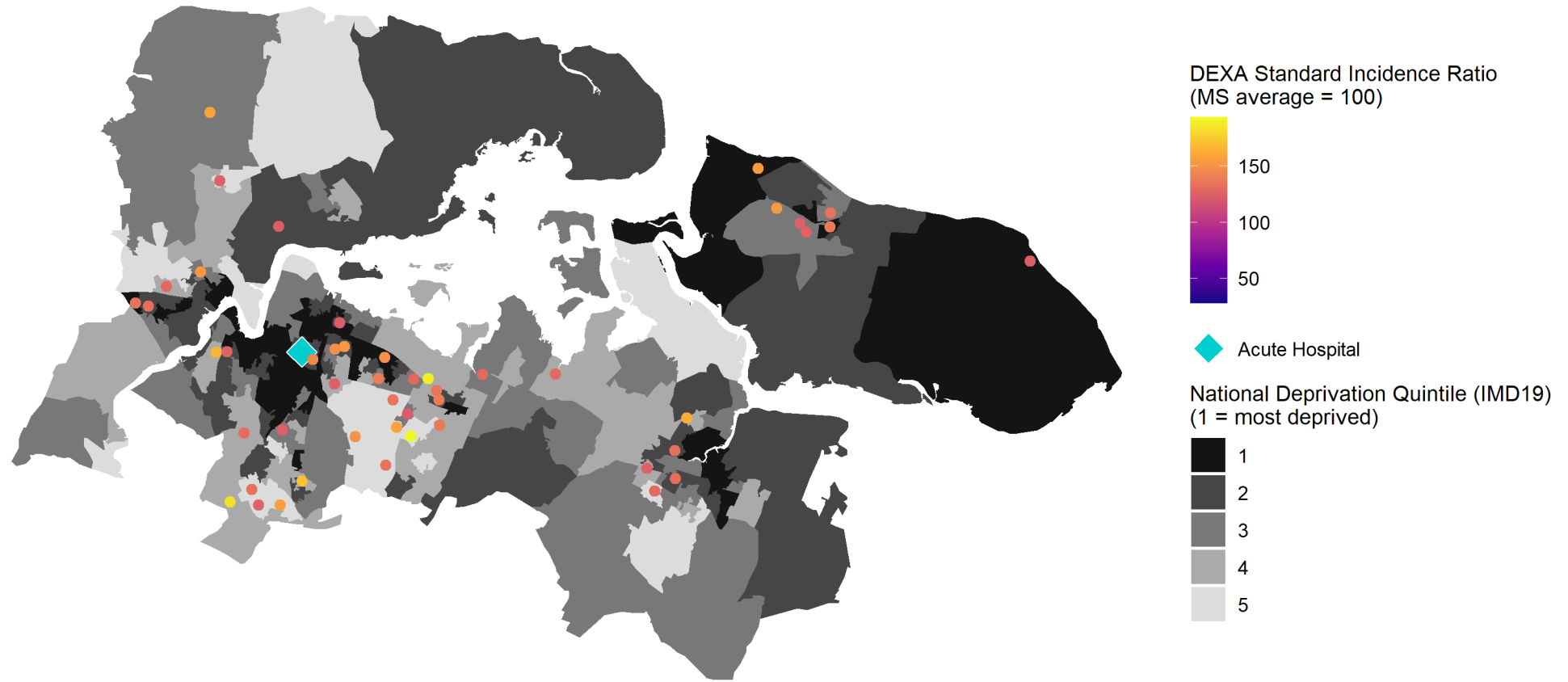
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# DEXA: top fifth (20%) of LSOAs in M&S with highest age-standardised activity rates

Examinations performed between April 2019 and March 2020

Dots represent population weighted centroids for LSOAs



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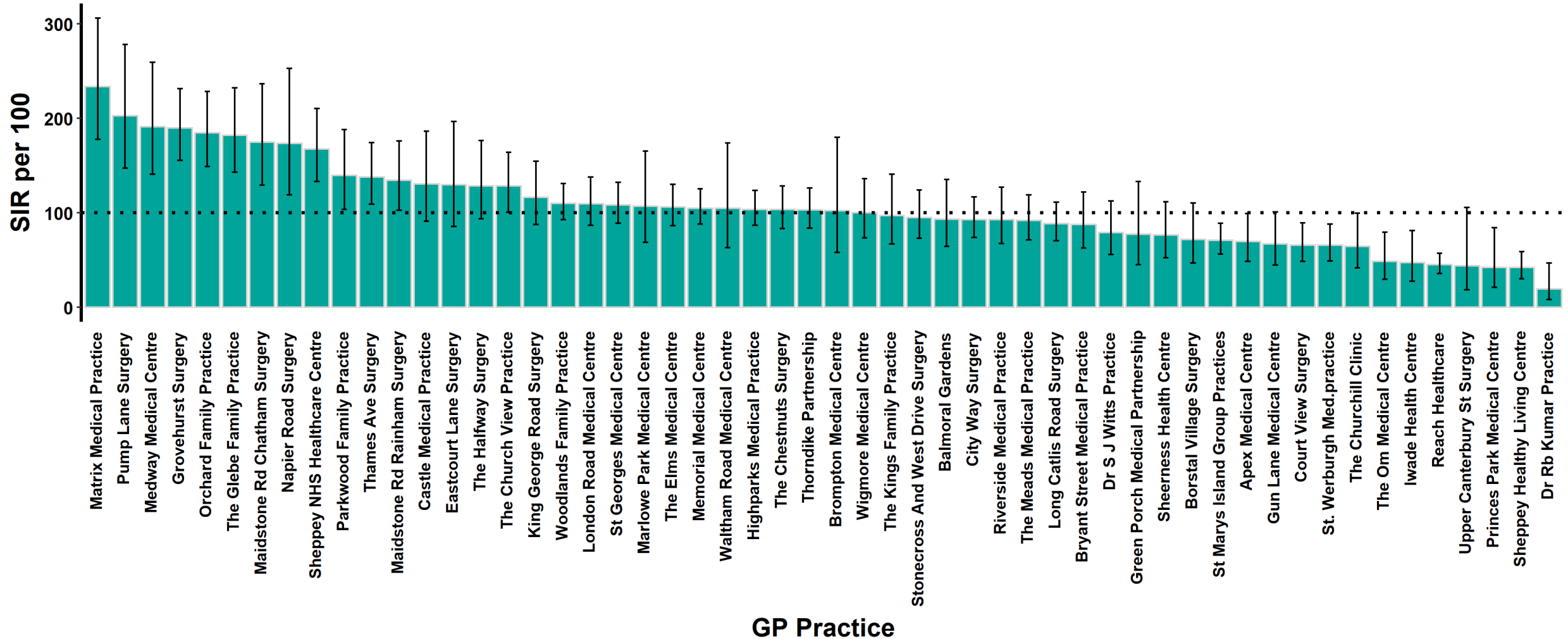
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DEXA: age-standardised activity rates by GP Practice in Medway and Swale; M&S average = 100 (- - -)

