Do medical students with a disability experience adverse educational outcomes on UK medical courses?

Abstract

Background

International data demonstrates that medical students with disabilities experience differential awarding. One cross-sectional study finds lower graduation rates and scores in written exams, with no impact on clinical exams. Disabled students graduated with lower decile scores.

This quantitative, retrospective, longitudinal study explored the impact of disability on exam performance, course performance and course discontinuation.

Method

Anonymised data were obtained for 1743 students on a UK graduate medical programme from 2011 to present. Statistical tests, including t-tests and one-way ANOVA were conducted for main effects of demographic variables on exam results and categorical outcomes. Regression models established the effects of variables and sub-categories of variables on results and categorical outcomes.

Results

Significant main effects of disability on exam scores were identified, as well as failure probability. Regressions showed significant differences in outcomes between different types of disability, with mental health conditions predicting course discontinuation. A significant amplifying effect was found for BAME students with disability.

Conclusion

Disability had a significant negative impact on all course outcomes, illustrating inequity in medical training and an area of focus for curriculum development. Intersectional data identified a key disadvantaged subgroup of medical students.

Keywords: Equality and Diversity, Widening Participation, Disability, Medical Exams, Academic performance

Current UK medical regulator guidance provides a clear statement that disability does not automatically prohibit any individual from medical study (GMC, 2019), reflecting social and legal transitions in recent decades. While reported prevalence of disability among medical students has varied historically, depending partly on definitions of disability used (Meeks and Herzer, 2016), steady increases over the last 15 years are noted, from approximately 2.6% in 2005 (British Medical Association, 2020) to approximately 9% in 2019 (Murphy et al., 2022). Despite legal requirements for reasonable adjustments to alleviate barriers facing disabled individuals, effects of disability on medical student outcomes remain (Hope et al., 2021). Disabled students graduate with lower decile scores (Ellis et al., 2021; Hope et al., 2021), are more likely to take absence (Meeks et al., 2021), and to leave training (Searcy et al., 2015); than non-disabled students. While a seemingly well-established evidence base exists in this area, study is fraught with difficulties. Accuracy of any prevalence estimates is limited by student reluctance to disclose disability, with psychological disability and mental health particularly likely to be underreported (Meeks et al., 2020).

Current scholarship on impacts of disability regularly focuses on individual categories or entities, e.g. specific learning differences, with lesser attention to other categories or multiple co-existing disability(McKendree and Snowling, 2011; Meeks et al., 2021; Murphy et al., 2022). Neglect of the wider range of disability experienced by individuals may result in failure to identify structural and systemic barriers.

Further, characteristics like disability do not exist in isolation. Singular focus here means attendant factors – including well-recognised and inextricable impacts of other, co-existing, characteristics - risk being overlooked (Medical Schools Council, 2021), thereby jeopardising efforts towards removing barriers and ensuring fair outcomes for all.

Current approaches by institutions to the learning environment and support systems lack precision, relating to both impacts of particular disabilities and the effectiveness of accommodations (Searcy et al., 2015). Quantitative studies have found lower graduation rates and worse scores in written exams, although no impact on clinical exams is noted (Ellis et al., 2021; Teherani & Papadakis, 2013). Students with academic accommodations in place for learning disabilities and students with physical and sensory disability may perform no worse than students without a declared disability

(Meeks 2021). Different disabilities had differing impacts, illustrating that current accommodations may be ineffective. Findings relating to students with accommodations are also influenced by the timing of diagnosis and/or implementation of reasonable adjustments, as accommodations may not impart benefits for up to a year (Gray and Burr, 2020). Learning disability may only come to light during medical study, as a result of course demands (Ratnapalan & Jarvis, 2020; Rosebraugh, 2000) and poor exam performance (Asghar et al., 2018; Tso, 2018). Greater understanding of the impact of particular disability type and performance differences is recommended to ensure optimum education experience for students with disabilities (Searcy et al., 2015).

Other concealed effects of disability hampering current estimates and understanding of impacts include students' recognised reticence to disclose disability. UK estimates suggest 9% of medical students declare disability, compared with an estimated disability prevalence in UK adults of 19% (Murphy et al., 2022). Multiple barriers are cited as contributing to student reluctance here (de Cesarei, 2015; Meeks et al., 2020). Medical students are trained in a culture of "invincibility" (Hee-Jin, 2015), with absence of illness portrayed as a necessary underpinning of a competent doctor (Stergiopoulos et al., 2018). Many students report experiencing stigma and both implicit and explicit messages that they do not belong at medical school (Meeks et al., 2018). The British Medical Association (BMA), the doctors' professional union in the UK, found that disabled medical students report negative experiences of disclosing disability, bullying/harassment, difficulty obtaining adjustments, prejudicial absence policies and lack of staff disability representation (British Medical Association, 2020). This report recommended a range of improvements to address training conditions for those experiencing disability. Key amongst these was enhancing visibility and awareness of disabilities, thereby challenging negative attitudes. An important first step is understanding the scale of the issue and how it affects individuals.

