The UK Medical Education Database – Where from, where going and why?

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GMC

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UK Medical Education Database

UKMED team

- Chair – Prof Steve Thornton
- Chair Research Group – Prof Jon Dowell
- Senior Responsible staff – Katie Petty Saphon (MSC) and Kirsty White (GMC)
- Secretariat (Olga Sierocinska King at MSC)
- Website (Ed Knight MSC)
- GMC Data team (Daniel Smith, Pete McNair and Ganesan Gurusamy)
- GMC IG Team (Andrew Ledgard and Thomas Oppé)

- We are grateful to all members of the Advisory Board, the Research Group and all data contributors.

NOTE: The GMC is Data Controller and responsible for compliance with the Data protection Act.
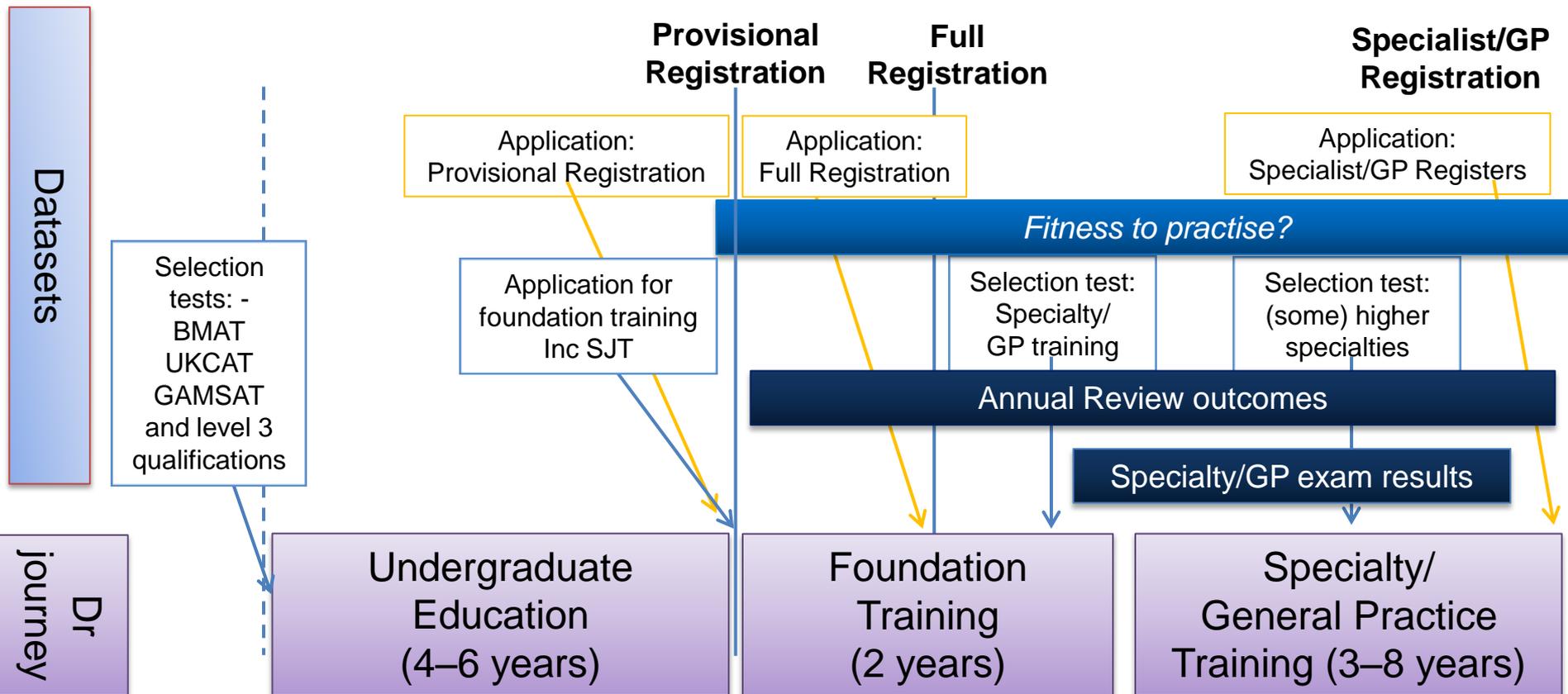
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UKMED – Where from?