Examinations performed between April 2019 and March 2020

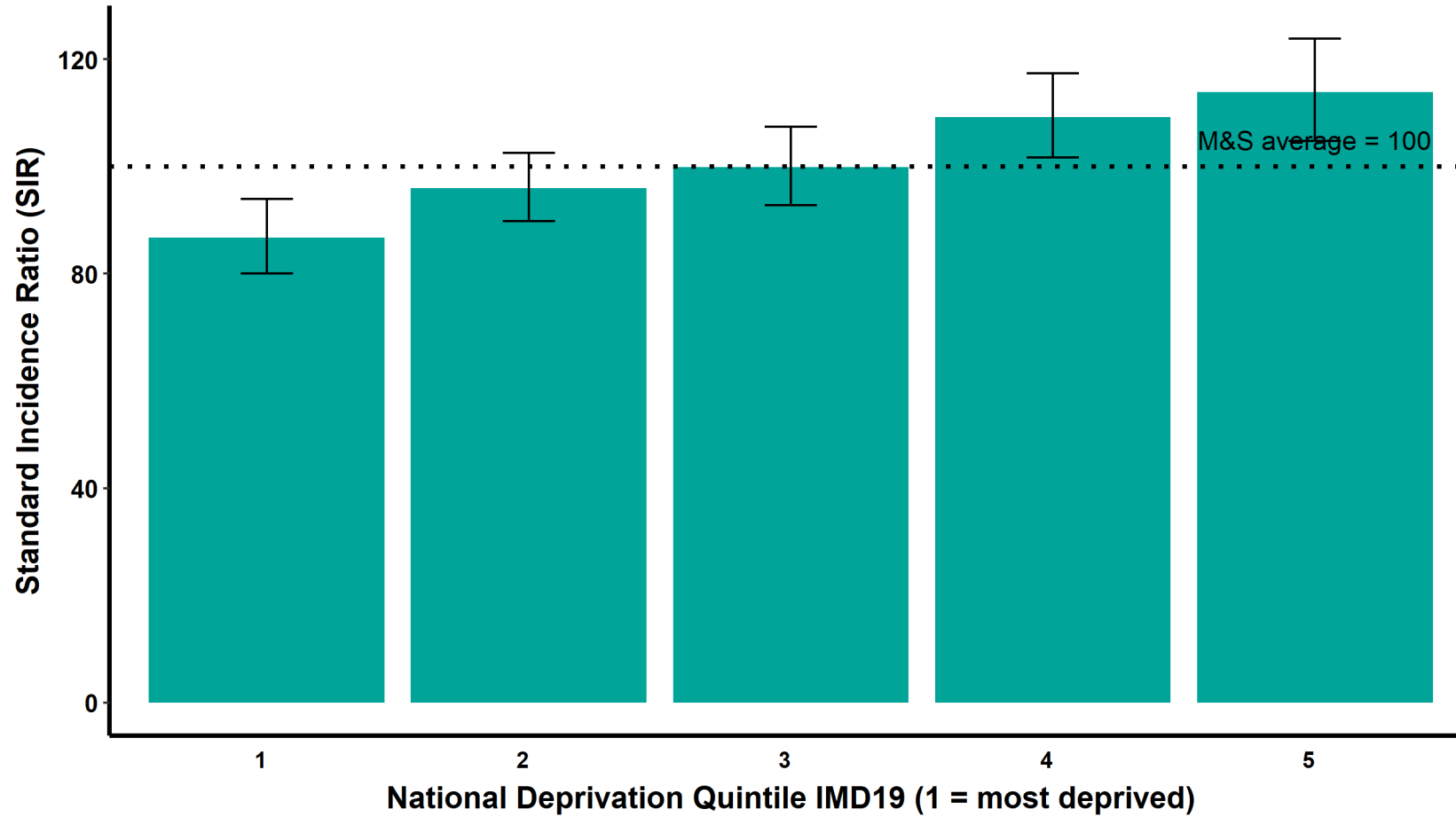


Source (data): Medway NHS Foundation Trust, 2019/20  
 Source (population): Patients Registered at a GP Practice, NHS Digital, April 2020  
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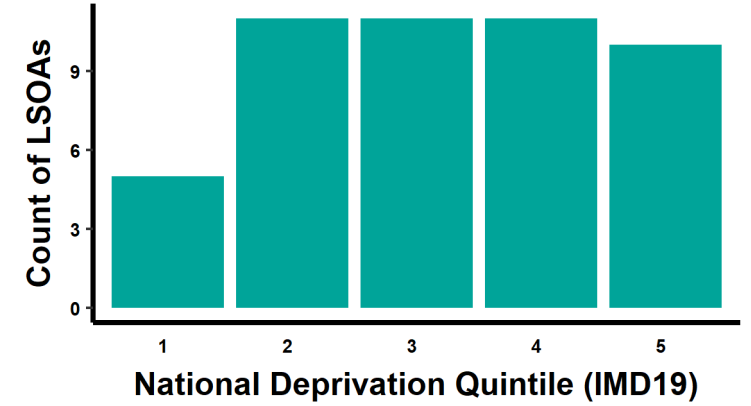
# DEXA

SIR by national deprivation quintile in Medway and Swale  
Examinations performed between April 2019 and March 2020



## Top 20% of LSOAs with highest activity

Count of LSOAs by deprivation quintile



Top 15 LSOAs ordered by SIR			
LSOA	PCN	SIR	Dep Quintile
E01016092	Medway Rainham	192.7	5
E01016093	Medway Rainham	189.4	4
E01024721	Medway South	182.5	4
E01016060	Medway South	171.1	4
E01016131	Rochester	166.2	4
E01024577	Sittingbourne	162.5	2
E01016142	Medway Peninsula	158.2	3
E01016091	Medway Rainham	158.1	5
E01024338	Medway South	156.4	5
E01024612	Sheppey	155.0	1
E01024598	Sheppey	153.8	3
E01016043	Gillingham South	153.4	2
E01016134	Strood	152.8	3
E01016054	Medway Rainham	150.1	5
E01016160	Gillingham South	148.9	1

Source (activity data): Medway NHS Foundation Trust  
Source (deprivation data): Indices of Deprivation 2019, MHCLG  
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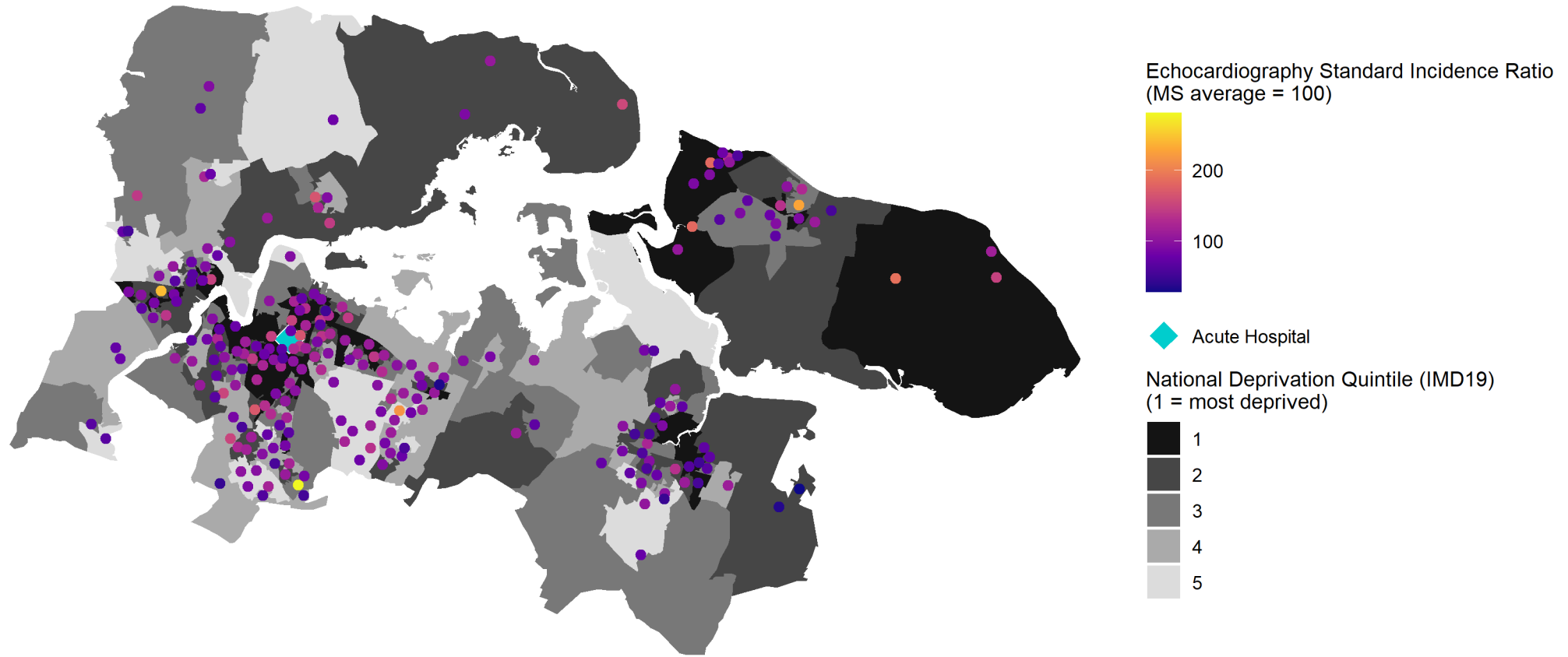
# Echocardiography

