



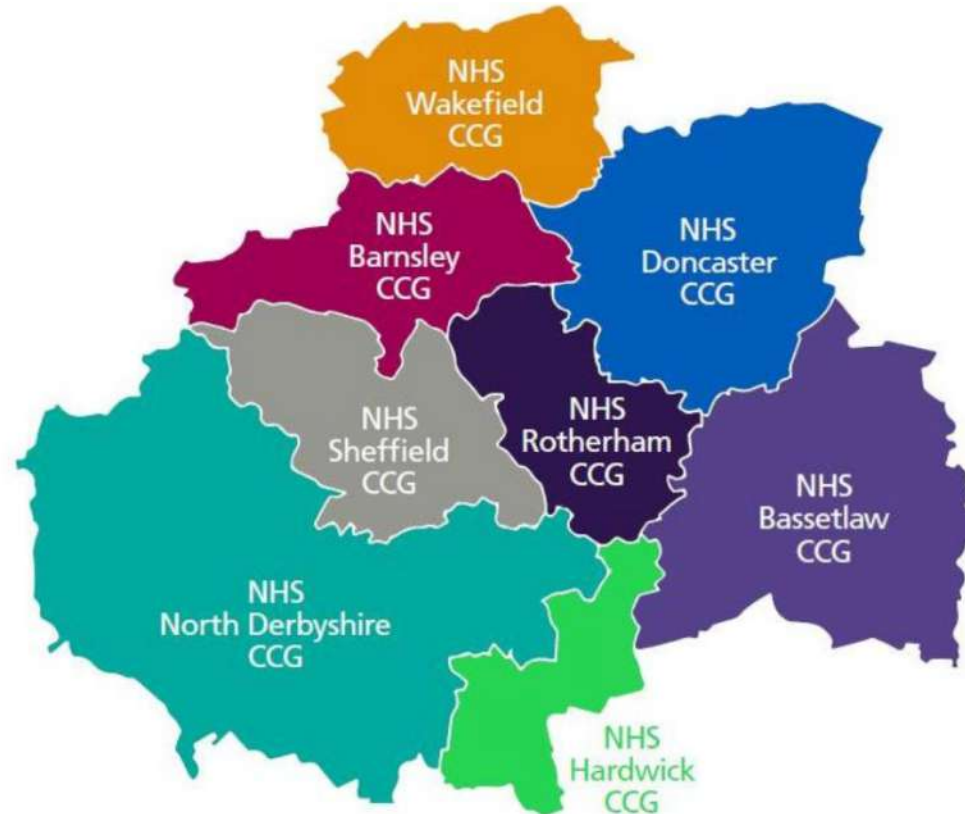
**Disease modifying therapy choices across the region covered by Sheffield Teaching Hospitals neurology service**

**Dr Dima Dahdaleh**  
Consultant Neurologist  
Royal Hallamshire Hospital

# Background



Neurology Service in Sheffield covers a wide area

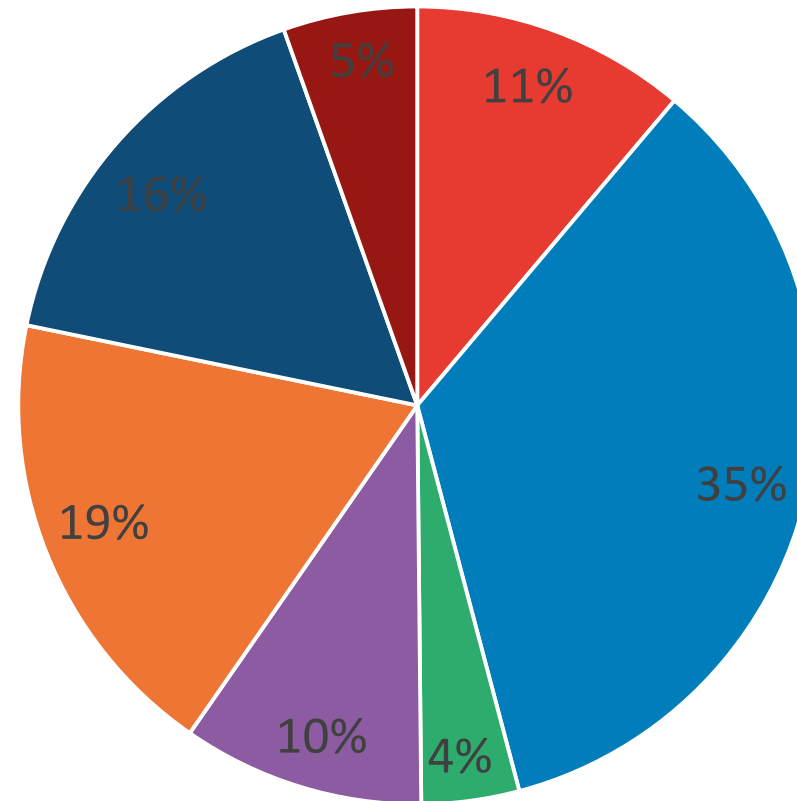


# MS Patients Covered by Sheffield Neurology Services



3738 patients

Area	Number of patients
Sheffield	1298
Barnsley	417
Bassetlaw	148
Doncaster	367
Rotherham	611
NED/Hardwick	694
OOA	203



