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An overview of the demographic of the intake of students into UK Engineering degrees

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Introduction

- Fewer than half of higher education providers in the UK deliver some form of taught engineering provision at undergraduate or postgraduate levels
- In total engineering students make up just 6% of the UK student HE population
- Meanwhile FE / HE is blurring towards a tertiary sector
  - Most engineering provision in FE is undergraduate level, sometimes a university's foundation year is taught at the local college
  - Around three-quarters of UK Engineering HE providers advertised a foundation year option
  - Nearly a quarter enabled students to study at level 4 or 5, plus some offer a 'top-up' year to complete a BEng degree

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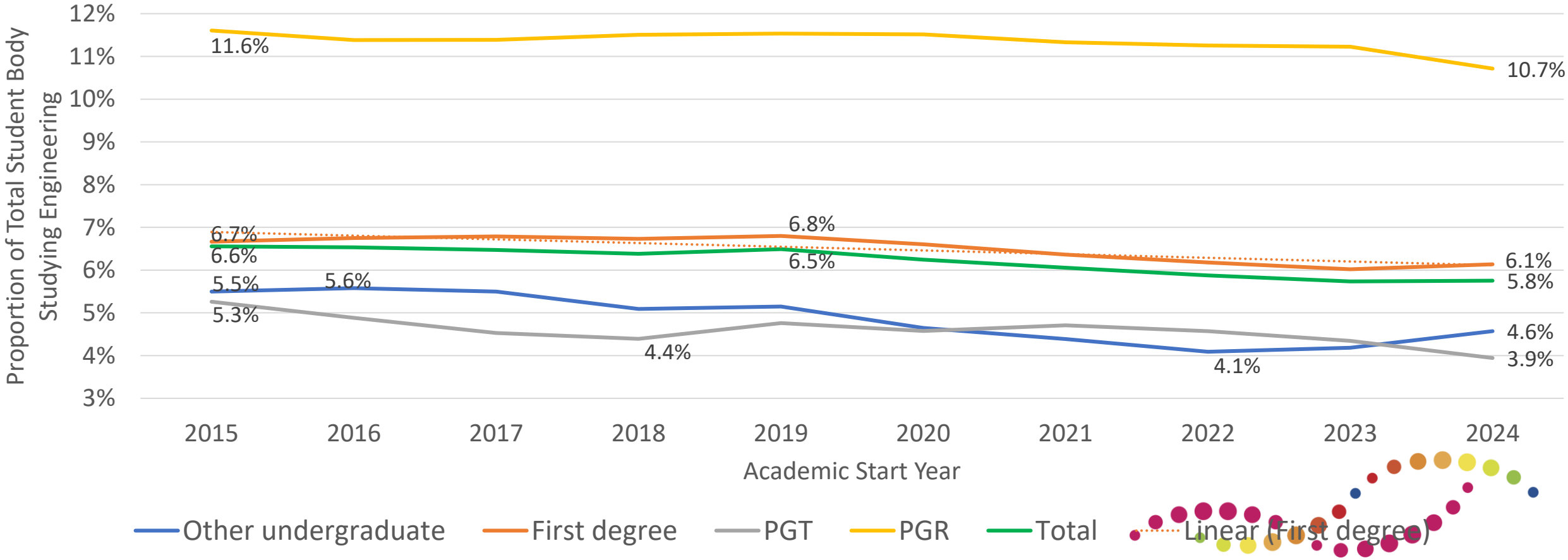
Engineering popularity



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State of engineering

- In 2024/25 there were circa 123,000 students in undergraduate Engineering.
- 117,280 of these were studying first degrees
  - 34K new first years
  - Almost 6K on foundation years.
  - 17K on years 4+ (proxy for integrated masters)
- The last decade has seen UK Engineering degree popularity declining overall
  - Peaking at 121,590 in 2020/21
- Between 2020/21 and 2023/24 UK Engineering degree enrolments declined before an uplift of 3.1% in 2024/5

HESA HEIDI+ HECoS 10-03

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A leaky hosepipe

- While Engineering degree enrolments were declining, UCAS Engineering applications were increasing (+7.3%)
  - But acceptances declined by 6.2%
- Since 2023/24, UCAS Engineering applications have risen by 24.4%, and acceptances by 21.7%
  - An 8.9% increase in applications between 2023/24 and 2024/25 and 14.3% 2024/25 to 2025/26
  - Acceptances increased by 8.3% and 12.3%, respectively
  - However, Engineering degree enrolments only increased by 3.1% in the year to 2024/25
  - First years increased by 7.2% in the latest HESA data

HESA HEIDI+ HECoS 10-03 / EPC / Royal Academy of Engineering Admissions Report, 2025

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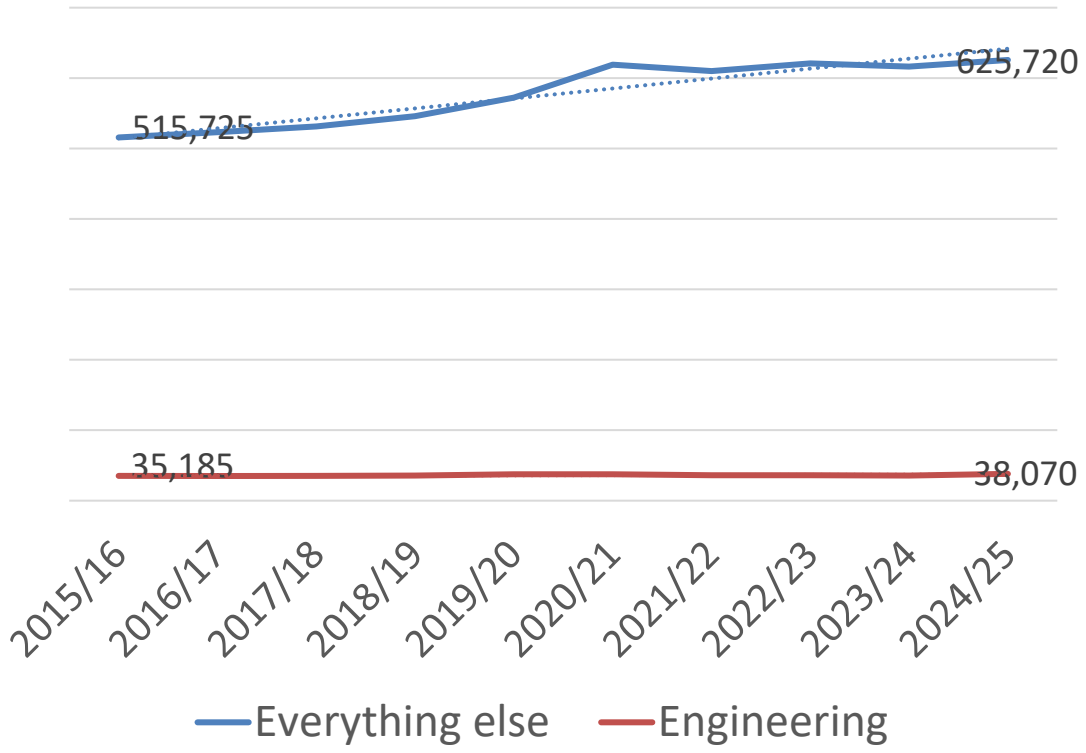
A provider balancing act barrier



- First year Engineering degree enrolment growth is skewed in favour of domestic students
- The number of UK-resident 18-year-olds is forecast to decline dramatically from 2038
- Circa. 1 in 4 first year Engineering degree students are international
  - Engineering programmes are structurally expensive
  - Estimated UG tuition fee shortfall of £7,591 per English student per year across Engineering
  - Cross-subsidised by international students (and lower-cost disciplines)

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A student commitment to study Engineering barrier

- Between 2019 and 2023, applicants and schools experienced it getting harder to get into undergraduate Engineering
  - The pressure on engineering places was largely mitigated by main scheme provider rejections
- Engineering applications per applicant went down
  - Potential Engineers made an average of 3 applications to Engineering out of a maximum of 5 choices in 2023
- Applicant decision making was changing
  - 10% more mainstream applicants declined an Engineering offer in 2023 than in 2019
- Providers now have a poorer understanding of their own pipeline until later in the cycle
  - In 2023, there were 60% more passive declines than 5 years earlier

EPC / Royal Academy of Engineering Admissions Report, 2025

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An Engineering speculation barrier