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# Echocardiography: age-standardised activity rates by Lower Super Output Area in Medway and Swale

Examinations performed between April 2019 and March 2020

Dots represent population weighted centroids for LSOAs



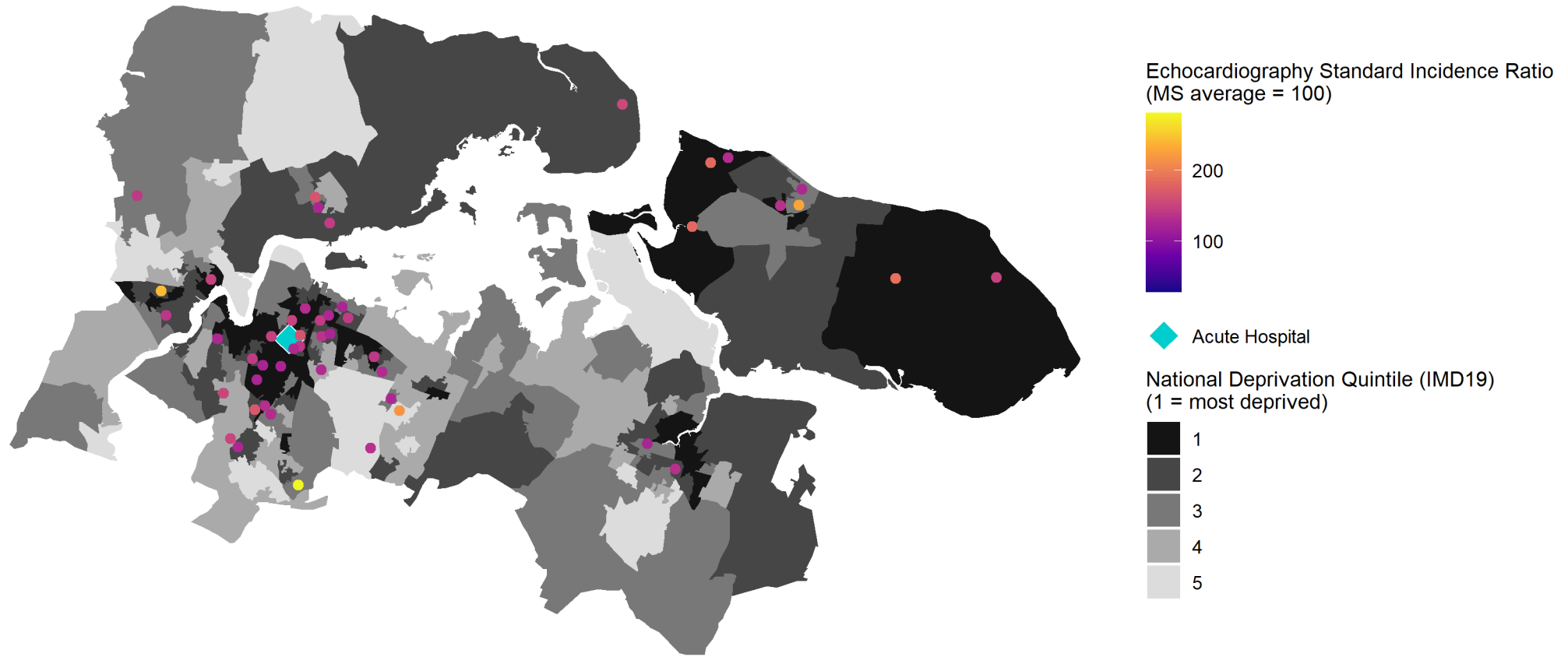
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# Echocardiography: top fifth (20%) of LSOAs in M&S with highest age-standardised activity rates

Examinations performed between April 2019 and March 2020

Dots represent population weighted centroids for LSOAs

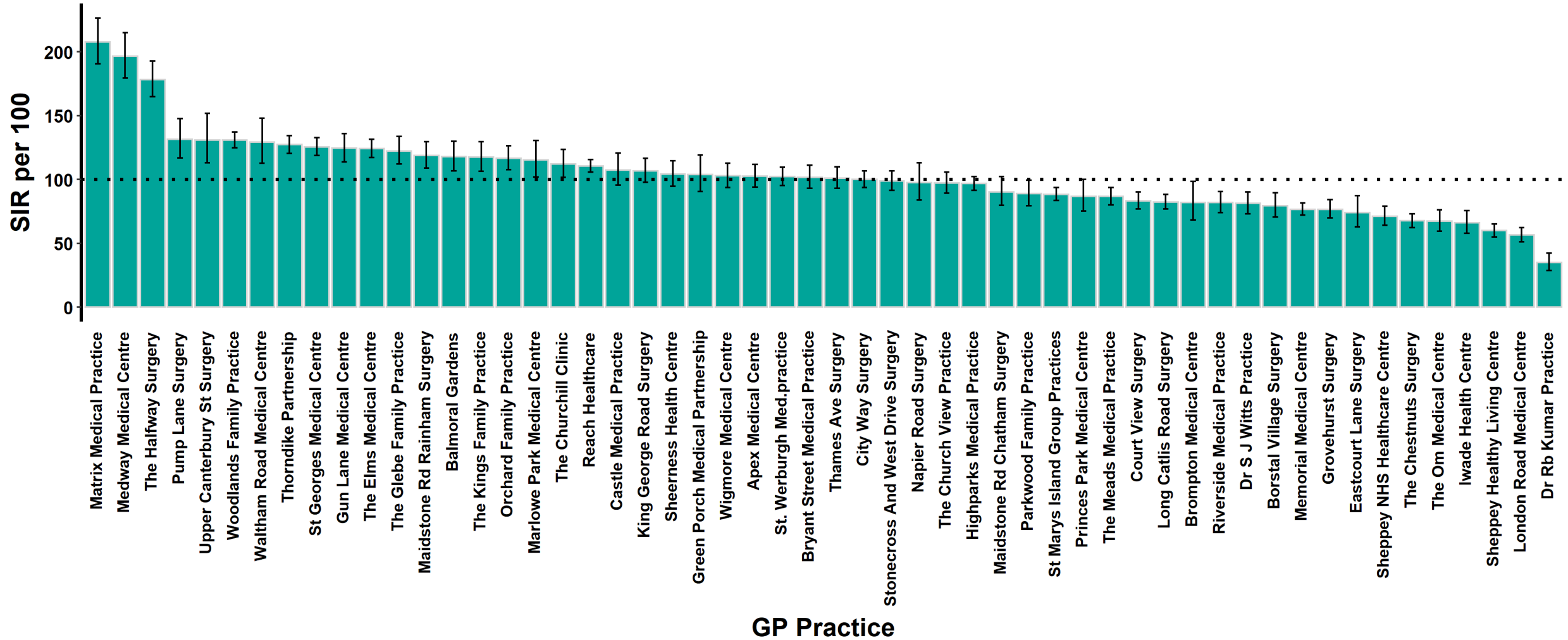


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# Echocardiography: age-standardised activity rates by GP Practice in Medway and Swale; M&S average = 100 (---)