- UK Clinical Aptitude test – first testing 2006

- UKCAT Database and Research Group – took a while, learnt a lot

- First UKCAT publications
  - **Tiffin** et al. Widening access to medical education for under-represented socioeconomic groups: *Brit Med J* 2012;344:e1805
  - **McManus** et al. The UKCAT-12 study. *BMC Medicine* 2013, 11:244

- UKMED proposed to MSC/GMC in 2011

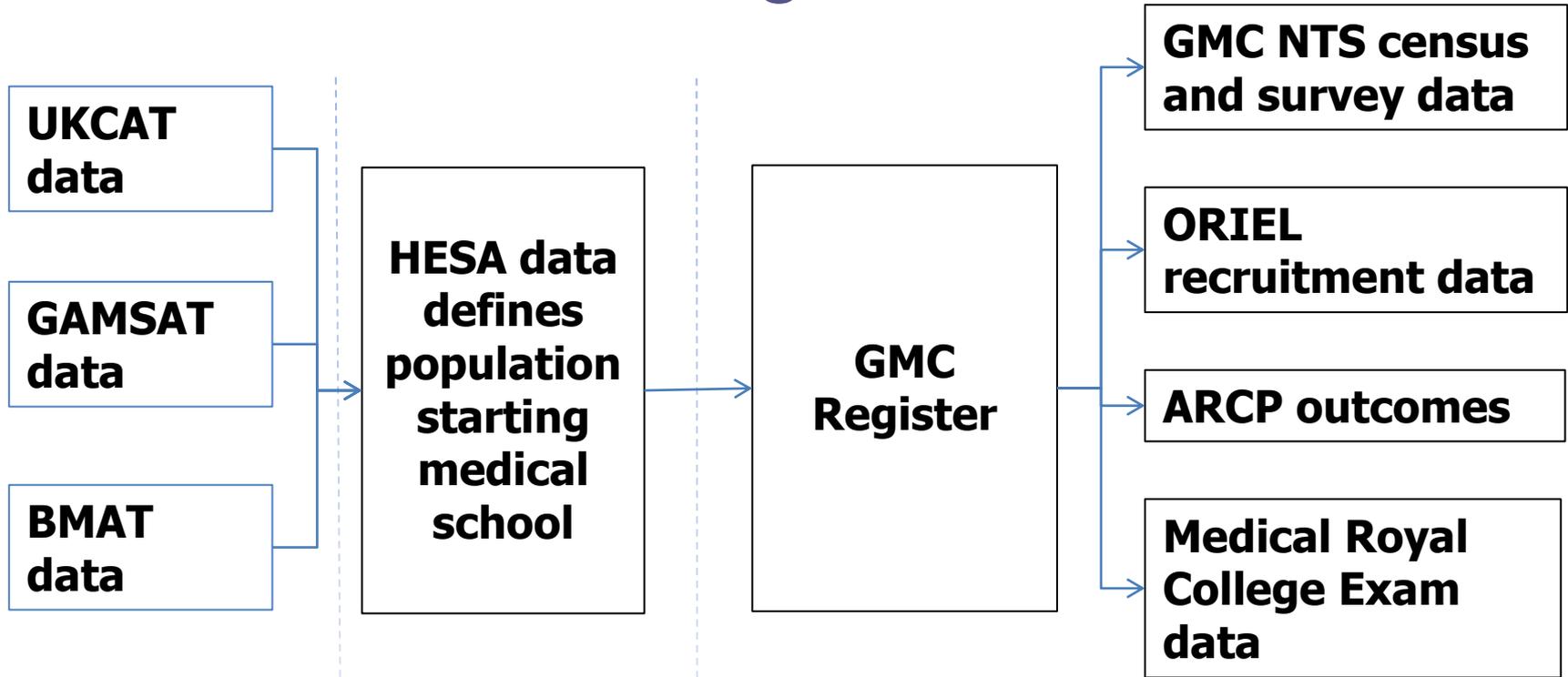**UKMED**
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UKMED – Where going?