- In five years, around 55,000 Engineering hopefuls went on to study another subject
  - 40% of these were women, despite offer-making in women's favour
- Women with a mainscheme application to Engineering were more inclined than men to defect
  - 1 in 2 women who made an Engineering application did not go on to undergraduate Engineering (up from 1 in 3 in 2019)
- Overall, 1 in 3 successful applicants who made at least one choice to Engineering in the UCAS mainscheme accepted a place on another subject in 2023
  - Mostly to the subject of their firm choice (applicant decision made by reply). Up from 1 in 4 in 2019
- Potential engineers are increasingly deferring to Computing
  - 10.3% of accepted applicants who had applied to Engineering in 2023
  - And to Architecture, building and planning; Sport and exercise sciences; and Creative arts / design

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An equal access barrier

- A typical UCAS undergraduate Engineering applicant is an 18-year-old, white, male who is studying A levels and from an area with a high participation rate in HE
  - He is also more inclined to be accepted than his already underrepresented counterparts
- Application, offer and acceptance indices suggest that:
  - White applicants are underrepresented in rejections and are more successful to offer than their BME peers – but the extent of this is improving (BME applicants are more likely to be accepted)
  - 18-year-olds are underrepresented in rejections and are more successful to offer than their elders
  - Those from high HE participation areas are overrepresented within offers and acceptances and the extent in which they are overrepresented in acceptances has increased since 2019
  - The lower the POLAR quintile, the greater the overrepresentation in rejections (the extent has slightly decreased between 2019 and 2023
- Meanwhile, BME applicants and those with disabilities are overrepresented in BTEC Extended Diploma admissions cohorts

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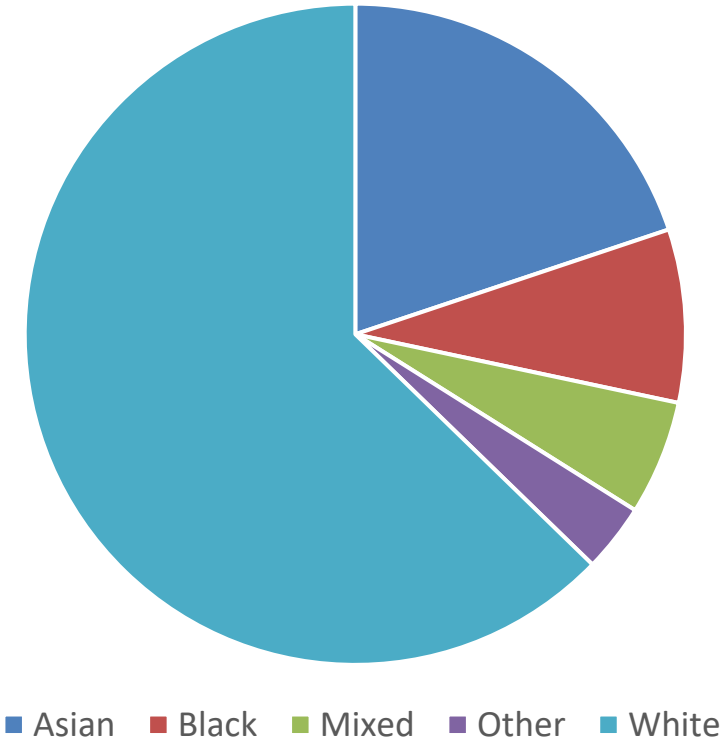
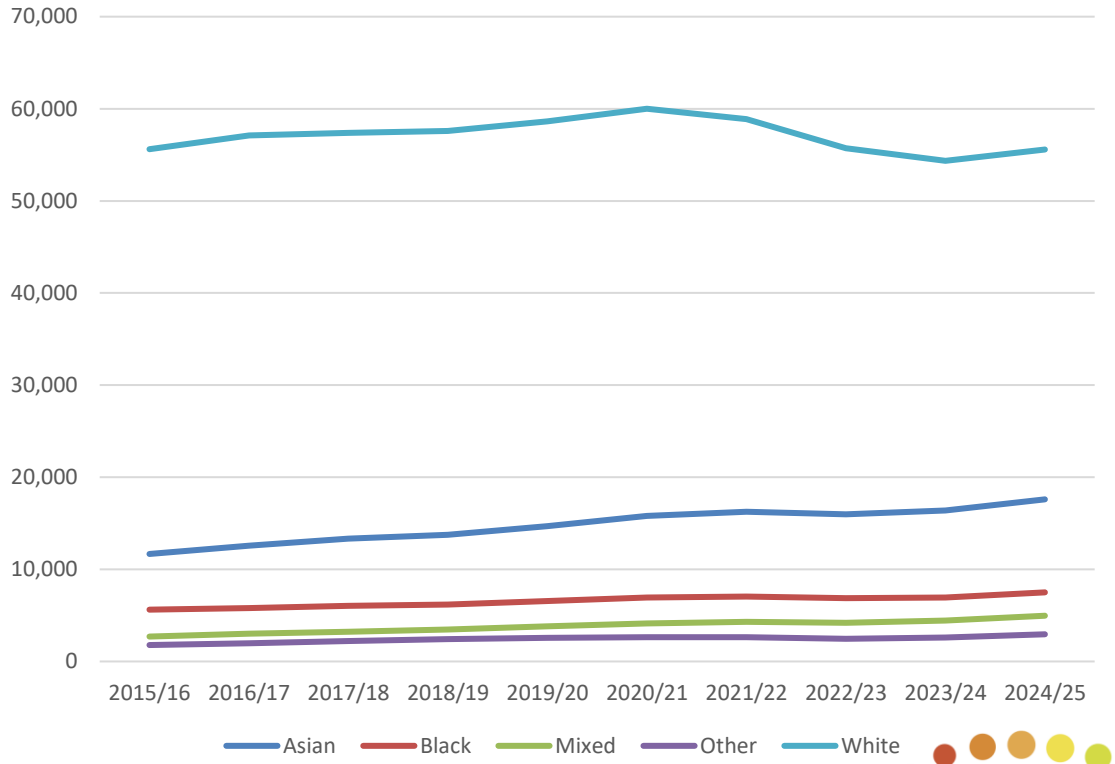
Engineering degree enrolments - Ethnicity





