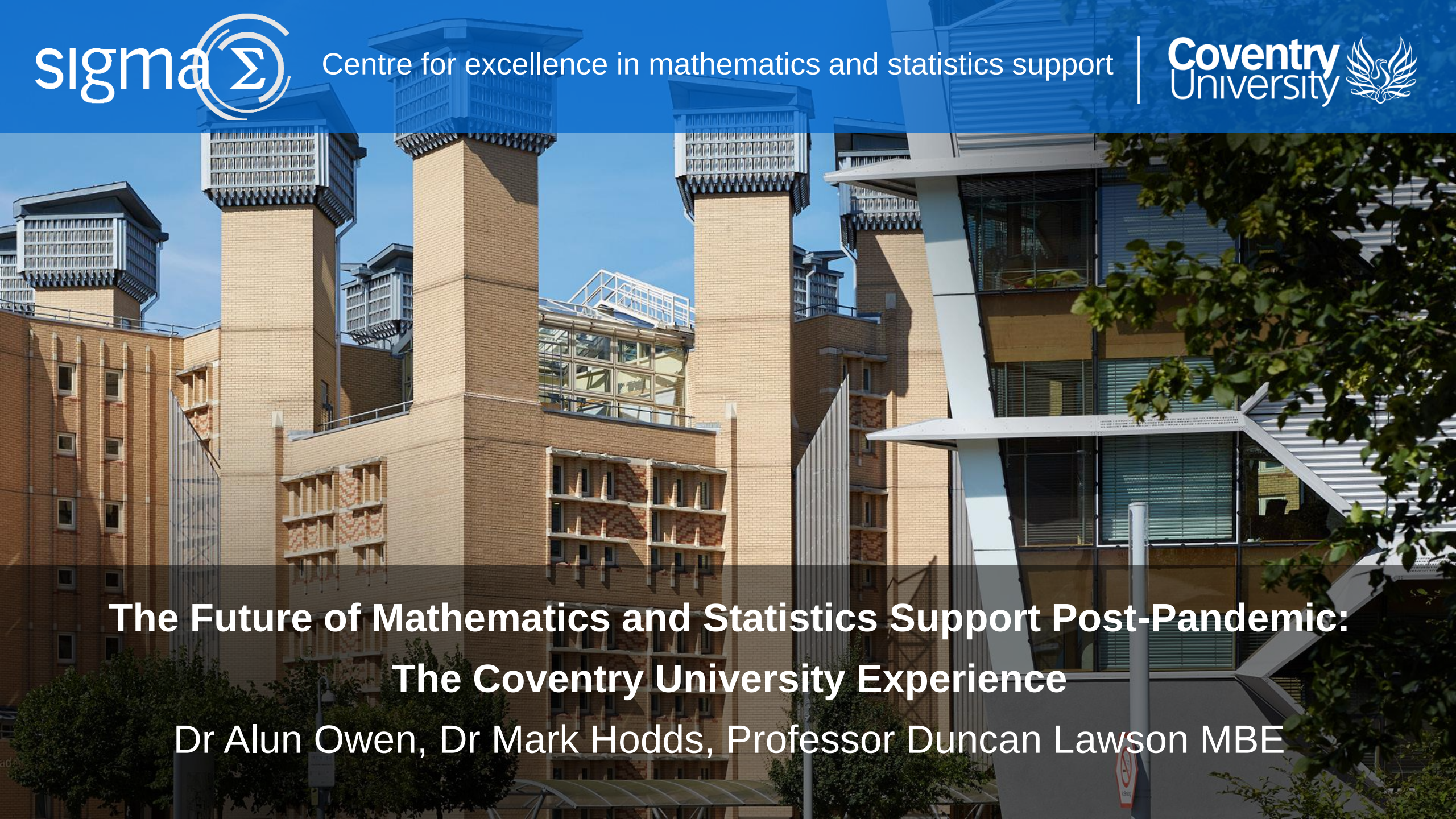