Examinations performed between April 2019 and March 2020

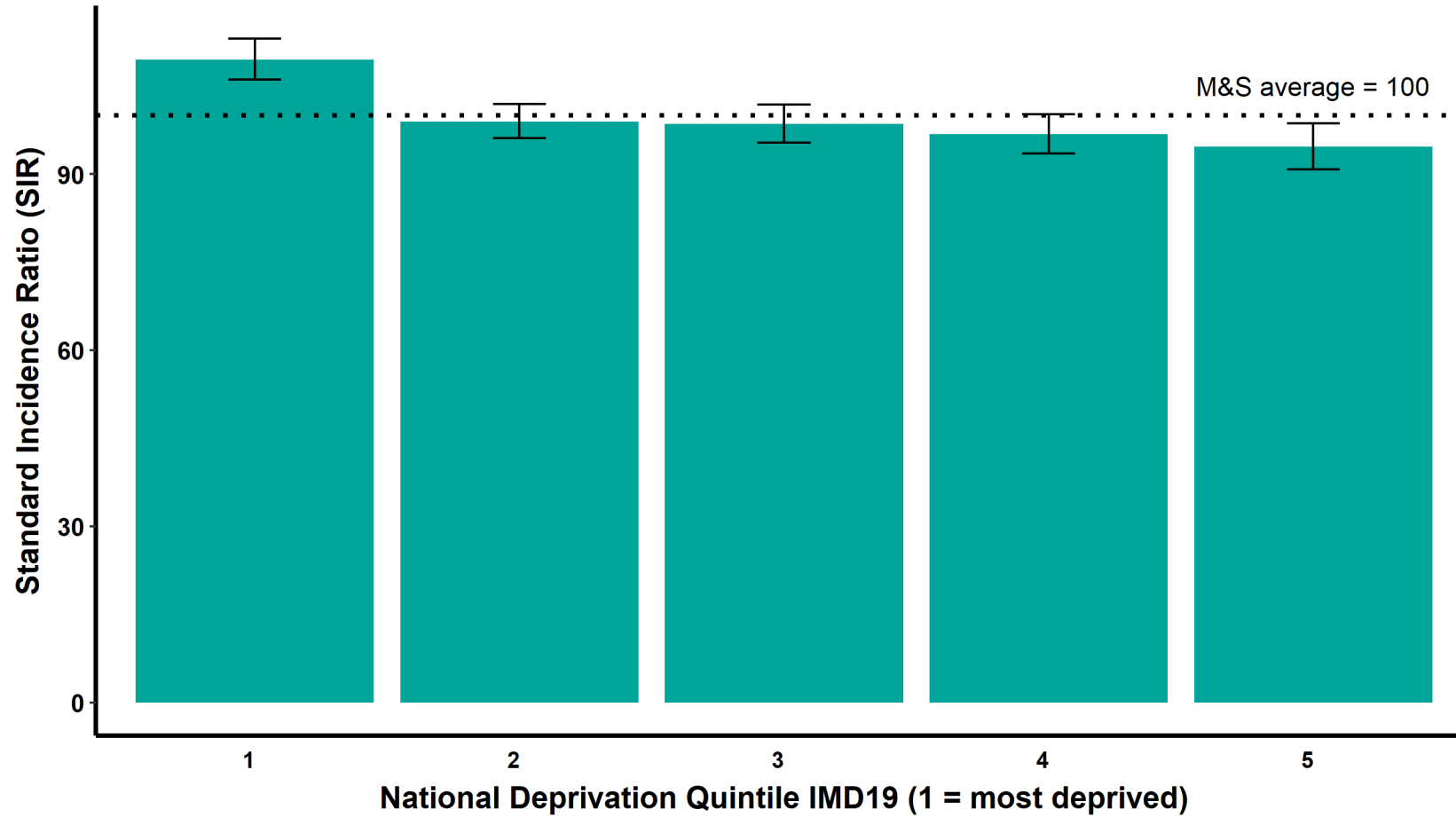


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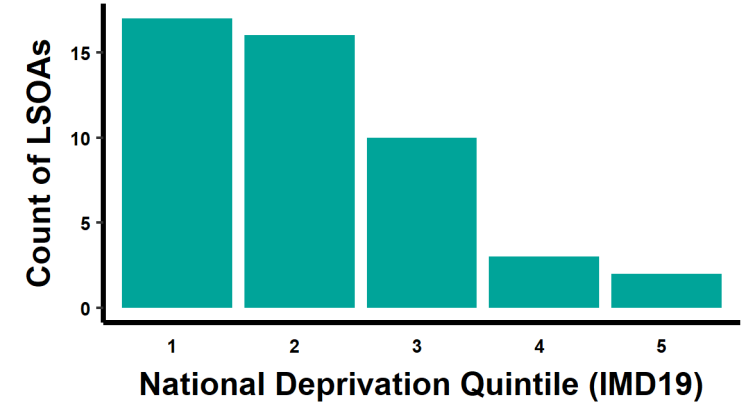
# Echocardiography

SIR by national deprivation quintile in Medway and Swale  
Examinations performed between April 2019 and March 2020



# Top 20% of LSOAs with highest activity

Count of LSOAs by deprivation quintile



Top 15 LSOAs ordered by SIR			
LSOA	PCN	SIR	Dep Quintile
E01016057	Medway South	280.3	3
E01016151	Strood	243.2	2
E01024589	Sheppey	229.2	3
E01016090	Medway Rainham	215.8	5
E01024618	Sheppey	189.2	1
E01024614	Sheppey	183.2	1
E01024596	Sheppey	183.1	1
E01016067	Medway South	169.6	2
E01016044	Gillingham South	165.8	2
E01016075	Medway Peninsula	165.7	3
E01016071	Medway Peninsula	154.6	2
E01016119	Rochester	152.0	4
E01016121	Medway South	151.3	4
E01016049	Medway Central	150.2	1
E01016136	Medway Central	148.5	1

Source (activity data): Medway NHS Foundation Trust  
 Source (deprivation data): Indices of Deprivation 2019, MHCLG  
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# Computed Tomography (CT)

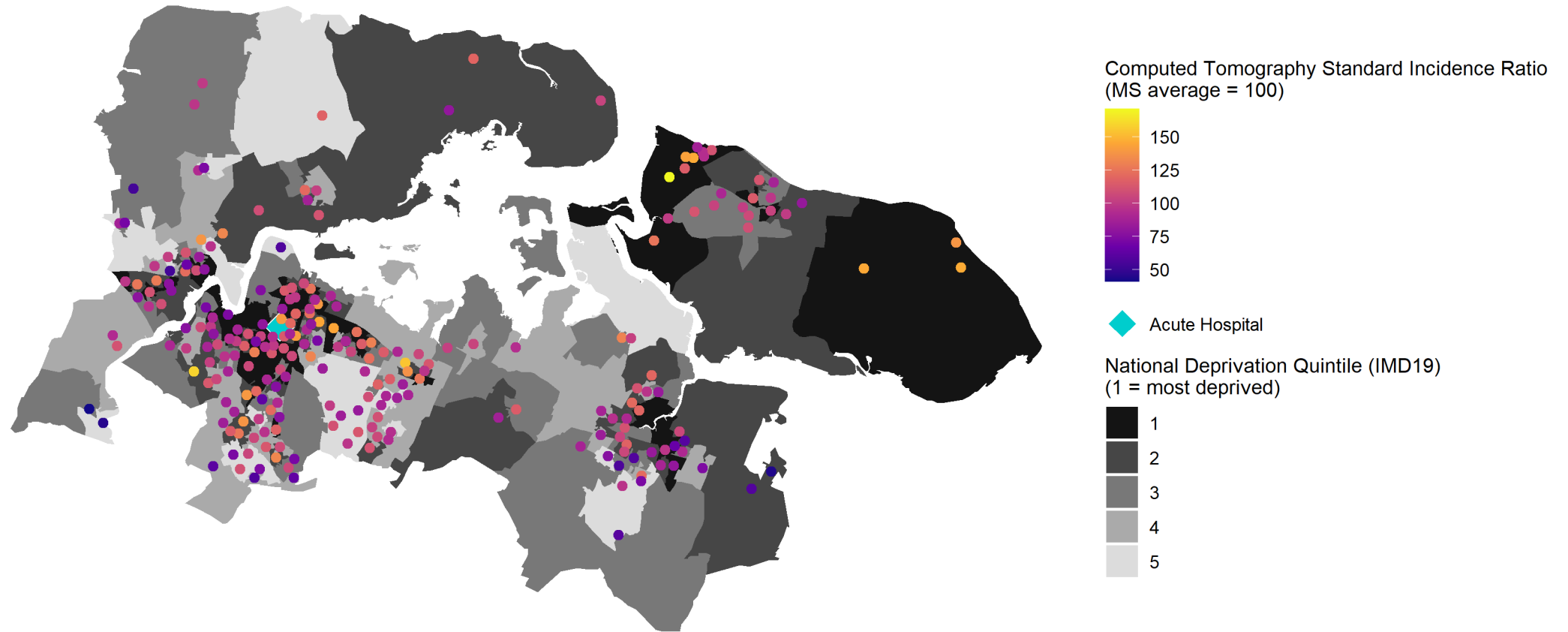
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# Computed Tomography: age-standardised activity rates by Lower Super Output Area in Medway and Swale