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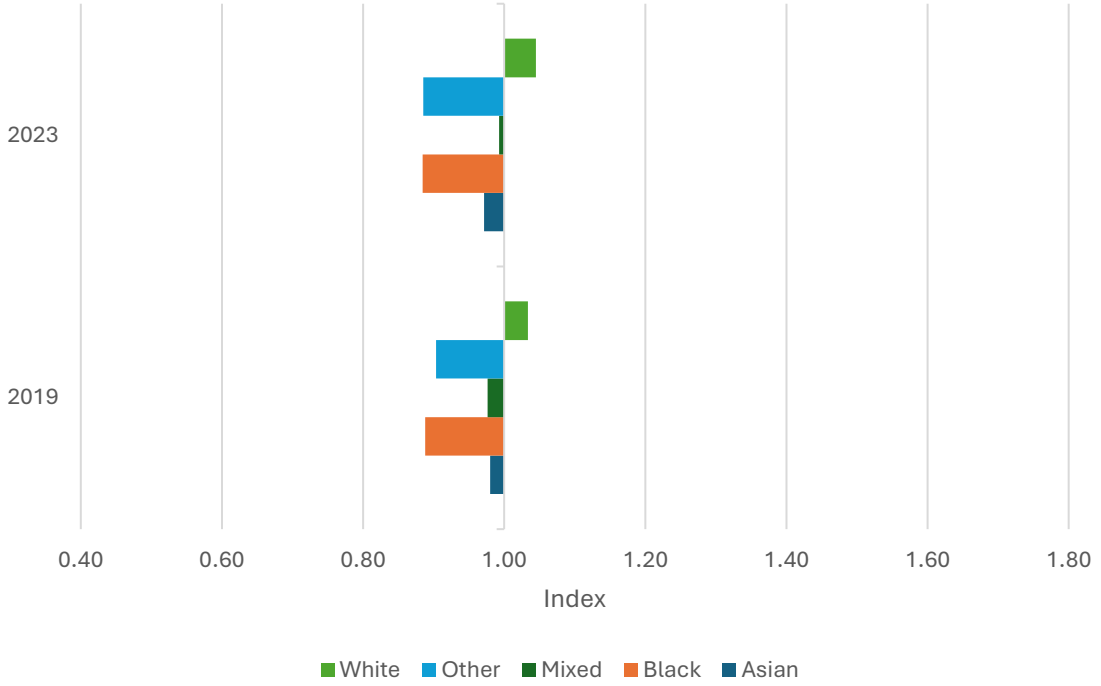
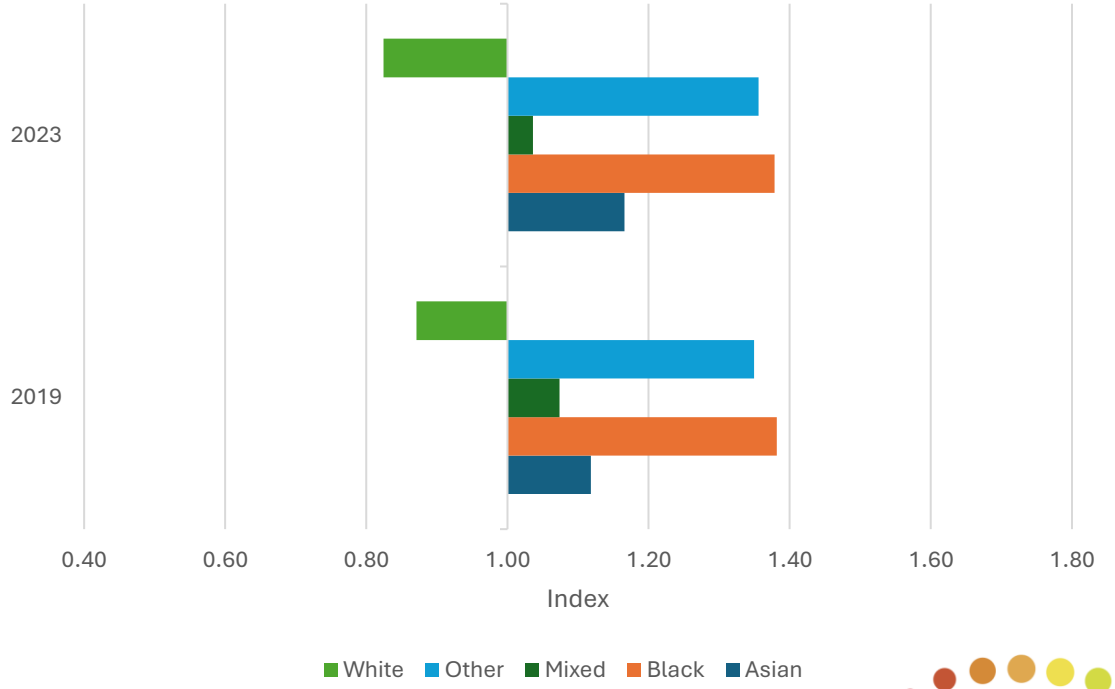
An ethnicity barrier

Engineering applications v offers by ethnicity, 2023



Engineering applications v rejects by ethnicity, 2023



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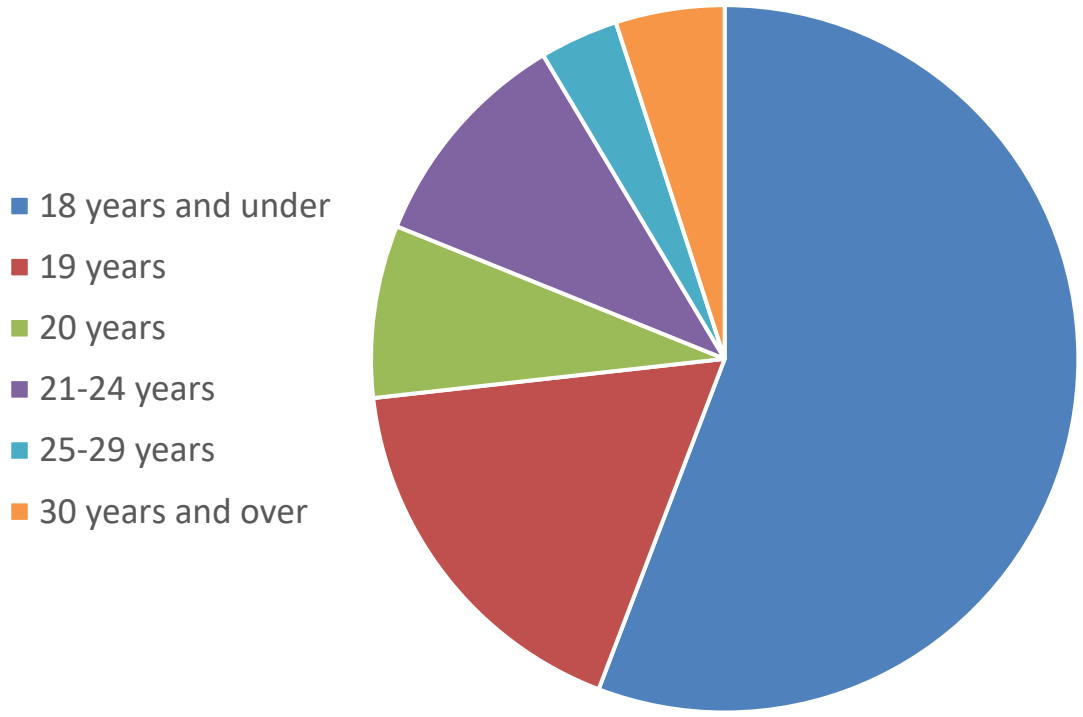
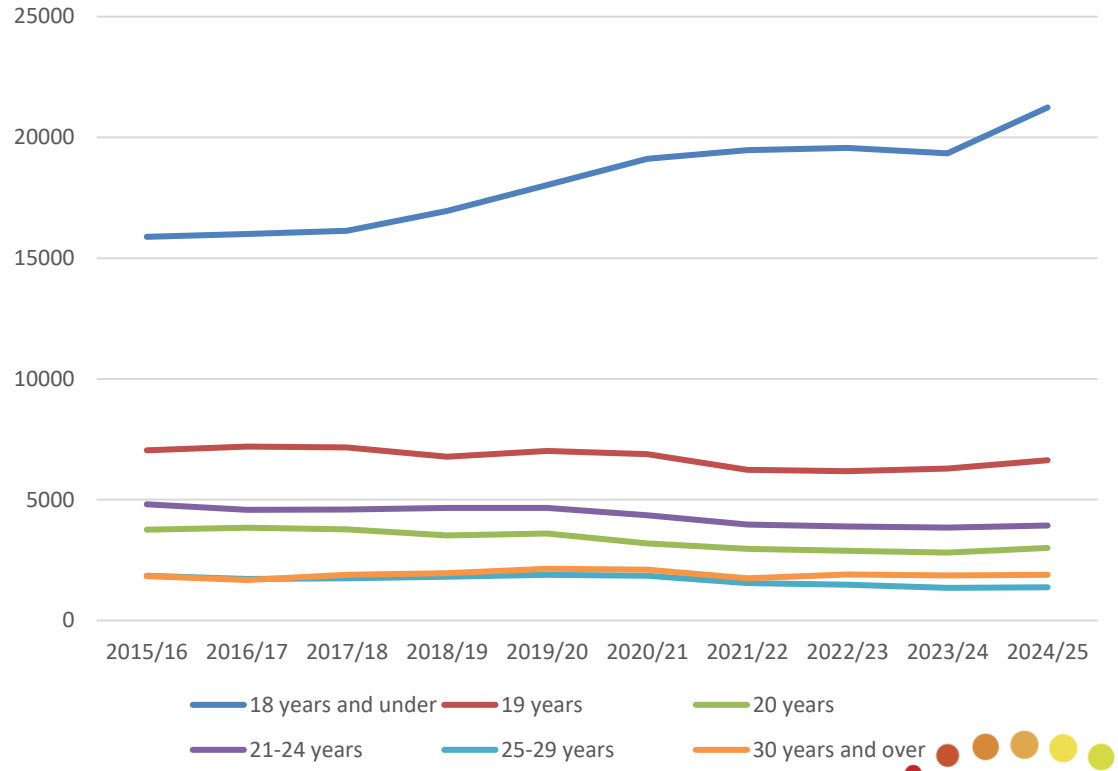
Engineering degree enrolments - Age