To understand impacts and experiences of disability and generate appropriate adjustments, coexisting demographic factors require exploration. Recent sector guidance, discussing recognised ethnic and other awarding gaps, highlights the importance of intersectionality in data and experiences. Evidence for disproportionate impacts of disability in combination with ethnicity demonstrates that white disabled

doctors and medical students report a more supportive environment than those from BAME (Black, Asian or minority ethnic) backgrounds. BAME doctors are less likely to report comfort in disclosing a disability. BAME respondents were considerably less likely to say they had secured adjustments (58% vs 39%). These preliminary findings of combined characteristics creating greater disadvantage add further impetus to using intersectional approaches to data collection and analysis (Hope et al., 2021; Medical Schools Council, 2021; Samra and Hankivsky, 2021).

This quantitative, retrospective, longitudinal study explores the effects of disability and the intersectionality of disability and ethnicity on awarding and adverse educational outcomes on a graduate entry medical degree programme (awarded as "MBChB") in the West Midlands, UK.

Should an awarding gap or high rates of adverse outcomes be identified, findings may inform additional measures to rectify this effect and generate more equitable education provision.

Research question

1. Student disability will influence student summative exam performance
    a. This effect will differ between written and clinical exams
    b. This effect will differ between types of disability
2. Student disability will increase the probability of adverse educational outcomes
3. Students with disability from a BAME background will experience inflated effects on performance and outcomes

Methods:

Full ethical approval was received from the university's research ethics committee for this study, given requirements to process protected characteristic data (University of Warwick, n.d.).

Data Analytics department provided anonymised categorical outcome and demographic data (Table 1) for all students on the MBChB from 2011/2012 cohort to present, exam result data for students from 2013/2014 cohort to present.
This timeframe reflects students who experienced the Phase1, Phase2, Phase3 course structure - comprising Year1 theory learning, followed by clinical Years 2, 3, and 4 , culminating in Final summative exams – therefore sitting exams at the same time intervals during the MBChB.

Analyses were conducted using IBM SPSS statistics 27 software, and Microsoft Excel
Descriptive statistics were calculated for student demographic data on predictor variables:

- Ethnicity summary
- Ethnic group
- Gender
- Household polar quintile
- Household deprivation decile
- Disability status
- Disability category
- Disability type

Descriptive statistics were calculated for student demographic data on categorical outcomes:

- Course discontinuation (excluding maternity leave)
- Resat a year
- Resat multiple years
- Failed OSCE
- Failed multiple OSCE
- Failed written
- Failed multiple written
- Failed any exam
- Failed multiple exams

- Graduating decile

Variance inflation factors were calculated between all predictors (demographics) and between disability types to identify coefficients above 5 that severely limit reliability of multiple regression analysis (Dryer et al., 2016).
One-way ANOVAs were conducted to identify whether any of the isolated predictor variables significantly interacted with the categorical outcomes.
These results were then used to design protocol for predictive model development.

Z-scores were calculated for each summative exam result and mean OSCE/mean written scores, to standardise across cohorts with differing exam formats, pass marks and total marks. Only first attempts at main sit exams were analysed due to very different populations in resit exam groups and the practice effect of resitting years on second/third attempts at main sit exams. Shapiro-Wilk and Kolmogorov-Smirnov tests were conducted on the result z-scores for disability status (no disability/declared disability) to establish normality of distribution (Table 2).

Due to the large sample size, t-tests were considered suitable to conduct without normality of distribution. T-tests were conducted to identify whether disability status significantly interacted with summative exam results. One-way ANOVAs were conducted to identify whether any of the remaining predictor variables significantly interacted with summative exam results. These results were then used to guide predictive model development.