Examinations performed between April 2019 and March 2020

Dots represent population weighted centroids for LSOAs



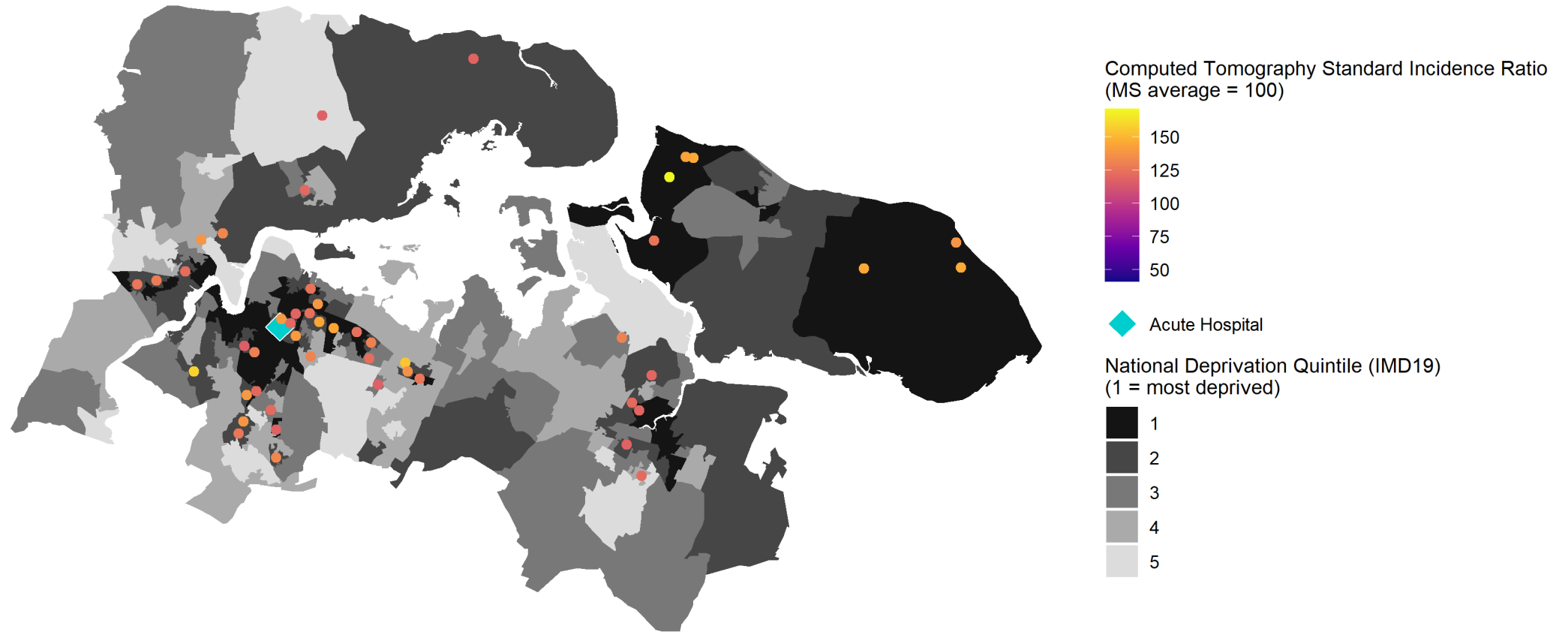
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# Computed Tomography: top fifth (20%) of LSOAs in M&S with highest age-standardised activity rates

Examinations performed between April 2019 and March 2020

Dots represent population weighted centroids for LSOAs

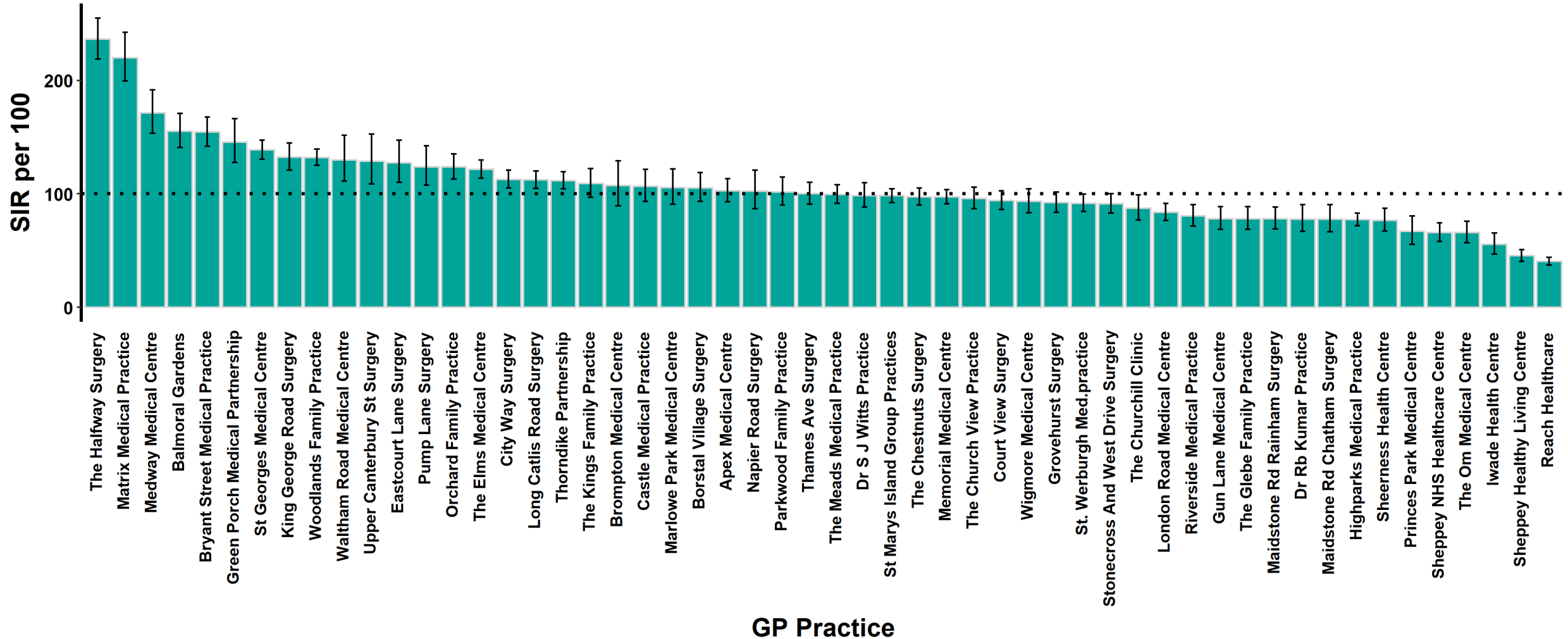


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Computed Tomography: age-standardised activity rates by GP Practice in Medway and Swale; M&S average = 100 (- - -)