- Cumulative linked data from applications to medical school from 2006 through to postgraduate training outcomes.

- A governance framework to support researchers use of data extracts.

- A method of sharing data with researchers that is fully compliant with the Data Protection Act and **free to users** as GMC underwriting data costs.

- Limited access to selected data for approved users under contract.

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Currently data for students from 2007 to 2014 - N > 63,000

Datasets

Dr journey

Provisional Registration

Full Registration

Specialist/GP Registration

Application: Provisional Registration

Application: Full Registration

Application: Specialist/GP Registers

Fitness to practise?

Selection tests: - BMAT UKCAT GAMSAT and level 3 qualifications

Application for foundation training Inc SJT

Selection test: Specialty/ GP training

Selection test: (some) higher specialties

Annual Review outcomes

Specialty/GP exam results

Undergraduate Education (4–6 years)

Foundation Training (2 years)

Specialty/ General Practice Training (3–8 years)

UKMED data linking

Privacy controls are not binary but fall on spectra

K > 1 for all quasi-identifiers

Obfuscation

Openly identifiable

Anonymised to the point of losing valuable content

Safe Haven – prevents re-identification via linking. No data in/out.

Access / Environment

Free on the internet

(Everyone)

Locked in a steel-lined room

(Accredited researcher)

Governance, accountability and enforcement

Little legislation

Highly legislated

Data Sharing Agreement with strict legal controls to prevent any attempt to identify . Signed by senior staff and researchers.

Select year (s) of entry to medical school to display

(All)

First Medical School	N in UKCAT	Percent in UKCAT	N In UKMED population
Aberdeen	1,380	91%	1,512
Barts	2,530	97%	2,595
Birmingham	2,996	93%	3,222
Brighton and Sussex	1,078	96%	1,121
Bristol	1,830	93%	1,974
Cambridge	2,096	90%	2,339
Cardiff	2,364	98%	2,409
Dundee	1,199	89%	1,344
Edinburgh	1,789	94%	1,904
Exeter	234	95%	247
Glasgow	1,871	88%	2,124
Hull York	1,115	98%	1,141
Imperial	2,463	92%	2,663
Keele	1,039	97%	1,073
King's	3,071	96%	3,194
Lancaster	367	93%	395
Leeds	1,755	91%	1,939
Leicester	1,939	96%	2,024
Liverpool	2,291	90%	2,547
Manchester	2,933	94%	3,132
Newcastle	2,449	97%	2,528
Norwich	1,307	98%	1,334
Nottingham	2,353	85%	2,783
Oxford	1,340	93%	1,441
Peninsula	1,308	94%	1,389
Queen's	2,003	93%	2,146
Sheffield	1,841	96%	1,918
Southampton	1,886	90%	2,087
St Andrews	1,185	88%	1,339
St George's	1,846	80%	2,302
Swansea	427	75%	573
The University of Bradford	778	80%	967
UCL	2,331	91%	2,566
Warwick	1,237	90%	1,370
Grand Total	58,631	92%	63,642

Selection the section to see score statistics

Quantitative Reasoning

UKCAT Section	Mean UKCAT score	SD UKCAT score	N UKCAT test attempts
Quantitative Reasoning	681.91	79.83	72,143

Online data tool

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BMAT data to be added Summer 2017

UKMED selection data will then include as standard:

- Data on entrants to any UK medical school from 2007
- Prior attainment – A level etc, degrees (via HESA)
- HESA demographics
- Test data – whichever school attended
  - UKCAT
  - BMAT
  - GAMSAT

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New data added twice a year

- New cohorts added each year.

- Working to include additional selection data, such as MMIs.

- Growing Postgrad progress and exam data accumulating.

- Career destination data emerging.

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Bringing in your own data

It is now possible to bring your data into UKMED.

This is subject to:

- Review of privacy notices to ensure nothing to prevent sharing.

- Suitable identifiers for linking purposes.

- Data available to others, but only after you have used it.

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UKMED – Why?