Due to categorical predictors, normality was unnecessary for predictive modelling. Instead, tests were chosen based on categorical predictors and categorical or continuous outcome variable (Pass/fail, resit/no resit, left course/remained, graduating decile or z-score).
Binary logistic regression was conducted for each categorical outcome to identify which variables significantly predicted the outcomes. Due to collinearity between each disability variable, and between ethnicity summary and ethnic group, separate

regressions were conducted with each, and the best fit model identified through highest Nagelkerke R^2 and non-significant Hosmer and Lemeshow test p value, at p>.100. Multiple regression was conducted for each categorical variable to identify which variables contributed significantly to summative exam. Given the prior identified awarding gap for BAME students (Warwick Medical School, 2022), phased regression was conducted; initially with ethnic summary (BAME or white), gender, POLAR quintile, and deprivation decile, then with the addition of one of disability status, disability group or disability type to analyse the isolated effect of disability on F change and change in fit of the model.

Chi-square and ANOVA were then used to analyse between-group differences for intersectional subgroups of students:

- **White with disability vs BAME with disability**
- **BAME without disability vs BAME with disability**

Results:

1743 students enrolled on the MBChB course in the timeframe. Students were unevenly distributed across POLAR4 quintile and household deprivation decile, skewed towards high deprivation decile and high POLAR4 (wealthy homes with higher-educated parents).

Table 1 and 2 here

With disability status, disability group and disability type analysed separately (due to nested data), and ethnicity summary and ethnic group also analysed separately; variance inflation factors for all predictor variables were <1.4 for all outcome variables, illustrating no level of collinearity that would affect logistic or multilinear regression analyses.

1. Impact of factors on summative results

Normality tests indicated no summative exam results, including mean OSCE and written scores were normally distributed (Table 3). This is because MBChB exams are not marked on a curve, with the possibility of all students achieving maximum points (ceiling effect), especially evident in Final OSCEs. However, due to the large sample size, parametric comparisons of means and regressions were undertaken, with bootstrapping to correct for this effect; which identified no case in which 95% confidence interval differed greatly in value, meaning significant results are considered valid.

a. Written results

Independent samples t-tests showed a significant effect of disability status on mean written score (p=.001), Year1 written score (p=.001), Year2 written score (p=.005) and Final written score (p=.002).

Oneway ANOVAs showed significant effects on mean written score of disability group (p<.001) and disability type (p<.001). They additionally found significant effects of disability group on Year1 written score (p<.001), Year2 written score (p=.023) and Final written score (p=.005); and disability type on Year1 written score (p<.001), Year2 written score (p=.004) and Final written score (p=.006).

b. Clinical exam results

Independent samples t-tests showed a significant effect of disability status on mean OSCE score (p=.001), Year1 OSCE score (p=.005), Year2 OSCE score (p=.001) but not Final OSCE score.

Oneway ANOVAs showed significant effects of disability group (p<.001) and disability type (p<.001) on mean OSCE score. They additionally found significant effects of

disability group on Year1 OSCE score (p=.014), Year2 OSCE score (p<.001) but not Final OSCE score; and disability type on Year1 OSCE score (p=.001), Year2 OSCE score (p<.001) and Final OSCE score (p=.004).

Table 3 here

2. Impact of factors on pass/fail probability

Chi-square tests found a significant main effect of disability status on failing an OSCE ($p<.001$), failing multiple OSCEs ($p=.32$), failing a written exam ($p<.001$), failing multiple written exams ($p=.001$), failing any exam ($p<.001$) and failing multiple exams ($p<.001$).

Logistic regression generated models explaining the largest variance in the data using ethnicity and disability types; except failing an exam which used ethnicity summary and disability type ($NR^2=.146$, $p=.313$). The fit of the models for the other failure outcomes were: failed an OSCE ($NR^2=.175$, $p=.810$), failed multiple OSCEs ($NR^2=.483$, $p=.1.00$), failed a written exam ($NR^2=.168$, $p=.238$), failed multiple written exams ($NR^2=.165$, $p=.322$) and failed multiple exams ($NR^2=.222$, $p=.389$). Table 4 summarises the significant predictors of exam failure from each model.

Table 4 here

3. Impact of factors on year resit probability

Chi-square tests found a significant main effect of disability status on resitting a year ($p<.001$).

Binomial logistic regression showed that a chronic physical condition (OR=2.92, 95% CI [1.05, 8.16], p=.041), mental health condition (OR=7.54, 95% CI [3.36, 16.92], $p<.001$), learning difference (OR=3.89, 95% CI [2.52, 6.00] $p<.001$) and multiple conditions (OR=5.94, 95% CI [2.22,15.89], $p<.001$) significantly predicted resitting a course year.