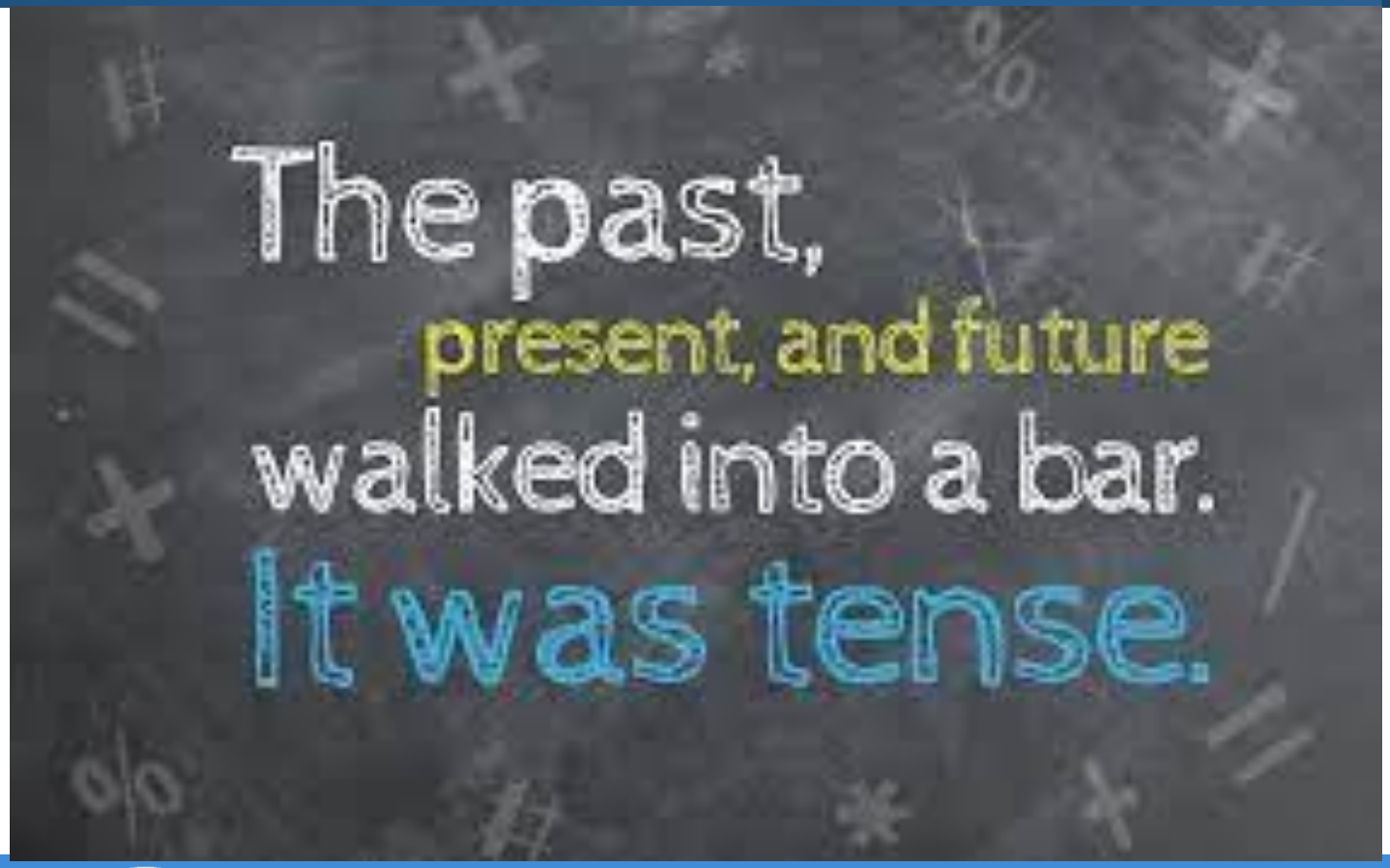