- Medical Education costs +/- £1.5b

- Little systematic R + D investment

- Single centre studies limited utility

- Rare outcomes can be studied

- Adequate power for subgroup analysis

- Selection through to PG outcome research = Holy Grail

- Potential for new types of studies…..
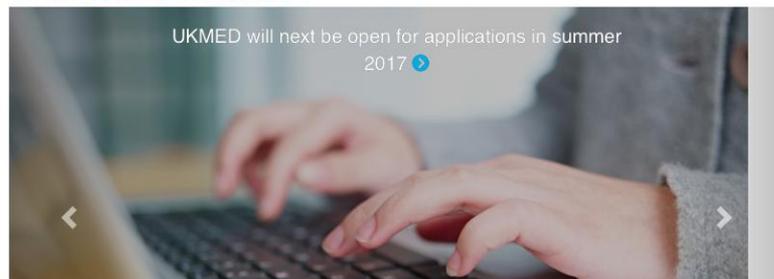
Examples of approved projects

- Impact of accelerated graduate-entry medicine courses?

- "Getting on" in medicine: a study of careers trajectories and decisions.

- How do graduates from gateway compare to standard entry courses ?

A full list is available on the UKMED website: www.ukmed.ac.uk

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Test case study

## Fitness to Practise Declaration Predictors at Provisional Registration

Students declare significant behavioural or health concerns which may impact on FtP at provisional registration:

- 2014:   **744**/ 7,464 (4 refused registration).
- 2015:   **884**/ 7,522 (6 refused registration).

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Aim - Rare sensitive outcomes

1. To identify the educational and demographic predictors of both health and conduct-related declarations.

2. To identify any associated UKCAT non-academic attributes.

3. To test the concept of FtP related studies.

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Conduct Results

Odds Ratio
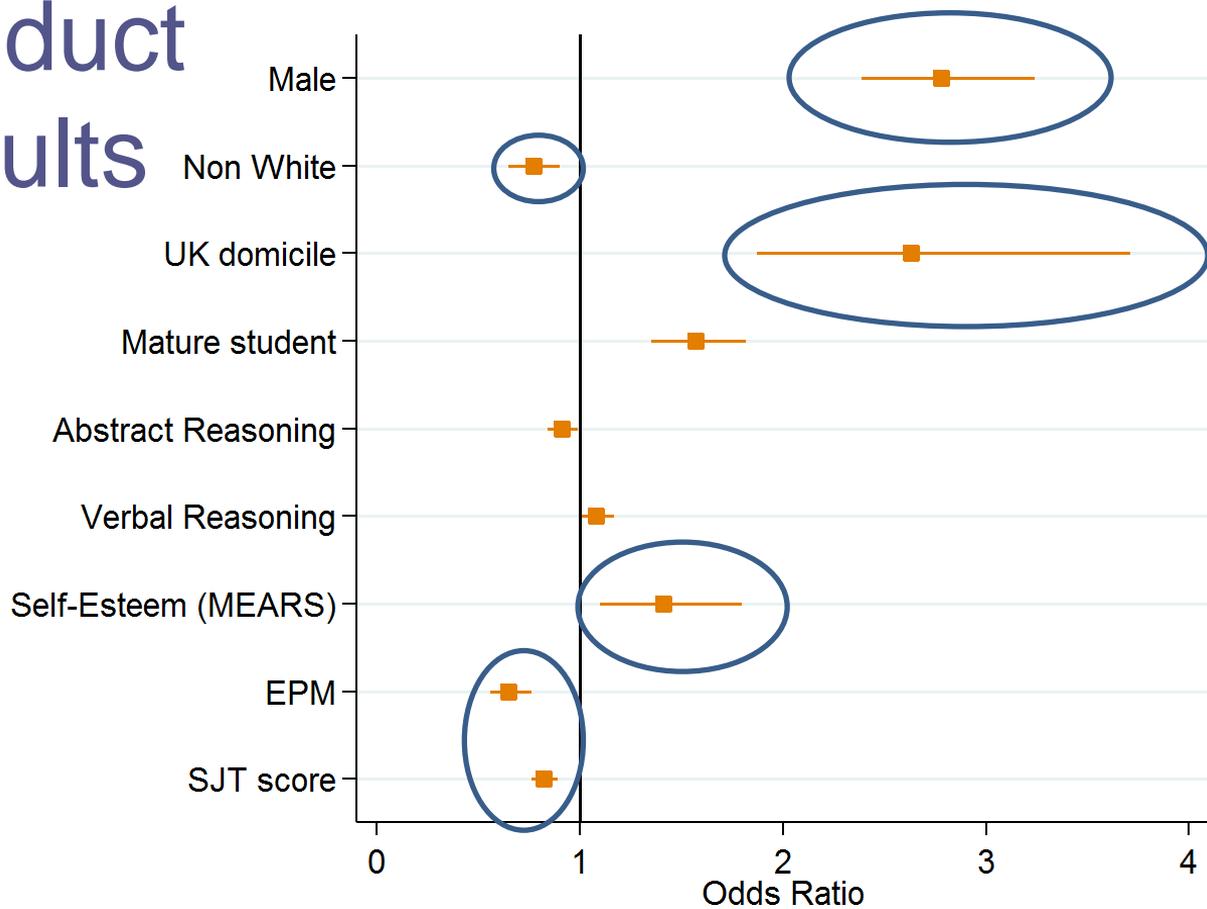
Might MEARS Self –esteem be a screening tool?
N = 666