4. Impact of factors on graduating decile

On the MBChB course (and other UK medical degrees) the 1st decile are the highest scoring graduates, the 10th decile representing the lowest scoring graduates. Chi-square tests found a significant main effect of disability status on graduating decile ($p<.001$).

Multinomial logistic regression with the predictor variables: Gender, POLAR4 quintile, Deprivation decile, Ethnic group and Disability type generated a significantly predictive model ($p<.001$) with high goodness-of-fit.

Likelihood ratio tests indicated Disability type ($p<.001$) significantly predicted students' graduating decile. Disability type significantly predicted graduating in the 5th (OR=1.04, 95% CI [1.00, 1.07], p=.033), 7th (OR=1.04, 95% CI [1.00, 1.07], p=.016), 8th (OR=1.06, 95% CI [1.03, 1.09], $p<.001$), 9th (OR=1.06, 95% CI [1.03, 1.09], $p<.001$) and 10th (OR=1.08, 95% CI [1.04, 1.11], $p<.001$) deciles.

Table 5 here

5. Impact of factors on course discontinuation

Chi-square tests found no significant main effect of disability status on course discontinuation, but a significant main effect of disability type on course discontinuation was identified (p=.009).

Binomial logistic regression showed that a mental health condition (OR=3.28, 95% CI [1.04, 10.28], p=.041) significantly predicted course discontinuation.

6. Intersectionality

Belonging to BAME ethnicity was, alone, significantly predictive only of graduating in a lower decile (p<.001) than White students, and not of any other adverse educational outcomes, with white students consistently significantly more likely to experience adverse educational outcomes.

However, Chi-square tests found BAME students with a disability were significantly more likely to resit a year (p=.001), fail an OSCE (p<.001), fail a written exam (p<.001), fail any exam (p=.001), and graduate in a lower decile (p=.001) than White students with a disability. ANOVA found that BAME students with a disability had significantly lower mean OSCE scores (p<.001) and written scores (p<.001) than White students with a disability.

Likewise, BAME students with a disability were significantly more likely to resit a year (p<.001), fail an OSCE (p<.001), fail a written exam (p=.002), fail any exam (p=.008) than BAME students without a disability, but were not significantly more likely to graduate in a lower decile overall. ANOVA found, however, that BAME students with a disability were significantly more likely to graduate in the lowest decile (p=.009); and had lower mean OSCE scores (p=.013) and written scores (p<.001) than BAME students without a disability.

Discussion:

The results of this study find a significant awarding gap for students with disability studying graduate entry medicine, as well a significant effect of disability on adverse educational outcomes.

Students with a mental health condition were significantly predicted to fail a written exam, fail an OSCE, fail multiple exams, resit a year, have a lower graduating decile than students without a declared disability and discontinue their medical education. Across this longitudinal study, having a mental health condition made a student 5-10x more likely to have adverse educational outcomes than a student with no declared disability.

An amplifying effect of intersectionality on awarding and educational outcomes was identified, with BAME students with a disability experiencing worse outcomes, lower exam results and lower graduating scores than any other subgroup on this course.

These findings are consistent with the literature that disabled students graduate with lower decile scores (Ellis et al., 2021; Hope et al., 2021), and are more likely to progress to leaving medical training (Searcy et al., 2015) than non-disabled students. Findings also corroborate that students with specific types of physical/sensory disabilities (Meeks et al., 2021) perform no worse than students without a declared disability (Gibson and Leinster, 2011; Ricketts et al., 2010). However, the presence of a long-standing physical health condition negatively impacted on performance and outcomes. As we have not identified any previous studies analysing the intersectionality between BAME background and disability, this study newly identifies a significantly disadvantaged student subgroup, supporting the importance of analysing intersectional data (Medical Schools Council, 2021).

When interpreting graduating decile data, as well as performance in Final exams, it is important to consider that students with disability are statistically likely to have repeated both exams and entire course years before reaching final assessment stage. Previous practice effect may contribute to only a slightly poorer ultimate result for these students, but there is great financial, psychological, time and effort burden associated with spending longer on the course than peers without a declared disability.

The high rate of course discontinuation among student with a mental health condition also corroborates findings that low mental wellbeing increases the probability of students leaving medical education (Dyrbye et al., 2010).

It is therefore important for medical schools to promote disclosure of psychological and mental health conditions and provide access to adequate support for these students, as well as to avoid generating implicit and explicit messages that they do not belong at medical school (Meeks et al., 2018).