The Future of Mathematics and Statistics Support Post-Pandemic: The Coventry University Experience

Dr Alun Owen, Dr Mark Hodds, Professor Duncan Lawson MBE

Part I: The Past and the Present



- Coventry has a large mathematics and statistics centre called **sigma** offering drop-in/appointments/ workshops.

- The **sigma** centre is part of the Library Services, and is located on the ground floor of the library.

- Mathematics and Statistics support continues to be offered on campus and online.

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What changes are we seeing with students seeking support?

- Abrupt changes to education and learning have resulted in high anxiety (e.g., Fawaz and Samaha, 2022; Mamolo, 2022)
- Students are changing the way they utilise support:
  - Working online in groups on, for example, Discord (Liebendörfer et al., 2022, in print)
  - Coming more in-person than online
- Students appreciated online learning during the pandemic, where more anxious students could remain anonymous
- Now have come to appreciate the value of in-person and peer-to-peer learning

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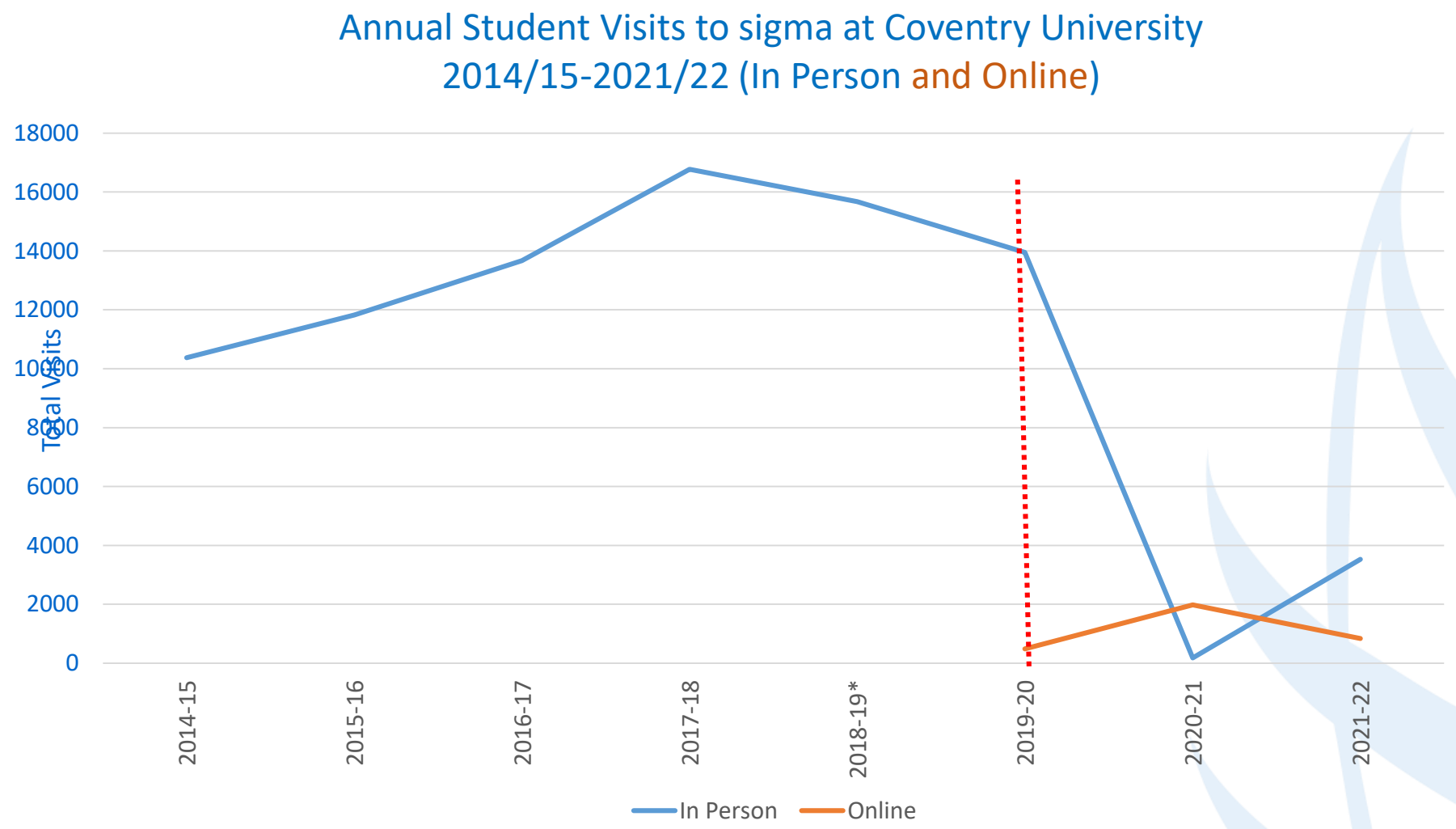
Centre Visits Pre and Post Pandemic