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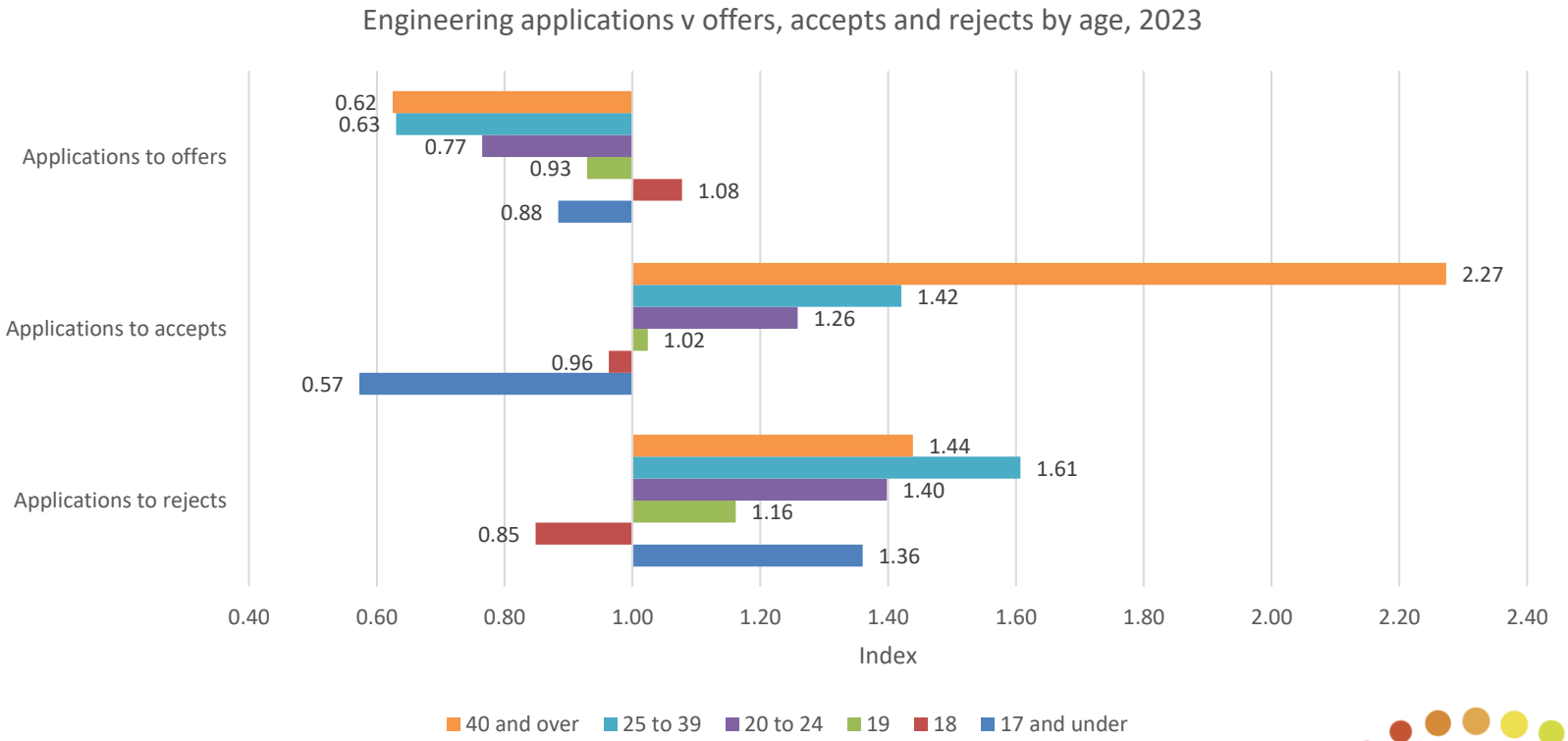
An age barrier

- Universities are chasing 18-year- olds
- Main scheme 18-year-olds are more likely to decline an offer than be rejected
  - The opposite is true at aged 40



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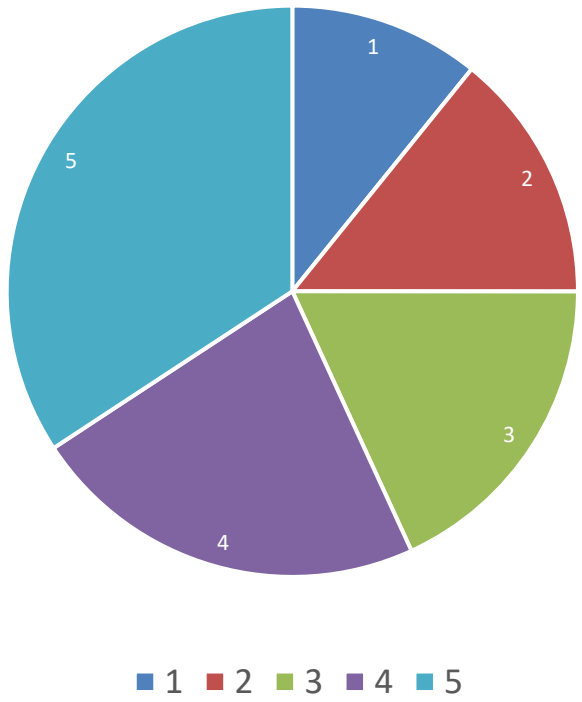
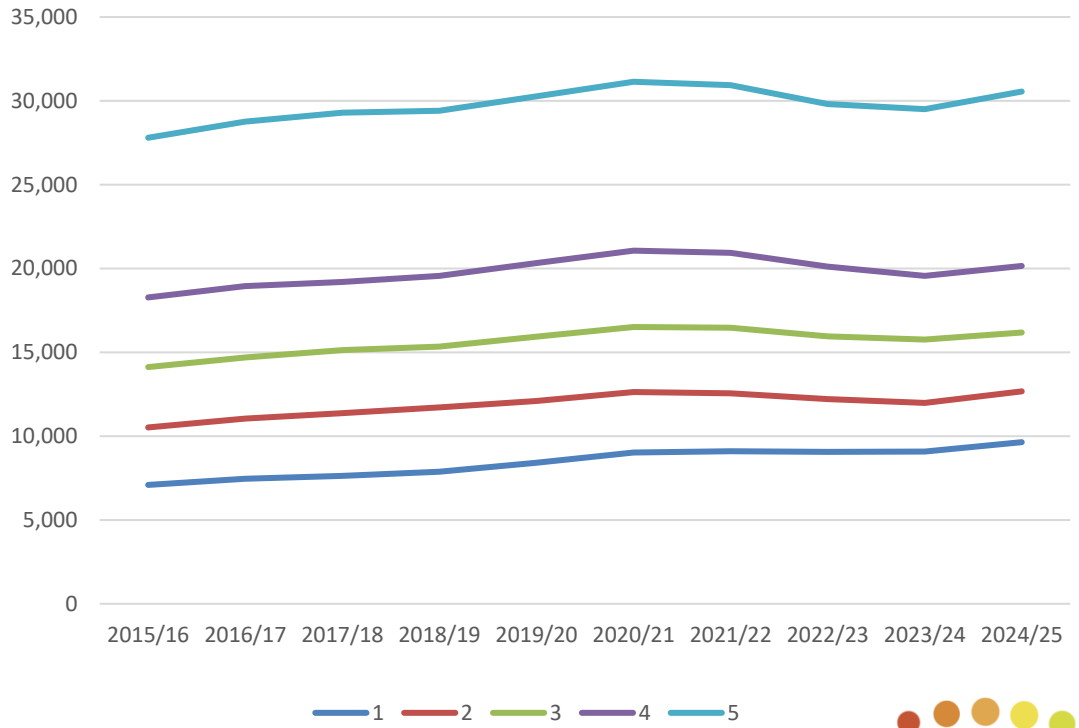
Engineering degree enrolments - POLAR4