The probable presence of undisclosed disability amongst students in the "no declared disability" category, due to low rates of disclosure as reported in the literature, highlights those students in these high-risk groups for poor awarding are not accessing academic and pastoral support, and reasonable adjustments they may require succeeding on their medical degree. The likely result is low graduation scores which, if trends across other UK medical school show a similar pattern, may conflict with established widening participation agendas in medical training and workforce planning, maintaining poor diversity and poor disability representation in key competitive fields and locations across the UK (O'Beirne et al., 2020).

The literature suggests that medical students (and consequently doctors) with disabilities can benefit patient experience through genuine empathy, help reduce stigmas about the incapacity of individuals with disability or health conditions, reduce "them" and "us" culture within the medical profession, and prepare colleagues to work with disabled patients (Fitzmaurice et al., 2021); emphasising the importance of addressing this trend. This study highlights the necessity of further exploration of the reasons for poor disabled student outcomes, including additional qualitative research, to inform future inclusive curriculum development and delivery in undergraduate medical education environments. The findings of this study may also prompt medical schools to review and support students at risk of failing exams, resitting years, and course discontinuation; enabling implementation of changes that can reduce these concerning trends.

Some core actions that can address this inequity are well known to institutions, such as discussing EDI issues within management, reasonable adjustment policy, occupational health provision, or staff training. However, many potentially high yield changes are often overlooked with respect to disability; such as recruiting openly disabled staff, targeted support systems, proactive interventions for students at risk of adverse outcomes, disability-tailored course guidance documents for prospective and enrolled students, separate absence policy/processes for disability-related absence, working

groups tackling identified inequities, student engagement regarding policy and curriculum development and delivery and accessible practices and document templates for teaching (British Medical Association, 2020; Medical Schools Council, 2021). Most importantly, the culture of the medical school, and the views of the staff within it, should be consistently inclusive and understanding of the responsibility held under the Equality Act ("Equality Act," 2010) to work proactively and pre-emptively to address inequity for disabled and other minority students(Singh and Meeks, 2022).
The long-term impact of this will be a more diverse cohort of individuals entering the medical profession.

This study was limited by the inclusion of a single medical school, though the use of a very large, sample from a long timescale increased generalisability. Qualitative data to establish whether students felt disadvantaged by disability, and why they chose to/were forced to resit course years or leave the course were not included. However, prior qualitative research into the experiences of this group of students has been undertaken and these findings support poor experiences and outcomes as identified by this research (Tso, 2018). As this was a student-led research project, certain information including specific cohort information, timelines of diagnoses and timeline of implementation of reasonable adjustments was withheld from the researcher due to ethical constraints. Future research should look to analyse the impact of reasonable adjustments, the timing of diagnoses (before/during medical school) and changes in trends for outcomes in recent years (Gray and Burr, 2020).

Declaration of interest:

There are no conflicts of interest to declare.

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Table 1: Demographics of among MBChB students 2011 - 2021

	N	%
Disability Status		
Disability	431	24.7%
No Declared Disability	1312	75.3%
Disability Group		
Other Disability	45	2.6%
Physical Disability	58	3.3%
Mental Disability	328	18.8%
No Declared Disability	1312	75.3%
Disability Type		
Visual Impairment	3	0.2%
Social or Communication Difference	3	0.2%
Hearing Impairment	5	0.3%
Mobility Issue	6	0.3%
Not Otherwise Specified	12	0.7%
Multiple Conditions	33	1.9%
Chronic Physical	44	2.5%
Mental Health Condition	56	3.2%
Learning Difference	269	15.4%
No Declared Disability	1312	75.3%
Ethnicity Group		
White	1234	70.8%
Asian	227	13.0%
Black	66	3.8%
Chinese	43	2.5%
Mixed	90	5.2%
Other	20	1.1%
Non-declared	63	3.6%

Table 2: Summative exam performance descriptive statistics

	N	Min	Max	Mean	SD	Skewness	Kurtosis
Year1 OSCE	1162	.20	1.00	.9039	.10818	-1.776	4.825
Year1 Written	1358	-6.86	2.19	.0666	.98853	-.674	1.452
Year2 OSCE	1125	.40	1.00	.9219	.08692	-1.528	3.146
Year2 Written	1171	-9.76	2.27	-.1607	1.43896	-3.531	21.140
Final OSCE	780	.40	1.00	.9383	.08691	-1.885	5.392
Final Written	1119	-10.65	2.25	-.1189	1.20933	-2.551	18.435
Mean OSCE	1517	.29	1.00	.9083	.09212	-1.923	5.567
Mean Written	1731	-10.51	2.25	-.1507	1.15882	-1.997	11.423