* Indicates disruption due to building work

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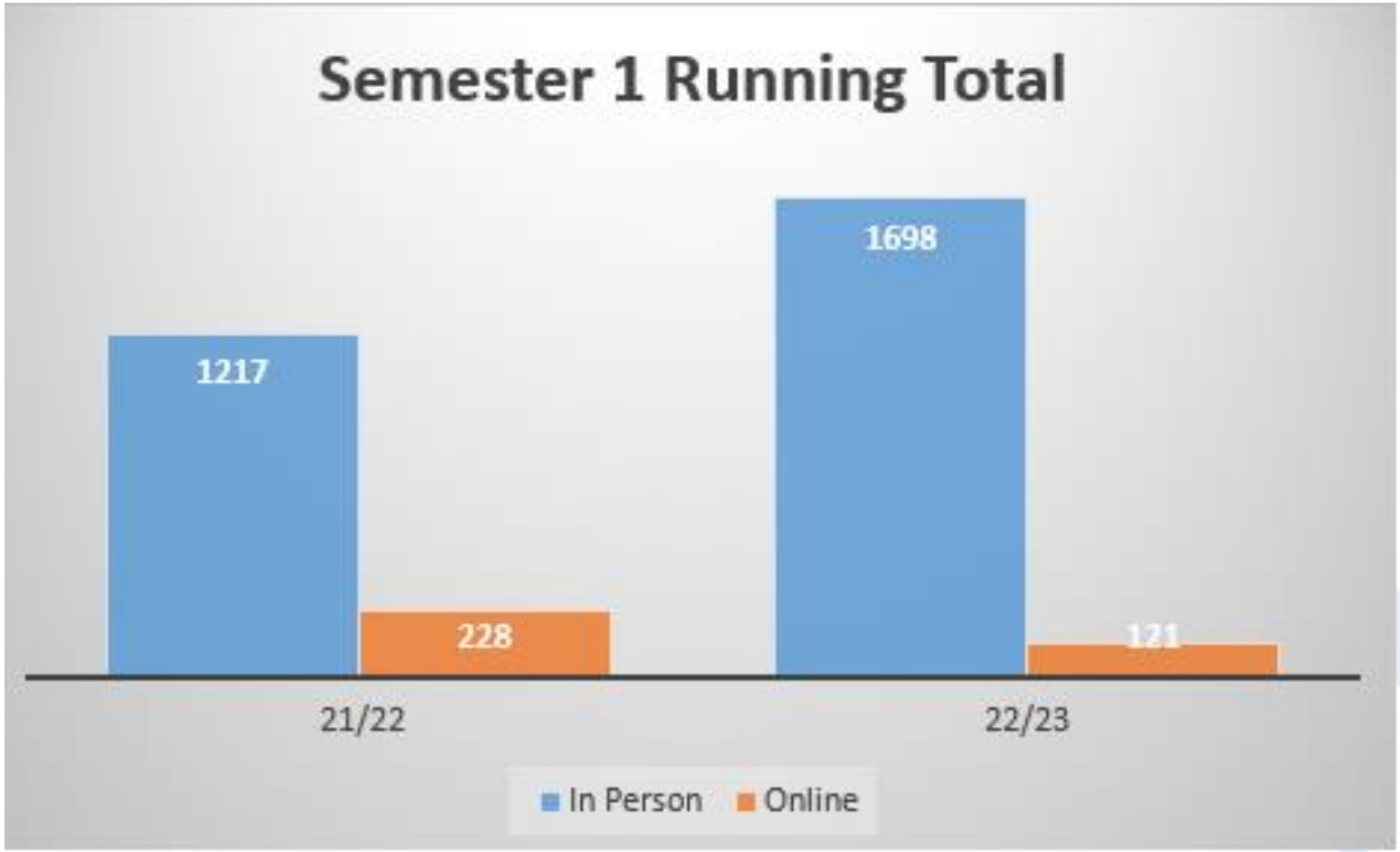
Centre Visits in 2022/23