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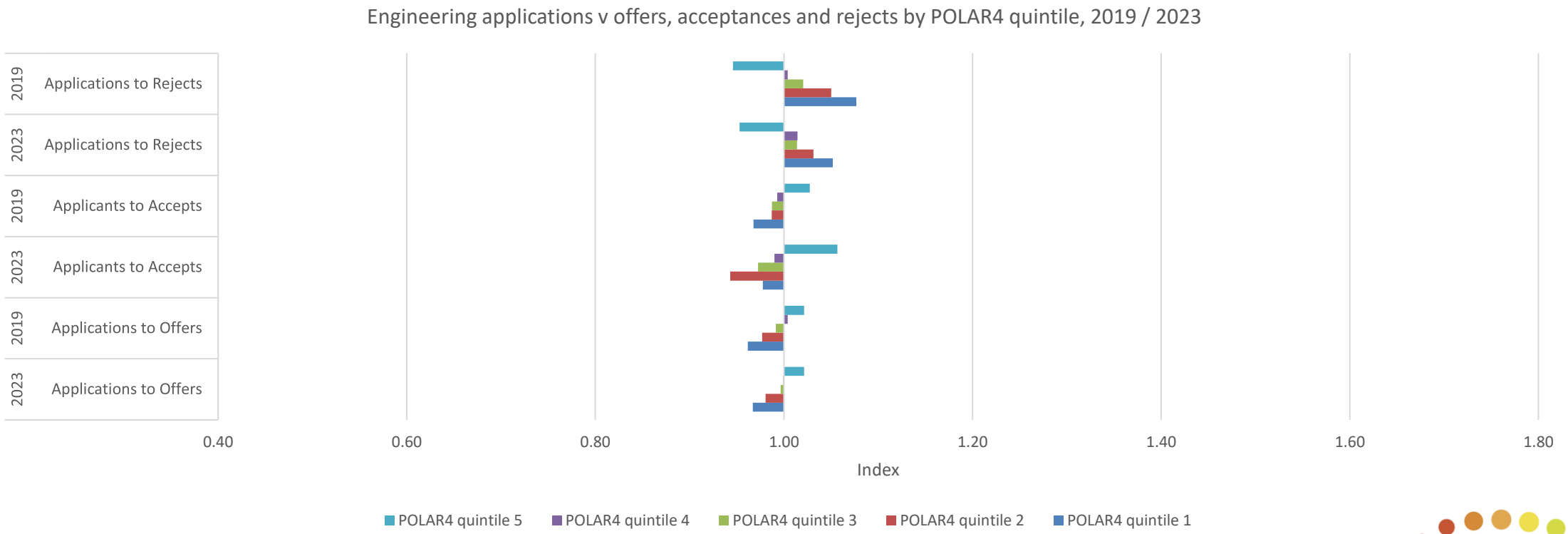
A postcode barrier



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A contextual offer barrier

- By and large, applicants with demographic disadvantage often highlighted in contextual admissions are not advantaged in provider-side decision-making
  - Applications from those without parental HE experience did not have a higher offer rate overall but there was a higher offer rate for those predicted to be High achievers across three A levels
  - In 2023, undergraduate applications to Engineering from schools with a free school meal percentage above average had a lower offer rate
  - The propensity to offer with Bs in the mix and where no A*s are achieved might hint at contextual offer making occurring by school factors
- Applicants with disabilities are increasingly advantaged in provider-side decision-making
  - Applications from applicants declaring a disability were under-represented in rejects and slightly over-represented in both offers and acceptances

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An invisible disability barrier

- The number of those declaring disabilities has increased starkly, with the number of 18-year-old A level acceptances declaring a mental health condition, such as depression, schizophrenia or anxiety disorder nearly doubling between 2019 and 2021 and then tripling between 2021 and 2023
  - Applications from those a mental health condition, such as depression, schizophrenia or anxiety disorder are under-represented in acceptances compared to what we would expect given the distribution of applications,
  - Those declaring a specific learning difficulty are overrepresented
  - Those who have a visual impairment fair worse in offers and acceptances and are overrepresented in rejects
- There is a greater propensity to withdraw from the UCAS scheme where a disability is declared

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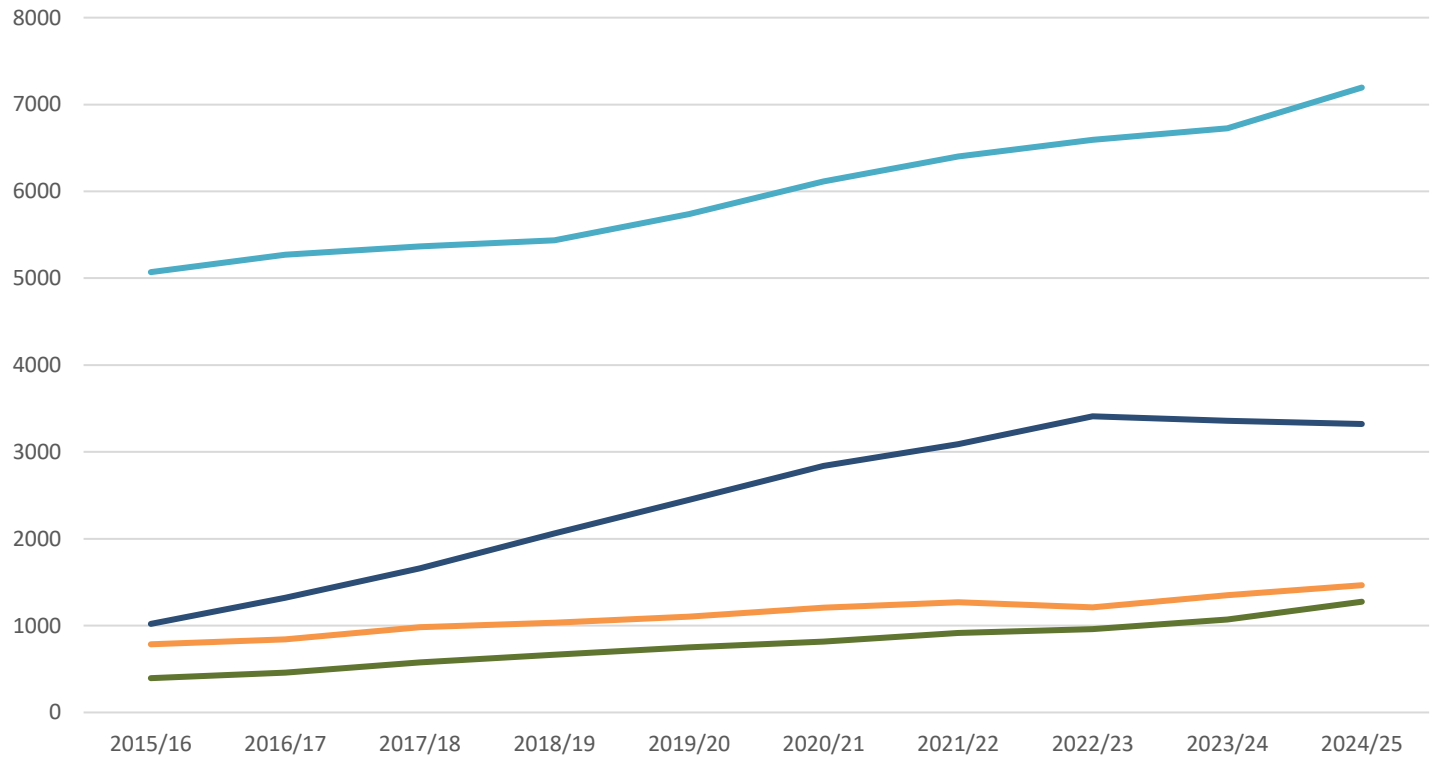
Engineering degree enrolments - Disability



- Learning difference such as dyslexia, dyspraxia or AD(H)D
- Long-term illness or health condition such as cancer, HIV, diabetes, chronic heart disease, or epilepsy
- Mental health condition, challenge or disorder, such as depression, schizophrenia or anxiety
- Social/communication conditions such as a speech and language impairment or an autistic spectrum condition

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An A level elite barrier

- Is Engineering just for A level students?
  - Three quarters of 18-year-olds accepted to undergraduate Engineering held A levels in 2023
- ...with the highest grades?
  - more than 1 in 3 accepted Engineering applicants with A levels held straight As or higher
- ...and with Maths and Physics?
  - Almost all A level acceptances held at least one A level in Maths, Further maths or Physics.
  - 1 in 5 held Maths, Further maths and Physics (but 2 in 3 of those presenting with A*s)
- High attainment A levels are the norm
  - nearly 1 in 10 accepted applicants with 3-A levels or higher presented with A*A*A*
  - more than 1 in 3 three held straight As or higher
  - more than 1 in 2 were High achievers (ABB+)