- Barnsley
- Sheffield
- Bassetlaw
- Doncaster
- NED/Hardwick
- Rotherham
- OOA

# Aim



## Service evaluation

- where patients with MS on treatment are coming from
- which disease modifying therapies are they on

Determine if there is variance in DMT choices across the areas we cover

Exploring if our service model leading people to make different treatment choices

# Methods



Bluteq database upto February 2019

- All MS patients under care of neurology service currently on disease modifying drugs
  - Demographics: Age , sex
  - Postcode
  - Treatment they are on
  - Consultant

# Methods



CCG Look –up tool online to determine area patient is from

- Sheffield
- Barnsley
- Doncaster
- Bassetlaw
- Rotherham
- North East Derbyshire & Hardwick

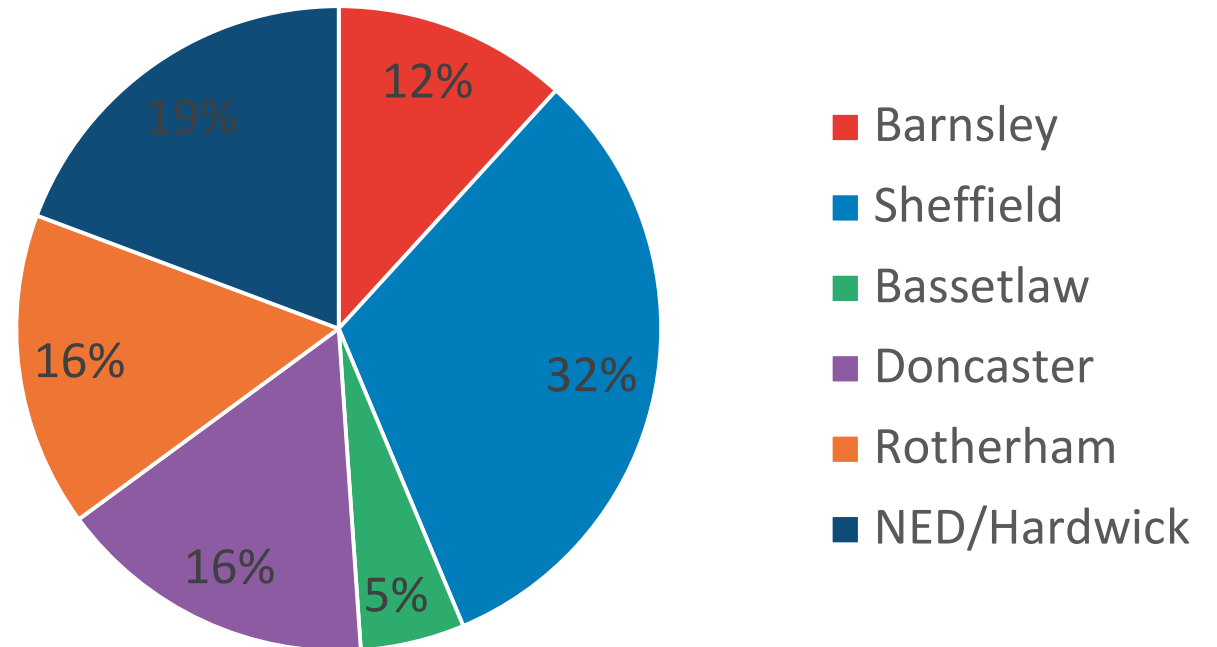


# Results



Total of 824 patients receiving DMTs in our area

Area	Number of patients
Sheffield	263
Barnsley	97
Bassetlaw	43
Doncaster	132
Rotherham	130
NED/Hardwick	159