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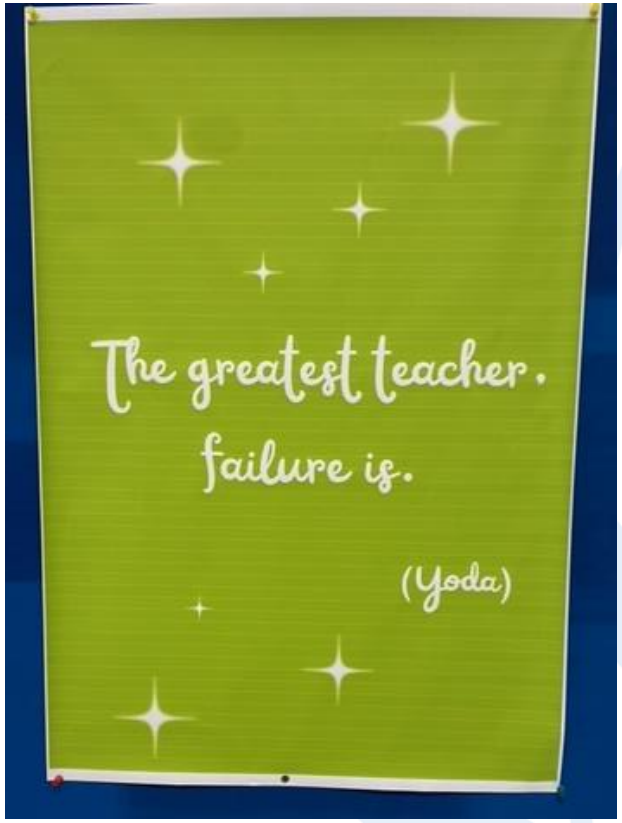
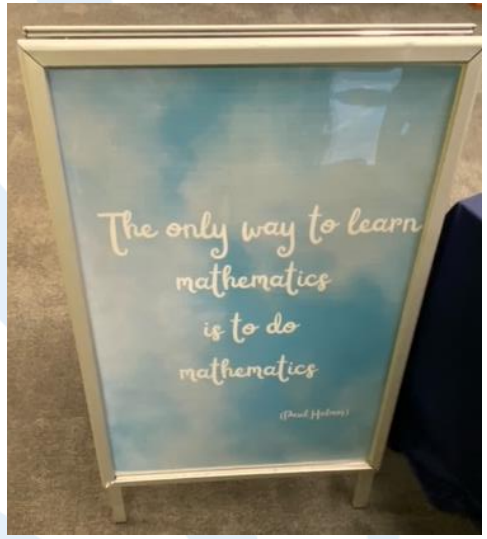
Maths and Stats Support in 2022



Less "detailed" advertising – more in-person



Inspirational & thought-provoking quotes

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What have we done in 2022

Simple, anonymous feedback

sigma Code of Practice

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The sigma mathematics and statistics support centre will:

1. **Provide a friendly welcome**
   We want our drop-in centres to be places where learners feel comfortable and supported.
2. **Encourage learners to ask whatever they like**
   We want to help people learn things that they do not currently understand, so no question is a silly question.
3. **Adapt our approach where required**
   We adapt our approach if learners share with us any barriers to learning they experience such as anxiety, dyslexia or dyscalculia.
4. **Try to help learners to do things for themselves**
   We explain material and help learners to think for themselves and build their confidence, rather than just giving the answer.
5. **Be honest about what we can and cannot do**
   No tutor knows everything and sometimes we encounter topics that we cannot do ourselves.

sigma Assessed WorkPpolicy

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Assessed Coursework and Mathematics and Statistics Support

All assessed work that you submit must be your own and not work done for you by members of **sigma** or by anyone else.