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A Maths and Physics barrier

- Almost all A level acceptances held at least one A level in Maths, Further maths or Physics
  - 9 in 10 held Maths
  - 8 in 10 held Physics
  - 5 in 10 held Maths and Physics
  - 2 in 10 held Maths, Further maths and Physics
- Further maths was the preserve of High achieving applicants to High tariff providers
  - All acceptances with high achieving grades over 3-A levels who held Maths and Further maths were to High Tariff providers

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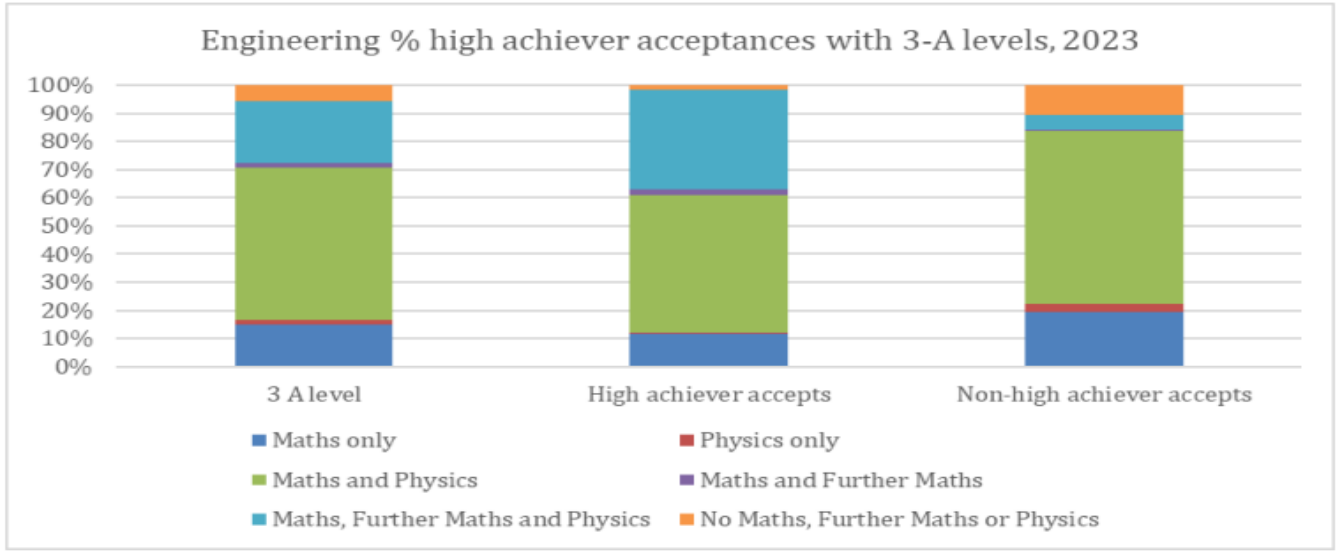
A Further maths access barrier



- What of those without access to the same qualification and subject resources?
  - The pipeline of trainee physics teachers languishes at less than 25% of Government recruitment targets
  - And more than half of mainstream secondary school teachers reported current understaffing in physics

EPC / Royal Academy of Engineering Admissions Report, 2025 / Institute of Physics

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A subject self-selection barrier

- The overall dominance of Maths, Further maths and Physics is not an accepted applicant phenomenon but can be traced to applicant profiles on application
  - Or where undergraduate Engineering is uniquely attractive to these A level students (who may have opted for these subjects as a pathway to Engineering in the first place)?
  - Maths is a key facilitating subject for undergraduate Engineering
  - Physics is not an admissions advantage for those applying with three A levels
- Maths and Further maths combined were virtually non-existent in applications to Lower tariff group providers
  - The highest proportion of applications from those applying with Maths, Further maths and Physics are to Higher tariff group (and from those who go on to achieve High achieving 3 A levels)

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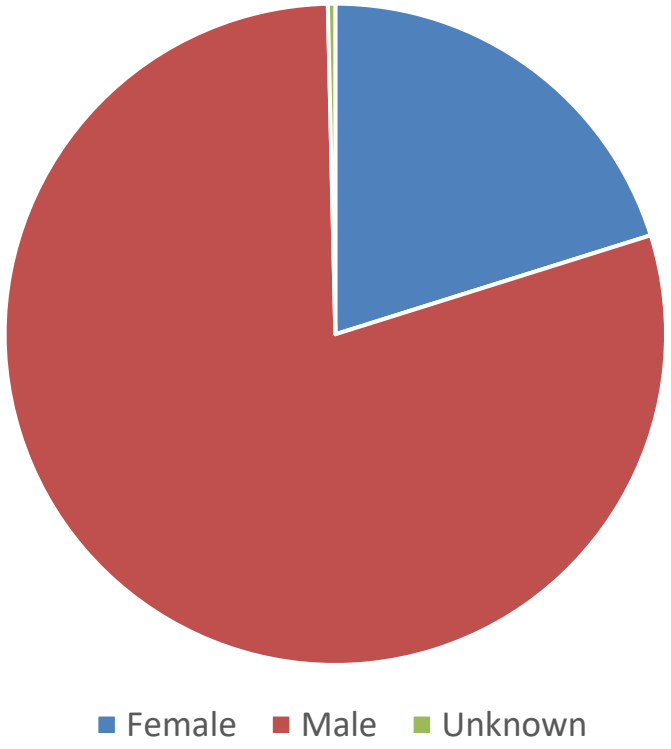
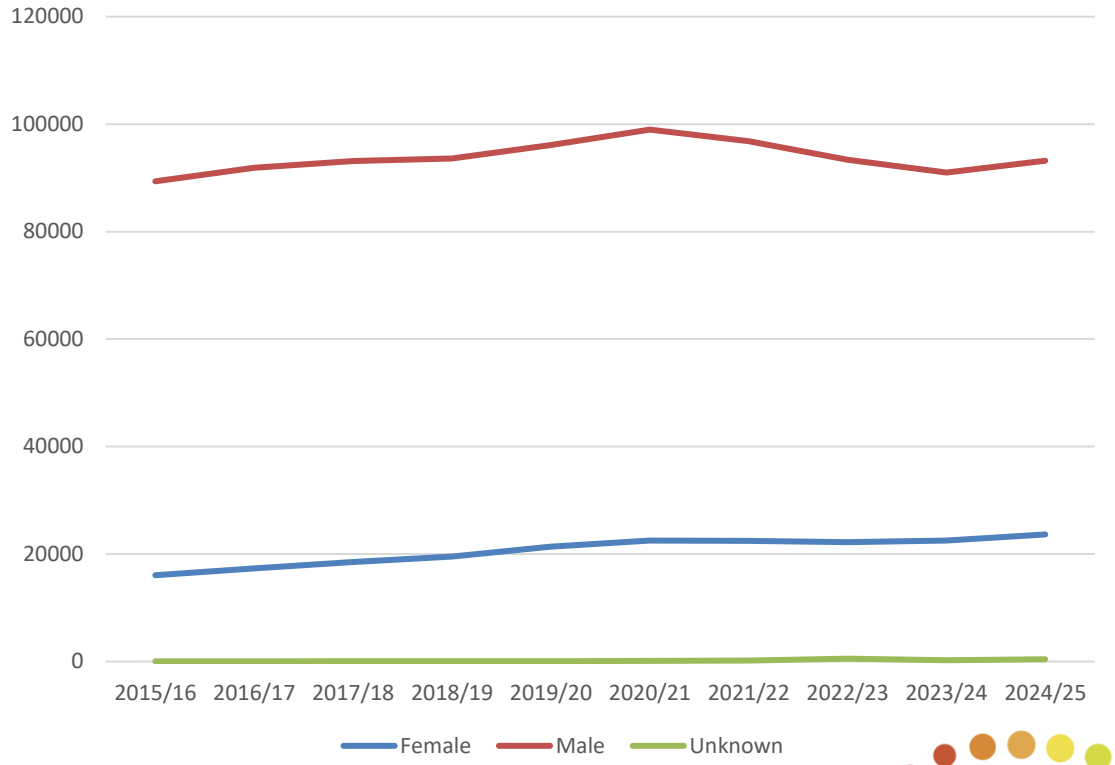
Engineering degree enrolments - Sex





