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| **Name & email supervisor(s):**Dr Luke Mounce; L.T.A.Mounce@exeter.ac.uk |
| **Proposed length of internship and when it could take place:**6 weeks, available from 01/07/2022 to 31/08/2022 |
| **Host department:**Exeter Collaboration for Academic Primary Care, University of Exeter |
| **How will the internship be conducted:**[ ]  In person at the university[ ]  Virtual/ from home[x]  Both are possible, depending on preference student |
| **Title internship project:****Spotting Cancer among Comorbidities (SPOCC): Who is disadvantaged in the cancer diagnostic pathway?** |
| **Summary of the internship project:** *(max 250 words, can include hyperlinks to further information)*The first work package of the Spotting Cancer among Comorbidities project is exploring which patients with pre-existing conditions (comorbidities) are disadvantaged in the cancer diagnostic pathway, and where that disadvantage occurs in the pathway. To accomplish this, we have a dataset of ~150,000 anonymised electronic GP patient records, linked to secondary care data and cancer registry data. We are exploring the following outcomes:Stage at diagnosis (early vs advanced)30-day mortalityRoute to diagnosis (e.g. via emergency or cancer-specific referral)Length of time before patient reports their symptom to a GPLength of time before a GP refers to secondary careConsultation rates prior to diagnosisFor each outcome, we are exploring the impact of:* Conditions individually
* Counts of conditions
* Burden of conditions
* Whether a condition offers a plausible alternative explanation for a symptom of the patient’s cancer

We may find, for example, that patients with diabetes are at greater risk of advanced stage colon cancer, that they do not experience longer intervals before referral, but such patients take longer to present to their GP. This might indicate that interventions should be patient-focussed.This internship project would involve compiling the results for analyses conducted thus far, exploring them for trends (such as the example above), and exploring ways of summarising these for dissemination. The intern will have the opportunity to work with a multidisciplinary team of researchers, clinicians and patient representatives. |
| **Learning objectives:*** Understanding how to interpret statistical outputs, with the help of the team’s statisticians
* Understanding how to triangulate different research outputs to formulate an overall picture of effects
* Exploring some of the mechanisms of how pre-existing conditions can impact the cancer diagnostic pathway
* Creating concise and clear presentations of research findings
* Working in a multidisciplinary team.
* Learning to integrate the patient perspective into the research narrative
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| **Any further information:**The Spotting Cancer among Comorbidities project is a 5-year NIHR Programme Grant for Applied Research. More information is available here:<https://fundingawards.nihr.ac.uk/award/NIHR201070>  |

# National School for Primary Care Research

# Summer 2022 Internships with the Exeter Collaboration for Academic Primary Care (APEx)

## Guidance notes and application form for undergraduate students

The Exeter Collaboration for Academic Primary Care (APEx) is delighted to invite talented undergraduate students, from *any* course and from any University, to apply for a School for Primary Care Research Summer Internship. These internships have been developed with a view to supporting students’ interests in a career in research, with a specific focus on academic primary care.

There are two internships being offered by APEx for Summer 2022:

* One post is reserved for a non-medical undergraduate (this includes those training to be allied health professionals, medical imaging and medical sciences students, along with statisticians for example, or biology undergraduates, etc.).
* Internships will last six weeks and will take place between 20th June and 23rd September.
* A bursary of £1,000 will be available to support each intern.
* The start date and use of funds are flexible, will be agreed with the research lead in advance, and can be tailored to the individual and proposed project.

During the Summer placement, interns will produce a piece of primary care-focussed academic work and will be given the opportunity to later present their work at the NIHR National School for Primary Care Research annual showcase event. Students will gain hands-on experience of primary care research whilst under the supervision of a specialised team of mentors and supervisors. Experiences may include training in research methods, literature reviewing, designing a research study, analysis of secondary data, and attendance at team meetings and seminars. Successful students may also seek opportunities for ongoing support from their research lead in order to publish their project work.