We will offer help with content from your module (such as lecture notes or tutorial sheets) which is relevant to a coursework assignment.

We will provide advice to final year undergraduate and masters students with projects and dissertations in a similar way to your supervisor.

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Mathematics and Statistics Support in 2022

Proactive Measures…

- Refresher maths workshops before students arrive
- Consolidation maths workshops during Semester 1
- Maths Anxiety workshop and building mathematical resilience – no mathematics covered
- Wider range of “diagnostic tests” for maths, engineering, nursing, Psychology planned (should we change the name?)
- 20 minute online pre-arranged “drop-in” sessions to compliment 1 hour bookable appointments
- New SQR Staff Network (for staff teaching Statistics, Quantitative or Research Methods) across CU

Reactive Measures…

- Adapting in-person v online timetable to suit the demand
- Choice of appointment mode (online or in-person)
- Inviting more feedback from students
- Better designed website
- Softening lighting in the centre and adding sound baffles on the ceiling
- Staff from faculties in the centre – friendly faces that encourage the use of support
- Updating our resources to become more accessible and on topics that students struggling with the most

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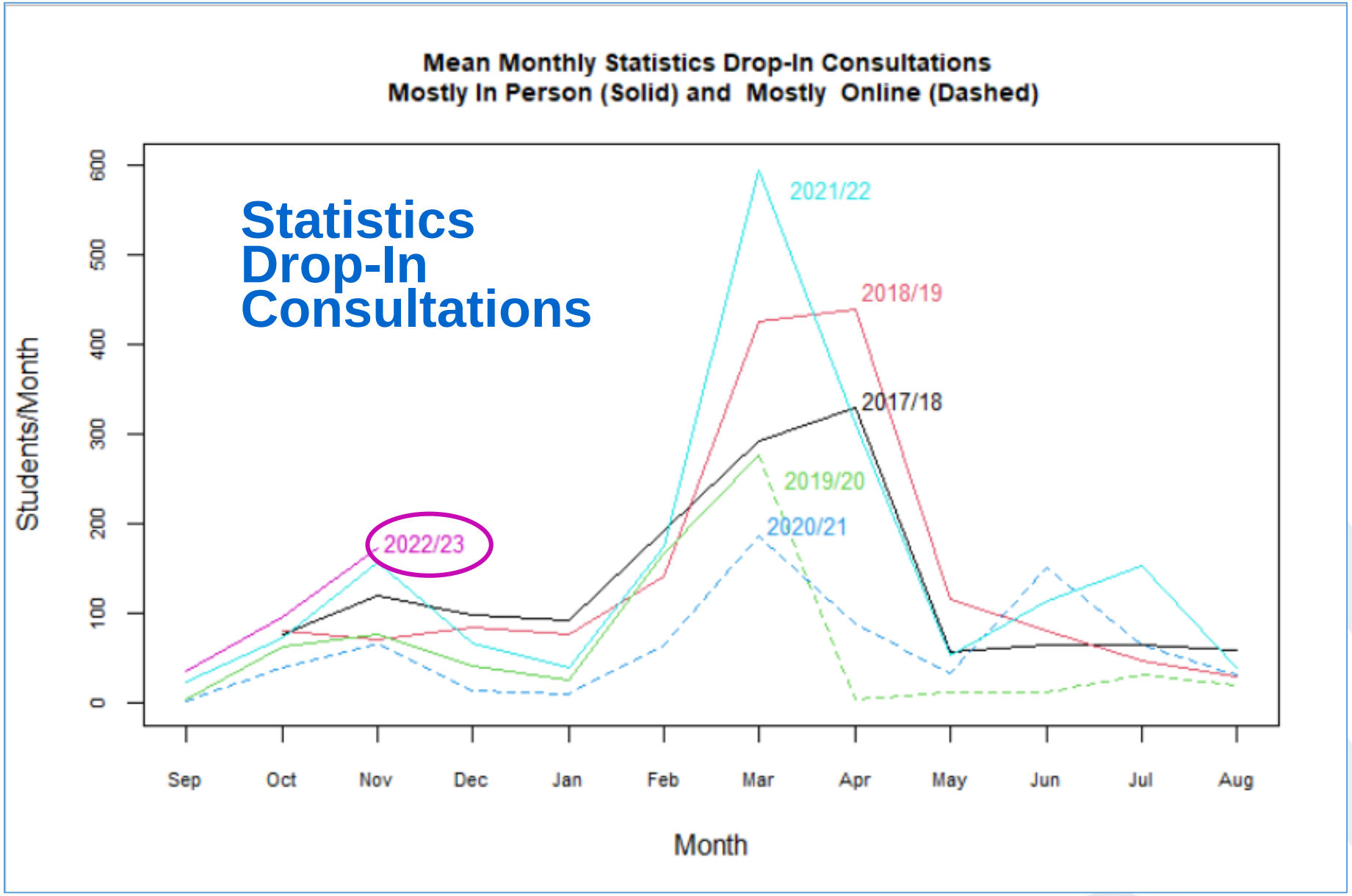
Statistics Drop-In Consultations