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A barrier for women

- There were nearly three times as many Non-high achieving men accepted to Engineering than High achieving women
  - More men were accepted with each of the grades: BBC, BCC, ABC, BBB, CCD and BCD than women with A*A*A*
- EngineeringUK calculated 115,000 more girls need to study maths or physics A levels to reach equal numbers of male and female students studying engineering and technology degrees
- Problem is, they started from here: “The prerequisite for many degrees in engineering and technology is an A level in both maths and physics”

EPC / Royal Academy of Engineering Admissions Report, 2025 / Engineering UK (2023)

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A transparency barrier

- A rare snapshot of the UCAS course file (for 2024 entry) showed that nearly 90% of Engineering courses cite Maths within A level requirements and well over half cite Maths and Physics
- But desk research for *Engineers 2030* suggested that only 6% of Electronic and electrical engineering programmes, 7% of civil engineering programmes and 17% of mechanical engineering programmes specifically required Physics A level
- The entry requirements section of university websites are increasingly complex, with numerous qualifications usually considered for first degree courses, plus information on contextual offers
- The university website-advertised requirements range from A*A*A* to CCD, with lower or no A levels required at foundation year
  - 1 in 5 accepted applicants with 3 or more A levels held at least one D grade in 2023.

EPC / Royal Academy of Engineering Admissions Report, 2025 / EPC / UCL research for the Royal Academy of Engineering's Engineers 2030 Report

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A published entry requirements barrier

- "Discrepancy between advertised entry requirements and the grades that providers ultimately accept hinders efforts to improve transparency in admissions"
  - Is perception or evidence driving "quality"?
- Over 100 universities have signed up to the UUK's Fair Admissions Code of Practice
  - This is an inclusion and outreach issue, not a marketing function
- UCAS now publishes historic A level grades on entry data on its course search
  - It's BETA, universities appear to be opting out
  - It's A levels only (BTECs in principle but the numbers are usually too small)

UniversitiesUK (UUK) Fair Admissions Review (2022)

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A qualifications barrier

- While A levels are the dominant admissions qualification in the UK, it is by no means the only route into engineering higher education
- In 2023 around 1 in 8 accepted applicants were BTEC holders
  - The BTEC Extended Diploma acceptance route contracted by nearly one-third over 5 years
  - The decline was most pronounced following the Government announcement that public funding would be removed from “low-quality” level 3 courses that overlap with A levels and T Levels
  - Incidentally, historic EPC research showed a higher % of BTEC engineers five years after graduation remained in sustained employment than those with four As or more at A level
- 1 in 5 acceptances held no (or unidentified) qualifications

EPC / Royal Academy of Engineering Admissions Report, 2025

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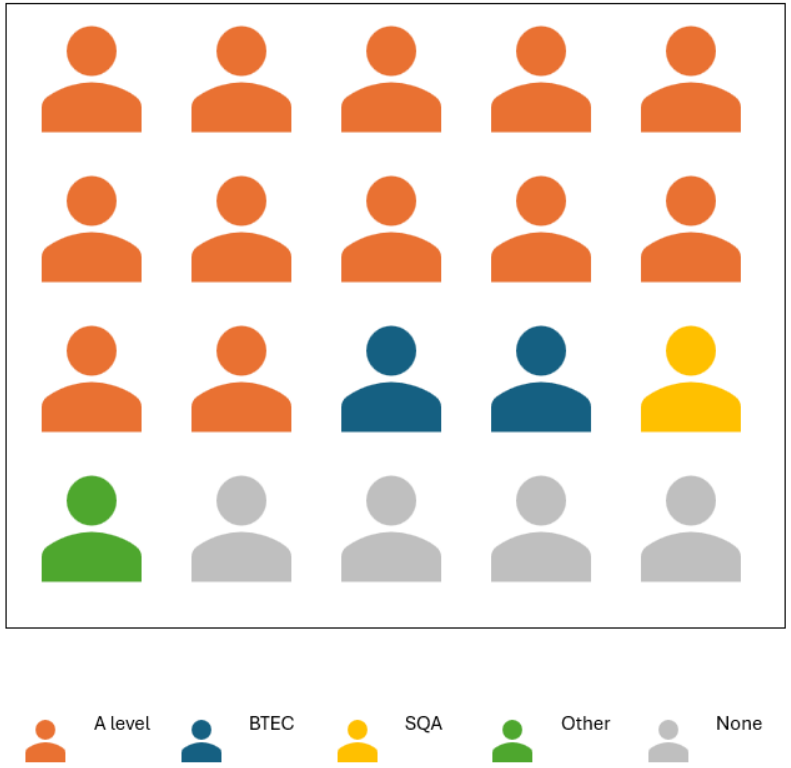
A qualifications barrier



- The predominance of applications from 18-year-olds with A levels, who – in our 5-year study – became increasingly successful to acceptance, appears to have contracted the undergraduate Engineering market for other qualifications

EPC / Royal Academy of Engineering Admissions Report, 2025

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An awareness barrier

- A level (usually Maths) is often cited entry requirement in addition to the BTEC Extended Diploma
  - (At least 400 entries in the UCAS course search for 2024 entry)
- Just 1 in 20 BTEC Extended Diploma applicants also presented with A level qualifications
  - Only 100 of these were accepted.
- Our study showed universities wanted applicants with BTECs (increasingly in Clearing) with or without A levels
- What about T levels?
  - In the 2024 course search, there were multiple – impossible - requirements for T level + Maths A level!
- What do we know about the suitability of V levels for HE admission?
  - HEIs will need clear mapping of content, including mathematical content and rigour

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System barriers

- Qualification and attainment at admission impact everything, from curriculum design to student support and strategic planning
- But there are systemic threats to innovation
  - Funding
  - Metrics
  - Competition
- The risk of the number of UK-resident 18-year-olds – who are driving the demand for Engineering – is forecast to decline dramatically from 2038

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Conclusion

From engagement to entry: how outreach expands access for Engineering HE

- Admissions opportunities
  - Take a strategic approach to sustainable engineering admissions
  - Demystify the exclusivity of admissions to undergraduate Engineering
  - Plug the leaky hosepipe from application to enrolment – engage and inspire
  - Eliminate any implicit admissions biases
- Can providers do more to facilitate social justice?
  - Think about co-occurrence
  - Understand and realise different entry routes into Engineering?
  - Remove subject-specific entry requirements?
  - Promote greater entry requirements transparency?
  - An Engineering approach to contextual offers?

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Thank you
Questions?