# Results - Demographics



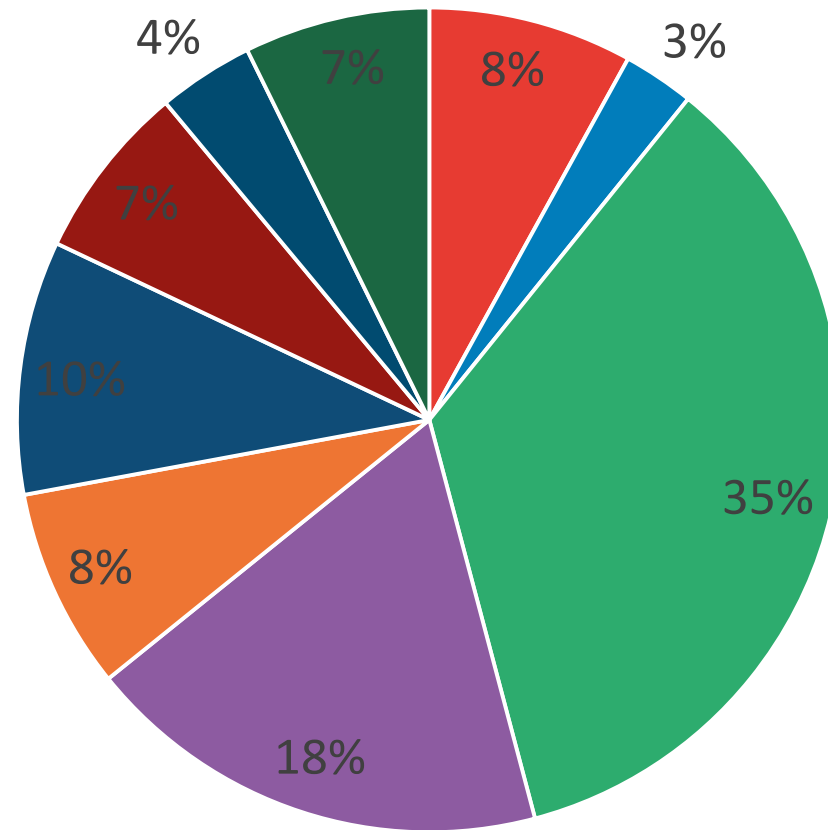
	F:M ratio	Mean Age
<b>Sheffield</b>	3:1	43
<b>Barnsley</b>	4:1	43
<b>Bassetlaw</b>	2:1	48
<b>Doncaster</b>	2:1	45
<b>Rotherham</b>	3:1	47
<b>NED/Hardwick</b>	3:1	47



# Results



Drug	Number of patients
Alemtuzumab	66
Cladribine	23
Dimethyl fumarate	289
Fingolimod	151
Glatiramer acetate	65
Interferon beta	82
Natalizumab	57
Ocrelizumab	31
Teriflunomide	60



- Alemtuzumab
- Cladribine
- Dimethyl fumarate
- Fingolimod
- Glatiramer acetate
- Interferon beta
- Natalizumab
- Ocrelizumab
- Teriflunomide

# Results



Drug	Barnsley	Sheffield	Bassetlaw	Doncaster	Rotherham	NED/Hard
<b>Alemtuzumab</b>	8	10	2	11	6	6
<b>Natalizumab</b>	10	7	9	7	5	5
<b>Ocrelizumab</b>	3	5	5	5	2	3
<b>Cladribine</b>	2	2	7	3	5	2
<b>Dimethyl fumarate</b>	31	38	35	30	26	43
<b>Fingolimod</b>	16	19	19	20	22	15
<b>Glatiramer acetate</b>	11	7	5	10	10	5
<b>Interferon beta</b>	8	6	5	7	12	19
<b>Teriflunomide</b>	9	6	14	8	13	2

# Results- Chi-Square



- **No significant difference** in DMT choices for patients living in different areas **except** for Interferon beta and Teriflunomide

Drug	p value
Alemtuzumab	0.308
Natalizumab	0.659
Ocrelizumab	0.481
Cladribine	0.339
Dimethyl fumarate	0.143
Fingolimod	0.854
Glatiramer acetate	0.366
<b>Interferon beta</b>	<b>0.001</b>
<b>Teriflunomide</b>	<b>0.006</b>

# Results



Drug	Barnsley	Sheffield	Bassetlaw	Doncaster	Rotherham	NED/Hard
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<b>Interferon beta</b>	<b>8</b>	<b>6</b>	<b>5</b>	<b>7</b>	<b>12</b>	<b>19</b>
<b>Teriflunomide</b>	<b>9</b>	<b>6</b>	<b>14</b>	<b>8</b>	<b>13</b>	<b>2</b>

# Results- number of patients under each consultant



	Barnsley	Sheffield	Bassetlaw	Doncaster	Rotherham	NED/Hardwick
<b>Consultant A</b>	21	<b>86</b>	7	11	15	41
<b>Consultant B</b>	32	<b>66</b>	18	<b>106</b>	18	35
<b>Consultant C</b>	16	<b>33</b>	5	1	23	11
<b>Consultant D</b>	24	<b>65</b>	12	11	<b>74</b>	25
<b>Consultant E</b>	0	0	0	0	0	<b>44</b>
<b>Consultant F</b>	4	<b>13</b>	1	3	0	4

# Conclusions



- MS patients on DMTs come from all across our region: only 32% are from the Sheffield area
- Nine DMTs were prescribed across the region
- There was no significant difference in DMT choices across the difference areas apart except interferon beta and teriflunomide.

# Conclusions



Similarities likely due to

- Prescribing culture amongst Msologists in our centre similar
- Local service provided across most of the region- local follow-up/ drug monitoring
- Distance to sheffield doesn't appear to be influencing decision to be on DMTs administered as infusions: perhaps efficacy more important

Variability in 1<sup>st</sup> line DMTs prescribed likely due to a combination of patient and prescriber factors. Assuming choice appropriate for disease severity, choice of drug equitable as similar efficacy.

# References



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- Physician and patient treatment decision-making in relapsing-remitting multiple sclerosis in Europe and the USA, Brown H, Gabriele S, White J *Neurodegener. Dis. Manag.* (2018) 8(6), 371–376
- Treatment Algorithm for Multiple Sclerosis Disease-Modifying Therapies *NHS England* March 2019