Examinations performed between April 2019 and March 2020

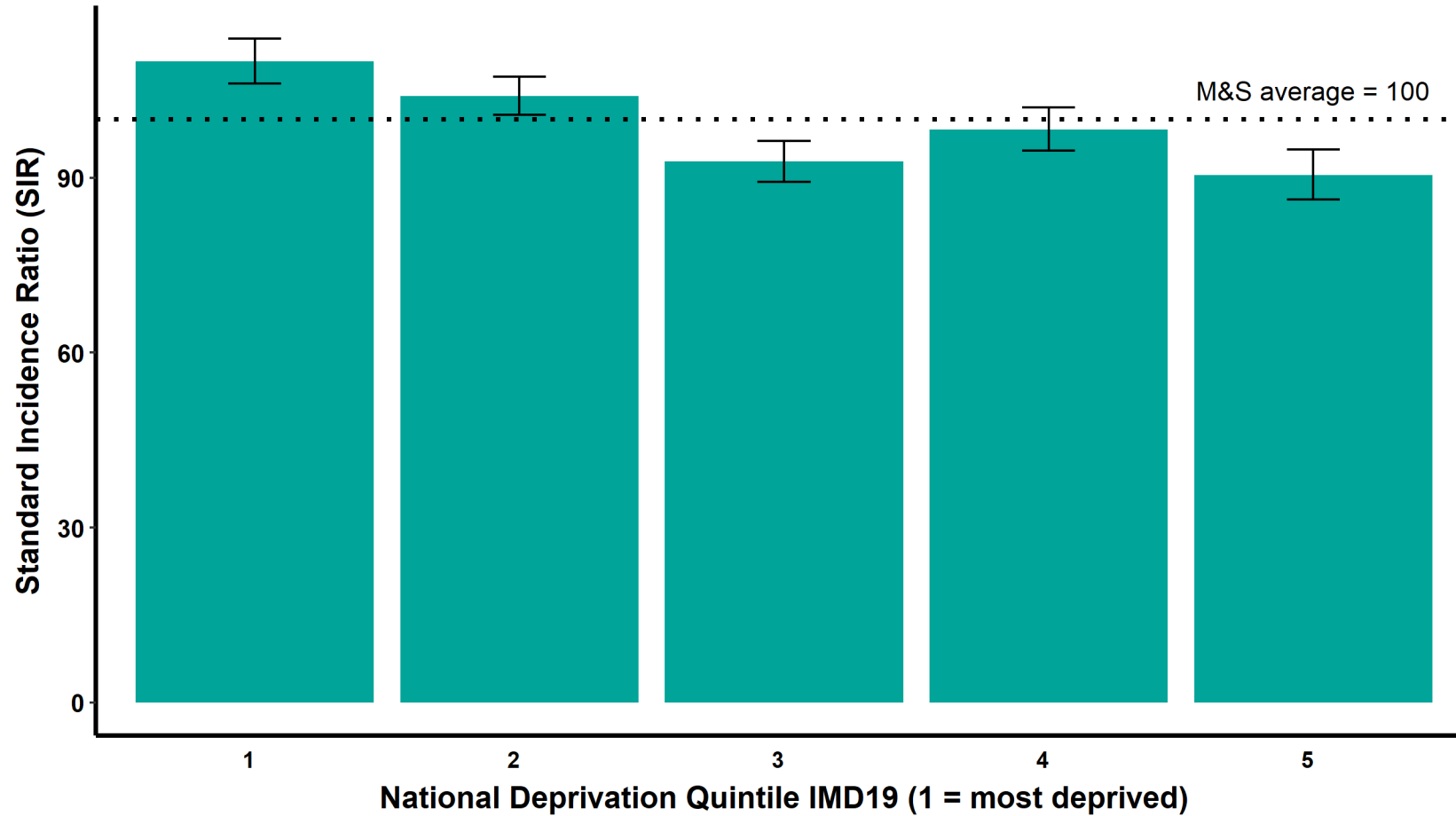


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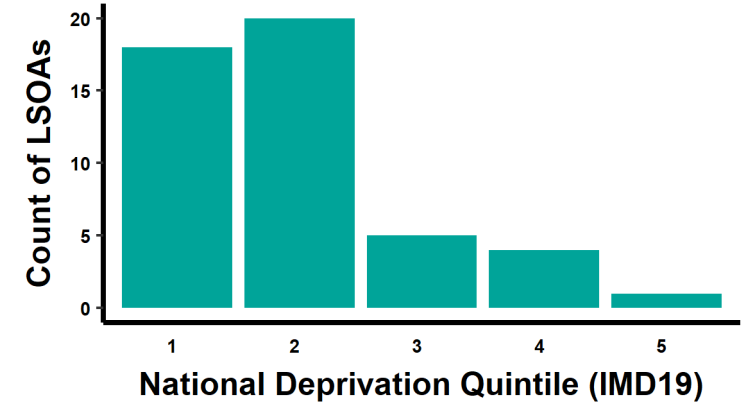
# Computed Tomography

SIR by national deprivation quintile in Medway and Swale  
Examinations performed between April 2019 and March 2020



# Top 20% of LSOAs with highest activity

Count of LSOAs by deprivation quintile



Top 15 LSOAs ordered by SIR			
LSOA	PCN	SIR	Dep Quintile
E01024615	Sheppey	170.7	1
E01016128	Rochester	159.2	2
E01016096	Medway Rainham	154.6	4
E01024580	Sheppey	146.5	1
E01024613	Sheppey	146.2	1
E01024618	Sheppey	145.5	1
E01016043	Gillingham South	145.1	2
E01016159	Gillingham South	144.6	1
E01024614	Sheppey	143.0	1
E01016046	Gillingham South	140.6	1
E01016067	Medway South	139.7	2
E01016045	Gillingham South	139.7	2
E01016032	Gillingham South	139.2	1
E01024581	Sheppey	138.5	1
E01016173	Medway South	138.2	2

Source (activity data): Medway NHS Foundation Trust  
 Source (deprivation data): Indices of Deprivation 2019, MHCLG  
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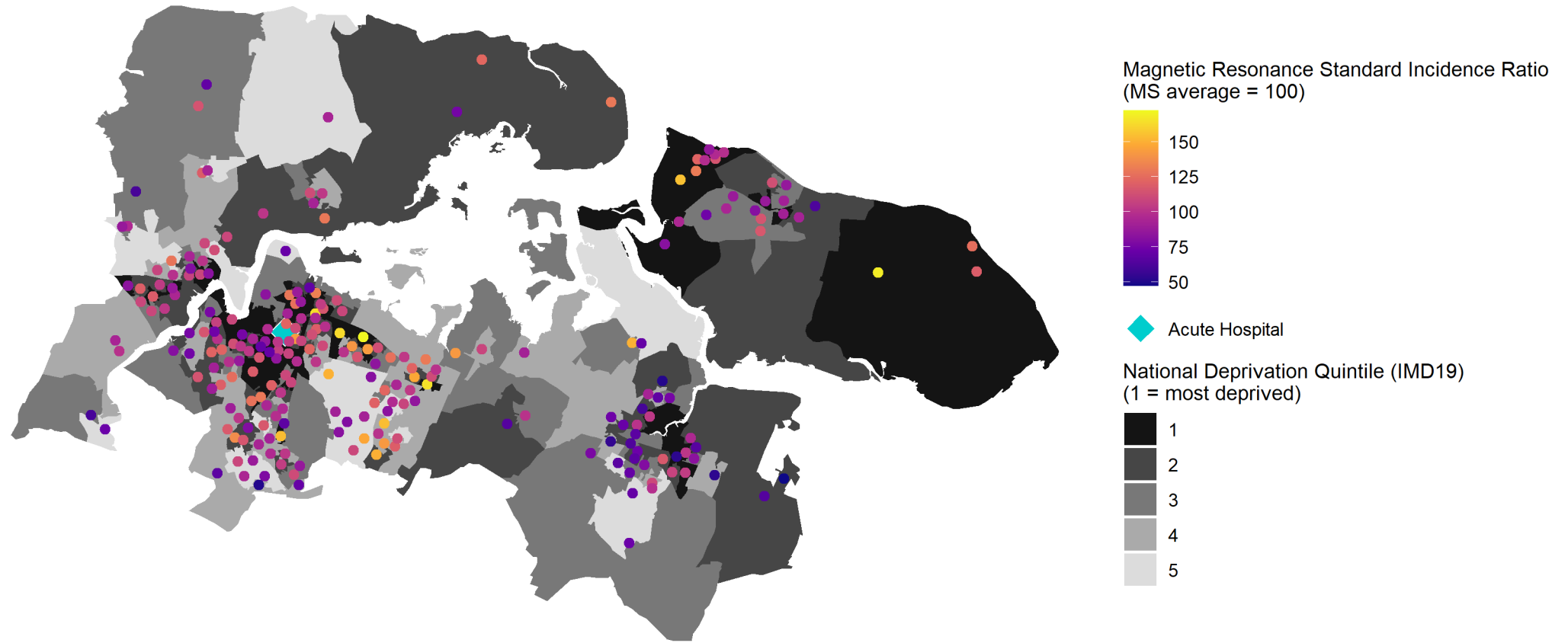
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# Magnetic Resonance Imaging (MRI)