Table 3: Phased multilinear regressions for summative exam results

Outcome variable	Predictors entered in model	Adjusted R^2	F change	Significance
Mean written score	*1. Ethnicity summary* *2. Gender* *3. Deprivation decile* *4. POLAR4 quintile*	*.029*	*12.99*	*p<.001*
Mean written score	1.2.3.4. **+Disability status**	.055	43.85	p<.001
Mean written score	1.2.3.4. **+Disability group**	.055	44.28	p<.001
Mean written score	1.2.3.4. **+Disability type**	.055	44.22	p<.001
Mean OSCE score	*1. Ethnicity summary* *2. Gender* *3. Deprivation decile* *4. POLAR4 quintile*	*.020*	*8.33*	*p<.001*
Mean OSCE score	1.2.3.4. **+Disability status**	.036	23.18	p<.001
Mean OSCE score	1.2.3.4. **+Disability group**	.035	22.59	p<.001
Mean OSCE score	1.2.3.4. **+Disability type**	.035	22.35	p<.001

Table 4: Summary of significant predictors of exam failure outcomes from logistic regression

Outcome variable	Predictor variable	Odds ratio	95% CI	Sig
Failed OSCE	Disability type			p=.024
	Disability type = Mental health condition	5.26	2.08-13.33	p<.001
	Disability type = Learning difference	1.96	1.14-3.38	p=.015
	Disability type = Multiple conditions	3.47	1.00-12.00	p=.050
Failed multiple OSCEs	Disability type = Learning difference	11.51	1.31-100.84	p=.027
Failed written exam	Disability type			p<.001
	Disability type = Chronic physical condition	3.47	1.54-7.83	p=.003
	Disability type = Mental health condition	5.59	2.64-11.84	p<.001
	Disability type = Learning difference	2.05	1.44-2.91	p<.001
	Disability type = Multiple conditions	5.55	2.07-14.88	p=.001
Failed multiple written exams	Disability type			p=.018
	Disability type = Visual impairment	34.24*	1.07-1099.2	p=.046
	Disability type = Mental health condition	5.73	1.92-17.15	p=.002
	Disability type = Learning difference	2.39	1.17-4.88	p=.017
Failed an exam	Disability type			p<.001
	Disability type = Chronic physical condition	2.97	1.26-6.98	p=.013
	Disability type = Mental health condition	4.28	1.94-9.47	p<.001
	Disability type = Learning difference	1.95	1.34-2.83	p<.001
	Disability type = Multiple conditions	5.45	1.88-15.82	p=.002

Failed multiple exams	Disability type			p<.001
	Disability type = Chronic physical condition	5.75	1.81-18.25	p=.003
	Disability type = Mental health condition	9.68	3.87-24.20	p<.001
	Disability type = Learning difference	3.29	1.94-5.59	p<.001
	Disability type = Multiple conditions	5.52	1.37-22.19	p=.016

*Anomalous due to diminutive category sample size

Table 5: Percentage of student with different disability types in each graduating decile

Decile	No declared disability	Chronic physical condition	Mobility issue	Hearing impairment	Mental health condition	Learning difference	Social or Communication difference	Not otherwise specified	Multiple conditions
	%	%	%	%	%	%	%	%	%
1	11.7	14.3	0	0	3.6	5.1	0	0	0
2	10.3	0	40.0	0	7.1	9.2	0	0	0
3	11.6	3.6	0	0	10.7	6.6	0	0	0
4	10.5	7.1	0	33.3	3.6	10.2	0	5.3	5.3
5	10.2	17.9	0	0	10.7	9.7	50	10.5	10.5
6	10.6	14.3	20.0	33.3	3.6	7.1	0	10.5	10.5
7	9.7	14.3	20.0	0	10.7	7.7	0	15.8	15.8
8	8.9	7.1	0	0	7.1	17.3	0	10.5	10.5
9	8.2	7.1	20.0	0	21.4	10.2	50	31.6	31.6
10	8.4	14.3	0	33.3	21.4	16.8	0	15.8	15.8

Do medical students with a disability experience adverse educational outcomes on UK medical courses?

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Practice points

- Disabled medical student under-achieve.
- Mental health conditions predict discontinuation.
- Inequity on UK medical courses.
- Limited diversity in the medical workforce.
- Disability awarding gap.

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Glossary

OSCE: Observed structure clinical examination.
Awarding gap: Difference in academic degree outcomes between student subgroups (here disability).
Reasonable adjustments: A change that must be made to remove or reduce a disadvantage