The Exeter Collaboration for Academic Primary Care (APEx) is a multidisciplinary team within the College of Medicine and Health at the University of Exeter. The collaboration’s excellence in academic primary care is reflected in its status as one of the nine departments which form the NIHR’s National School for Primary Care 2021–2026. Further information about the APEx team and our core research interests can be found on the website <http://medicine.exeter.ac.uk/research/healthresearch/apex/>

**To apply** please email Sara Hayes (S.Hayes@exeter.ac.uk) copying Jo Butterworth (J.E.Butterworth@exeter.ac.uk) by **5pm on Tuesday 3rd May 2022** and attach:

* Your completed **Expression of Interest form** (page 5)
* Your **CV**

Successful applicants will be notified by Friday 20th May 2022. Applications will be scored independently by three members of the core APEx team, followed by discussion and agreement on the two highest scoring applicants. Selection will be based on criteria including:

* evidence of commitment to primary care scholarship;
* critical thinking and reflexivity about how this award will support your future professional growth;
* and creativity and commitment to making an active contribution during the internship to the primary care knowledge field.
* Patient and Public Involvement is central to all our research themes.

## Feedback from the APEx Summer ’21 interns

*“I really enjoyed being part of the Di-Facto team last summer for my internship. My goal and desire to do this internship was to see how research looks like in the real world. John was really great at replying to all of my emails which may have contained questions about things I wasn’t sure about.*

*The first thing I did in my internship was read more about the work that the team was doing, with documents and literature being provided by John. Throughout this time, I also scheduled meetings with other members of the research team to get to know them about their role within the research.*

*I attended the online SAPC conference which had a variety of people, the majority researcher GP’s, present their work through short presentations and posters. These few insightful days allowed me to learn about research being conducted within primary care. After the conference, I wrote a blog post which was shared on the DiFacto’s website and twitter.*

*https://blogs.exeter.ac.uk/di-facto/home/news/ Blog post link.*

*As part of Di-Facto research, a questionnaire was sent out to 500 general practices within England, asking about whether digital facilitation is used within primary care, and how it is promoted. The remainder of my internship was focused on conducting free-text question response analysis from this questionnaire. With the help of Rachel, I conducted this analysis. I then wrote up a report, which was read by John. He gave me some great tips about writing which I have found extremely useful in the final year of my studies. I also learnt about qualitative analysis and how this differs from quantitative analysis.*

*In October, after my internship finished, I gave a presentation of the findings to the Di-Facto team in their monthly meeting. I was then supported to write an abstract for the upcoming Southwest SAPC conference 2022. In mid-January, I found out that my abstract had been accepted (yippee!) so I am giving a short presentation about the report findings- my very first time presenting at a scientific conference. I look forward to this greatly. I have also been accepted to showcase my abstract in the Undergraduate research showcase at Exeter University.*

*I have definitely come into my third year at University more confident in writing lots of drafts, having a better insight of translational medical health, primary care and career choices. I am extremely grateful to have been accepted for this internship. I would recommend anyone who either has a specific interest in a proposed given area of primary care or would like to broaden their perspective on what research is like on a day-to-day basis to apply for this internship!*

*Improvements that I would say for next time:*

*- Going into the internship, I didn’t really have a huge idea of what research the team were doing – I did my research on them but was still unsure. Perhaps provide my information about each project so that the individual can read about the topic in general.*

*- Also, despite it being great to have freedom on what could be done within the internship, I found this a bit stressful initially. When John helped me to narrow down the options this was more useful. It is a change going from University teaching to being a given a choice of not only what to be interested in, but how to contribute to this. Although others may have a clearer aim than I did initially!*

*It was great to have this within the summer holidays but perhaps having a template to log hours/have clear goals more aligned with what John suggests.”*

**Victoria Bak, 2nd Year BSc Medical Sciences student**

*“This internship was a fantastic introduction to research in primary care. Working as part of an amazing team of people encouraged me to use my communication and problem-solving skills to proactively contribute to a worthwhile project. I thoroughly enjoyed learning how to use the Stata software and speaking to patients present at the Patient and Public Involvement meetings. I hope to continue exploring the world of healthcare research. Thank you again for this opportunity!”*

**Kesri Gajadhar, 2nd year BMBS medical student**

## Exeter Academic Collaboration for Primary Care (APEx) Summer internships for undergraduate students: Expression of Interest form

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| **Full name** |  |
| **Email address** |  |
| **Host University; Undergraduate programme and year** |  |
| **Please answer the following questions (max 150 words for each section).**  |
| 1. **Why are you applying for this internship?** Please include information about which project you would like to join and why.
 |
| 1. **Do you have any previous experience of research in Primary Care?**
 |
| 1. **How will this internship support your future career or professional development plans?**
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| 1. **What contribution do you think you can make during the internship?**
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