- 4.4% with above average MEARS 'self-esteem' score have a conduct-related declaration.

- 2.8% who 'screened negative' (below average) have a conduct-related declaration.

- 1.6% absolute risk reduction from such a hypothetical screening process.

The **'number needed to reject' is 22** to exclude one student with concerns.

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So, if you want to use UKMED?

UKMED annual cycle

UKMED is integrated into GMC annual processes

- Two data loads a year, including the annual extracts from HESA, ARCP, Royal College Exam data etc.

- Two meeting to discuss submitted proposals.

- Two rounds of extracts produced.

- Two rounds of report reviews.

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UKMED research process

- Contact Daniel Smith if wishing to include your own data.
- Apply online spring/autumn (next window closes Aug 17)
- Resolve any outstanding issues (e.g. ethics)
- Approved applications receive access to data:
  - ✓ After contract signed
  - ✓ No cost (unless to cover matching in bespoke data)
  - ✓ De-identified (for example data that links to postcode)
  - ✓ Via the safe haven – not possible to get data in/out.
  - ✓ All analyses released after vetting (can slow process)

For details see - https://www.ukmed.ac.uk/documents/UKMED_research_process.pdf

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UKMED research process

- Applications reviewed against set criteria – see online.
- Next research group meets September 2017.
- The Research Group is an independent expert advisory body.
- Makes a recommendation to the Advisory Board (representative).
- Advisory Board approves GMC to release data.
- If rejected reasons made clear but not a peer review service.

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UKMED research process

Reports require review by Research Group and Advisory Board

- ✓ To verify study achieved aims and did not extend remit.
- ✓ Publication will not be blocked but data providers may be advised of sensitive findings.
- ✓ Will be made available via website if not published.

NOTE - UKMED **does not fund** projects!

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Advice for applicants

Not all proposals have been approved – Hints:

- Evidence of funding or adequate institutional support

- Single sites or not requiring UKMED matching

- Must demonstrate an understanding of the data

- Statistical expertise required on the team

Contact Daniel Smith to discuss in advance if in doubt

Standard extracts being planned

- To be made available in de-identified form in the safe haven under a contract **only** to organisations with a remit. E.g HEE, NES
  (i.e. **all normal protections apply** except review by the Research Subgroup).

- Standard datasets to enable descriptive analysis of students and doctors' movement through training pathways.

- Two extracts proposed:
  - ✓ Student profile to monitor widening participation.
  - ✓ Career progression to support workforce planning.

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E.g. Workforce planning extract

Possible to show:

- Area people lived in when they applied to medical school.
- Area they trained in.
- Area they work in an as a GP or Consultant.

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Please ask Daniel!

Or come to workshop tomorrow