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# Magnetic Resonance: age-standardised activity rates by Lower Super Output Area in Medway and Swale

Examinations performed between April 2019 and March 2020  
Dots represent population weighted centroids for LSOAs



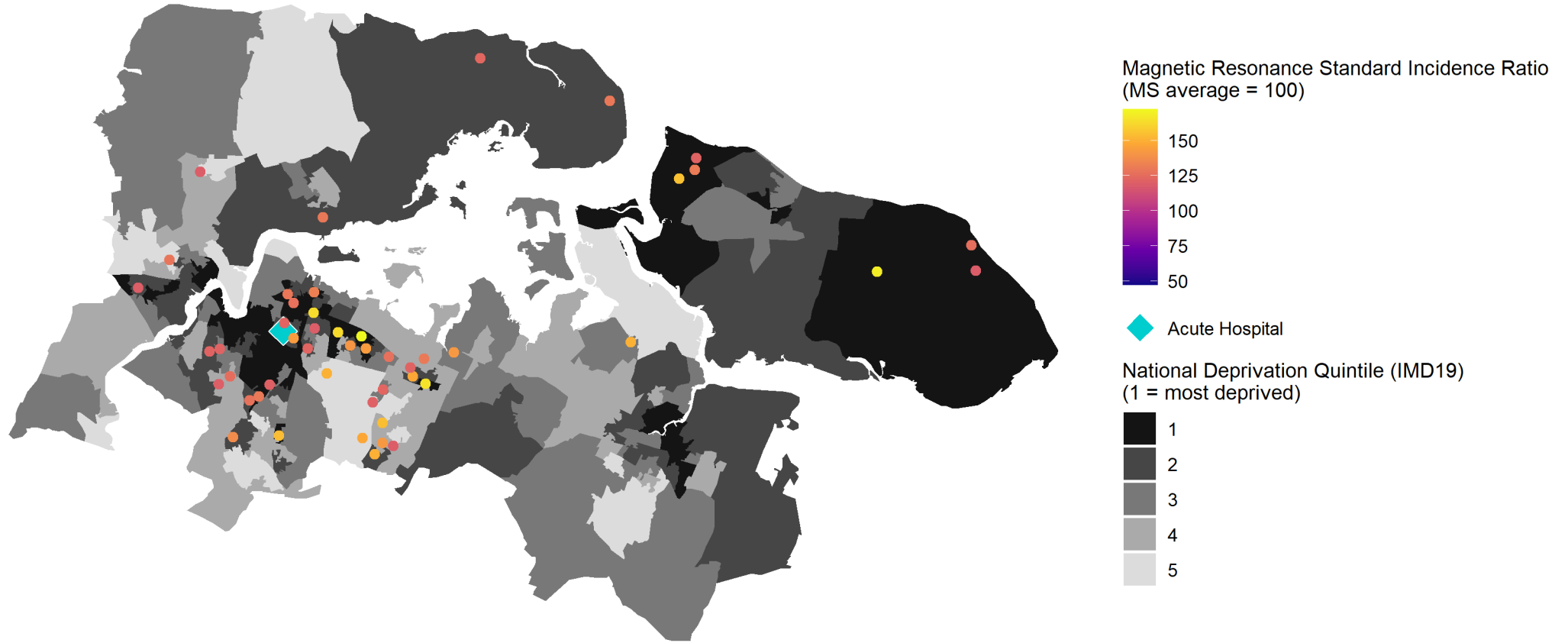
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# Magnetic Resonance: top fifth (20%) of LSOAs in M&S with highest age-standardised activity rates

Examinations performed between April 2019 and March 2020

Dots represent population weighted centroids for LSOAs

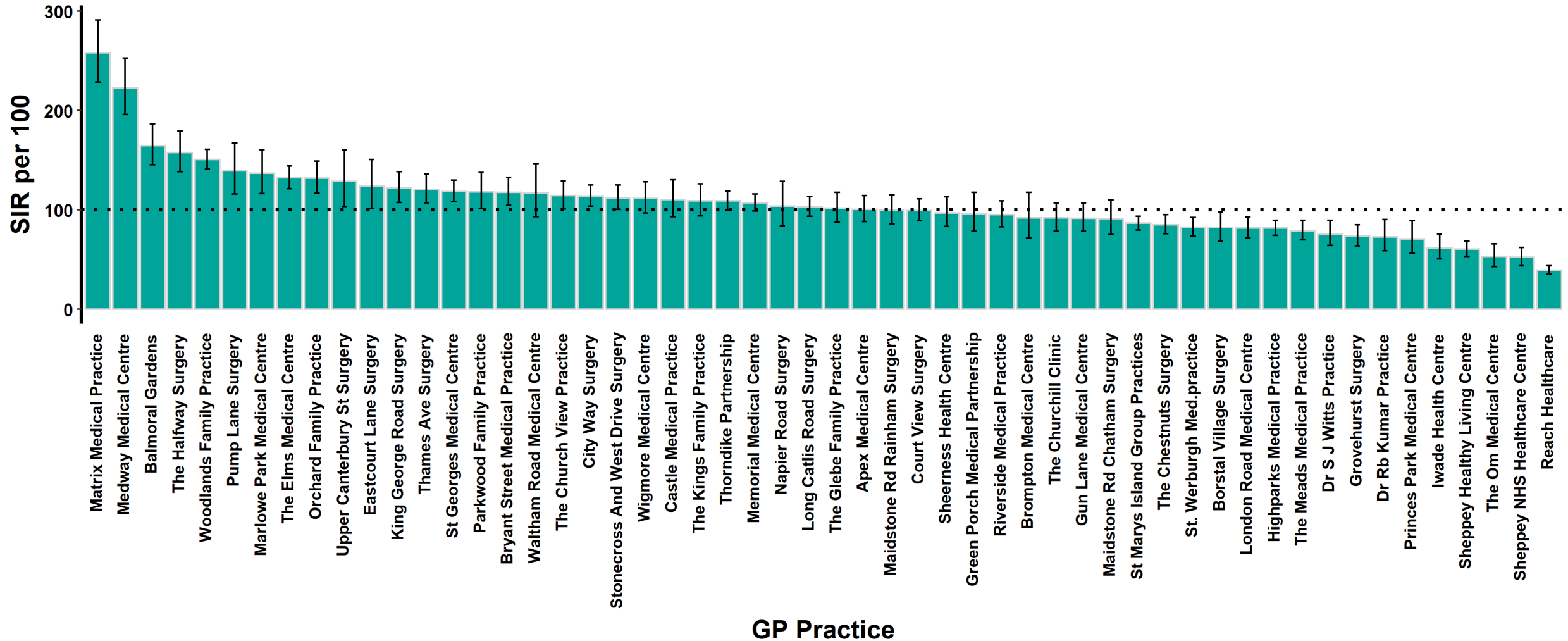


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# Magnetic Resonance: age-standardised activity rates by GP Practice in Medway and Swale; M&S average = 100 (---)