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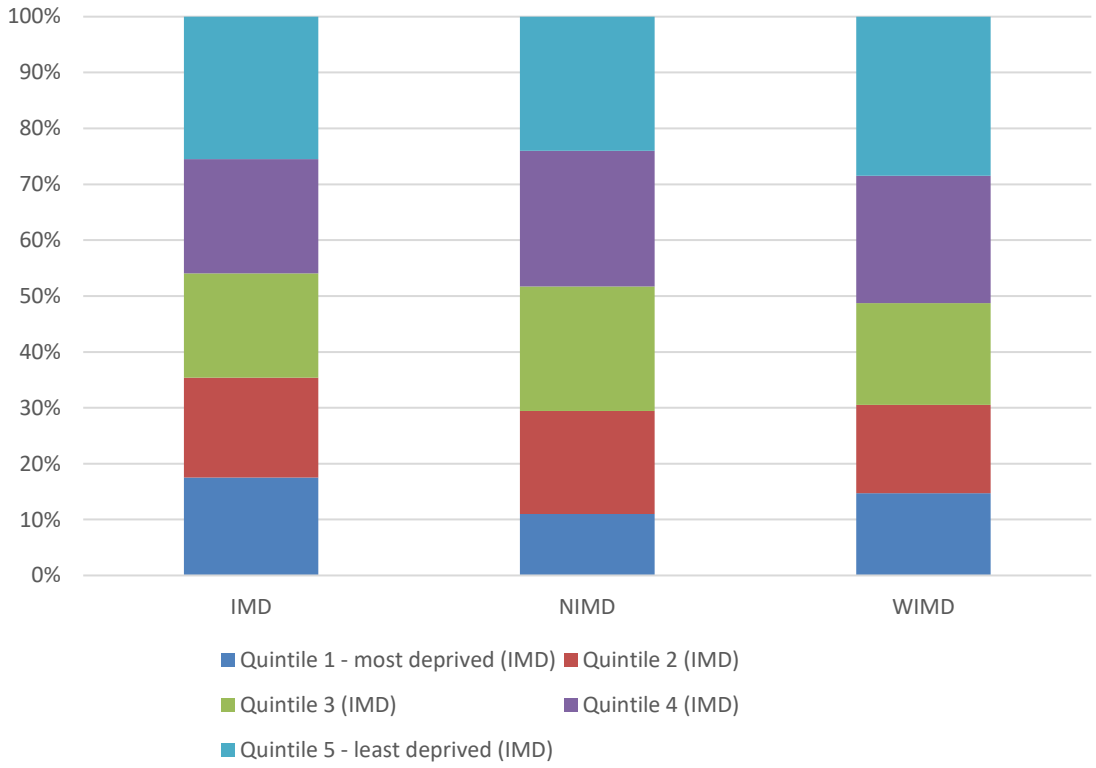
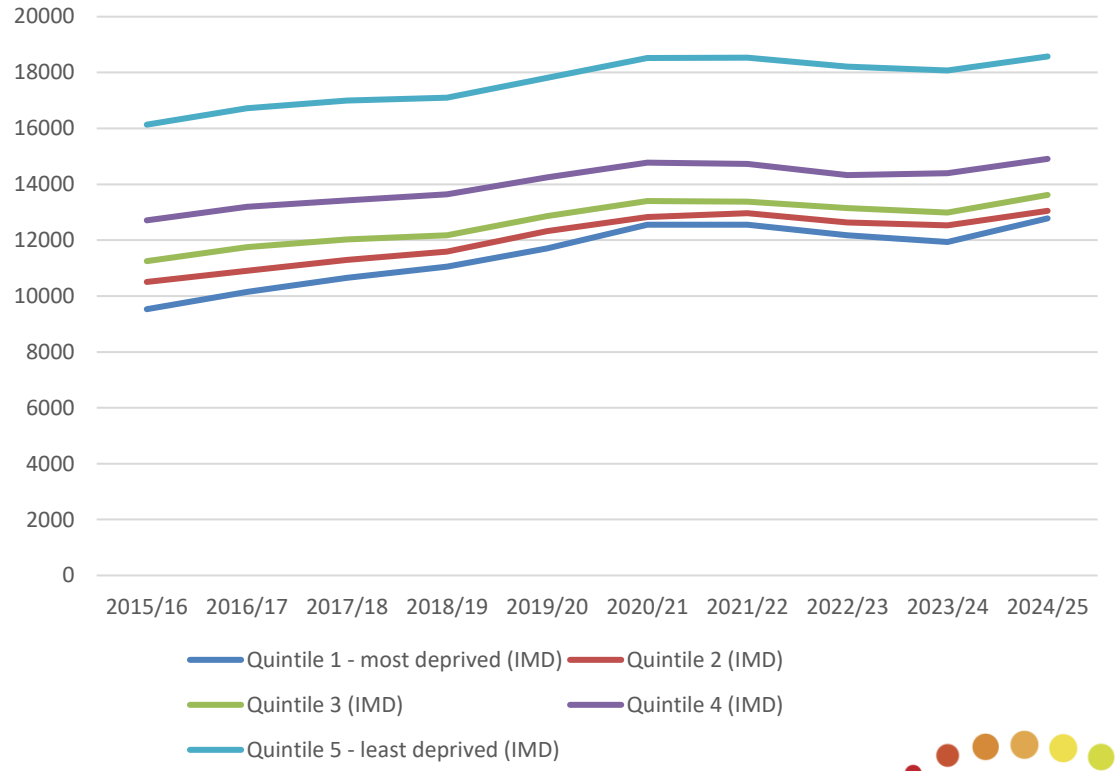
Engineering degree enrolments - IMD





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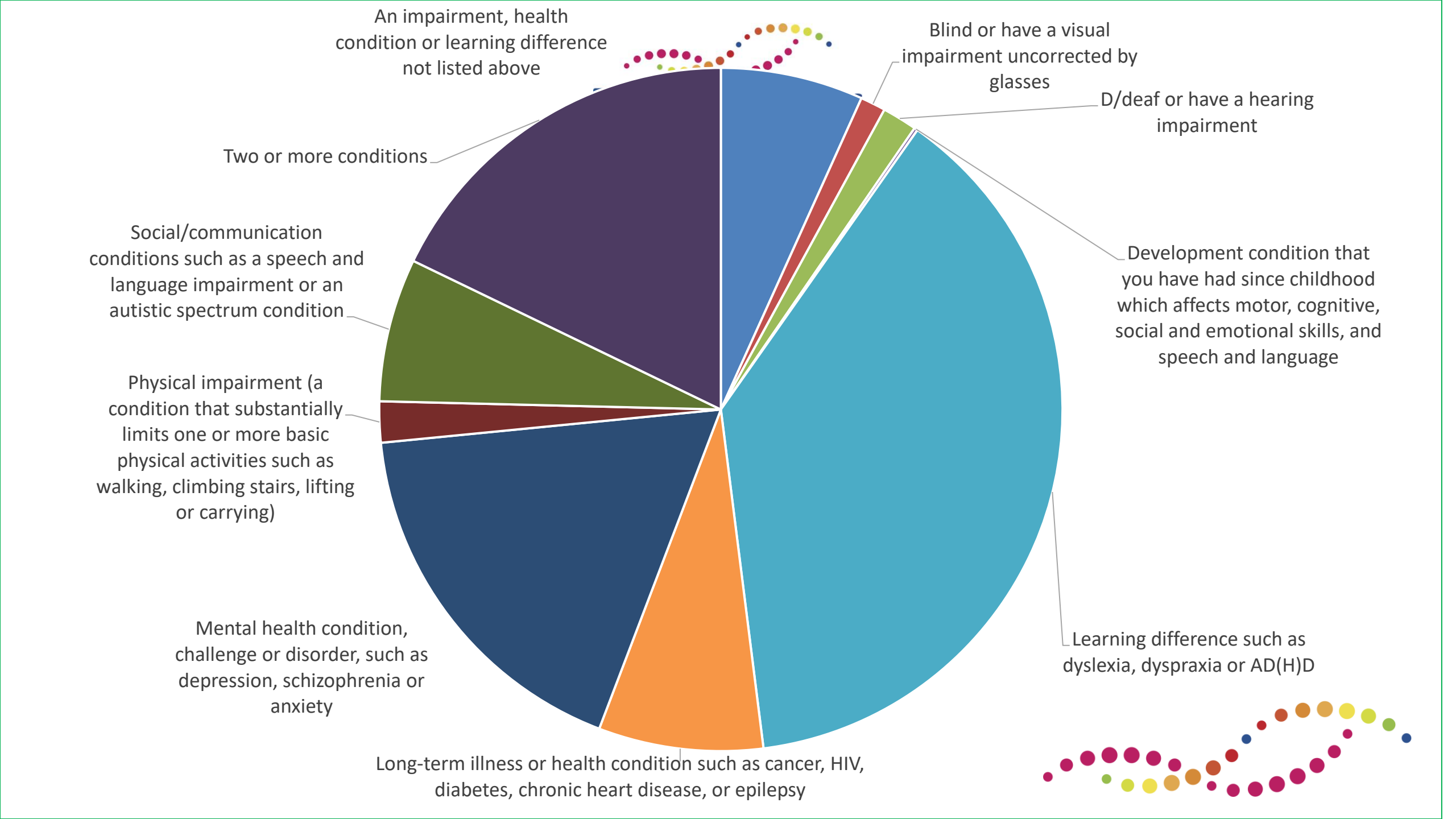
An impairment, health condition or learning difference not listed above
Blind or have a visual impairment uncorrected by glasses
D/deaf or have a hearing impairment
Two or more conditions
Development condition that you have had since childhood which affects motor, cognitive, social and emotional skills, and speech and language
Social/communication conditions such as a speech and language impairment or an autistic spectrum condition
Physical impairment (a condition that substantially limits one or more basic physical activities such as walking, climbing stairs, lifting or carrying)
Learning difference such as dyslexia, dyspraxia or AD(H)D
Mental health condition, challenge or disorder, such as depression, schizophrenia or anxiety
Long-term illness or health condition such as cancer, HIV, diabetes, chronic heart disease, or epilepsy