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Part II: The Future?

What are our students seeking statistics help studying?

Coventry individuals (appointments 2021-22)

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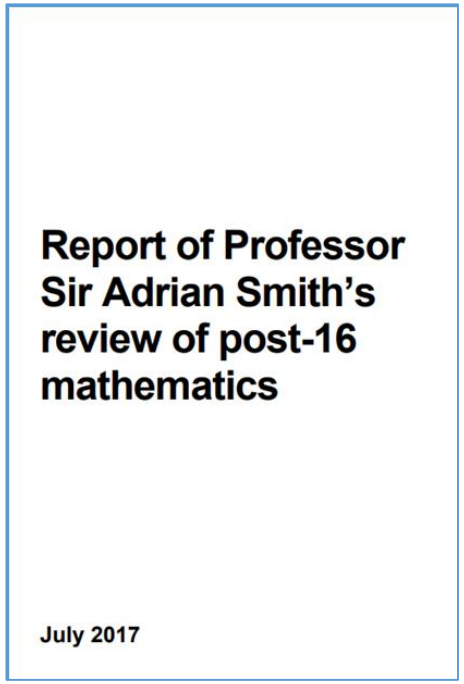
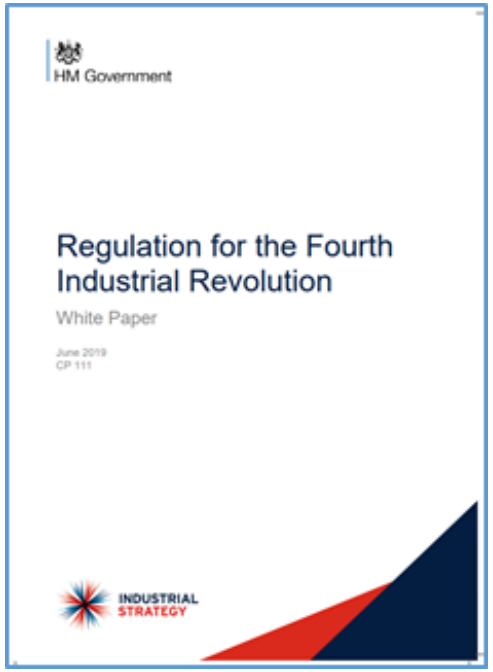
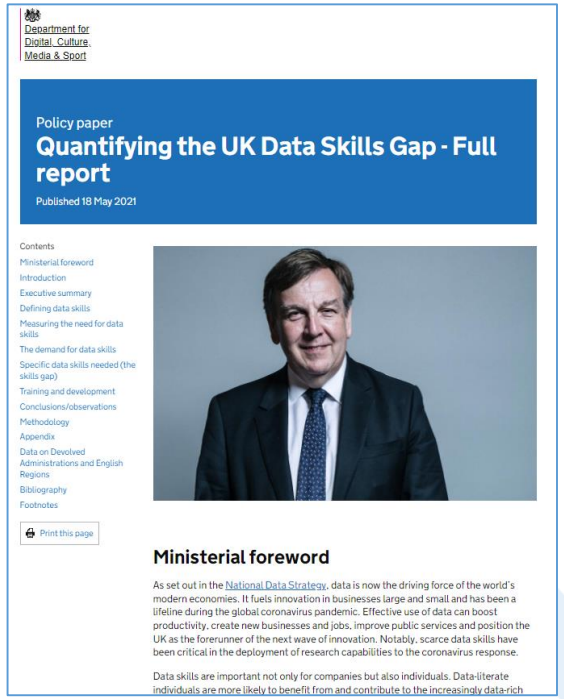
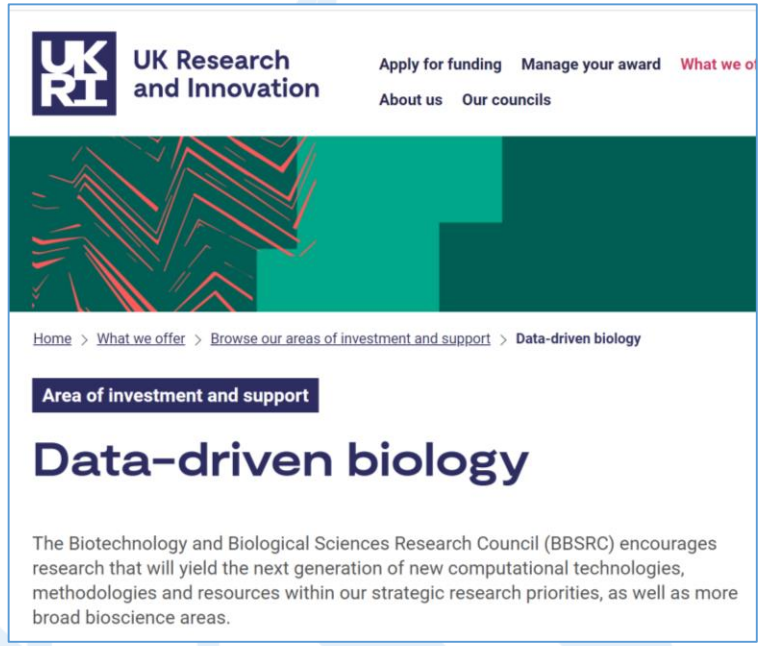
Increasing demand for mathematics and statistics (data) skills









The UK Data Skills Gap: Government DDCMS Policy paper 2021

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The Future for mathematics and statistics support?

- Increased numbers presenting with general anxiety as well as maths/statistics anxiety
- Greater focus on maths and statistics support centres contributing to institution's Access and Participation Plans (APPs), to facilitate improved access to support for those with additional learning needs, neurodiversity differences, online and distance learning students etc.
- Resources will need to be accessible (Mathcentre and Statstutor)
- QAA MSOR subject benchmark statement Mathematics “graduates will have familiarity with at least one programming language”
  - Python coding seems to the becoming more mainstream in these courses

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The Future for mathematics and statistics support?

- Skills in Data handling and Coding will become ever more important
- Demand for statistics support likely to grow further with growth of data science courses
- Emergence of new disciplines such as Computational Social Science, and more disciplines will adopt computational methods and machine learning etc.
- Emergence of interconnected disciplines e.g. Data Science and Health Care, Digital Supply Networks, Smart Cities etc.

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