Examinations performed between April 2019 and March 2020



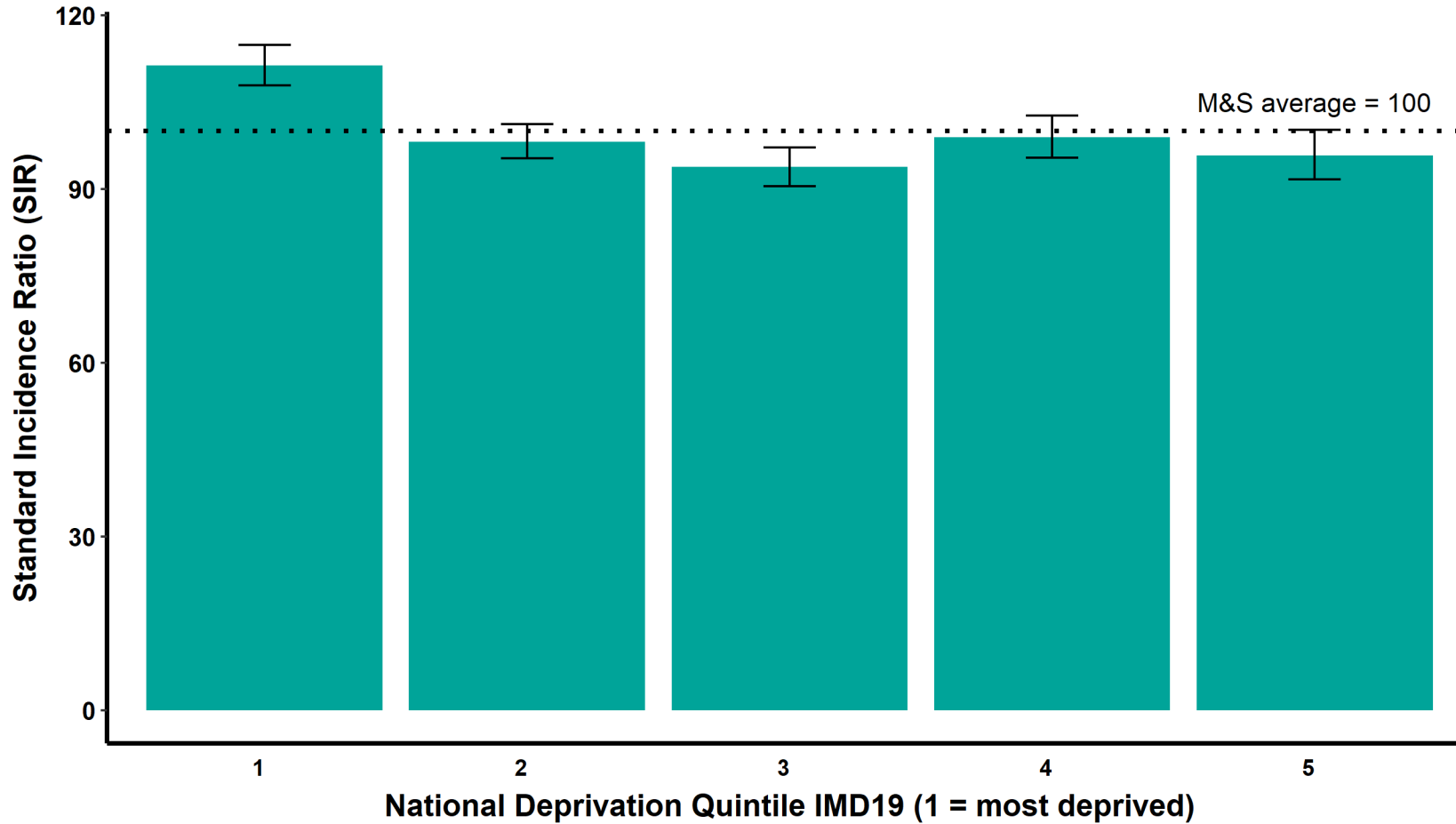
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 Source (population): Patients Registered at a GP Practice, NHS Digital, April 2020  
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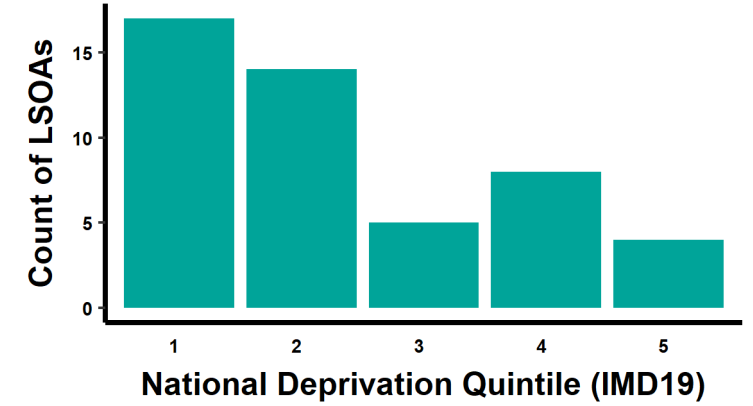
# Magnetic Resonance

SIR by national deprivation quintile in Medway and Swale  
Examinations performed between April 2019 and March 2020



# Top 20% of LSOAs with highest activity

Count of LSOAs by deprivation quintile



Top 15 LSOAs ordered by SIR			
LSOA	PCN	SIR	Dep Quintile
E01016160	Gillingham South	171.7	1
E01024618	Sheppey	168.2	1
E01016102	Medway Rainham	164.9	1
E01016040	Gillingham South	163.1	1
E01016159	Gillingham South	162.8	1
E01024615	Sheppey	154.9	1
E01016105	Medway Rainham	153.9	4
E01016059	Medway South	153.7	1
E01016176	Gillingham South	150.3	5
E01032656	Sittingbourne	150.1	3
E01016100	Medway Rainham	149.7	2
E01016098	Medway Rainham	147.2	2
E01016053	Medway Rainham	147.1	5
E01016161	Medway Rainham	143.2	1
E01016047	Gillingham South	143.2	2

Source (activity data): Medway NHS Foundation Trust  
 Source (deprivation data): Indices of Deprivation 2019, MHCLG  
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# Summary

**DRAFT V1**

# Data Summary: Activity

Pathway	Diagnostics	Data	Findings
Rheumatology	X-Ray	MFT and community hospitals	Activity is highest in most deprived quintiles. LSOAs with the highest activity are in Sheppey.
	DEXA	MFT only	Activity is highest in least deprived quintiles. LSOAs with the highest activity are in Medway Rainham and Medway South.
Cardiology	Echo	MFT only	Activity is highest in the most deprived quintile. LSOAs with the highest activity are in Medway South, Strood and Sheppey.
	ECG	TBC	No data yet.
Other	CT	MFT only	Activity is highest in most deprived quintiles (1 and 2). LSOAs with the highest activity in are in Sheppey, Rochester and Medway Rainham.
	MRI	MFT only	Activity highest in most deprived quintiles. LSOAs with the highest activity are in Gillingham South, Sheppey and Medway Rainham.
	Doppler	MFT and community settings	No community data (not presented).
	NOUS	MFT and AQP	No AQP data (not presented).

# Forecasting

Modality	Diagnostic test	Baseline demand pre-COVID (2019/20)	Baseline capacity pre-COVID (2019/20)	Forecast demand (2026/27)	% forecast demand that is elective	Forecast required capacity (2026/27)
Imaging	CT					
	MRI					
	Ultrasound					
	Plain X-Ray					
Physiological measurement	Echocardiography (ECHO)					
	Electrocardiogram (ECG) including Holter monitoring					
	Oximetry					

## Which data are needed

- **Demand** (we are looking into getting this by LSOA and age band to complement the activity data)
- **Capacity** (need to identify data and expertise to calculate this)

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