|  |
| --- |
|  **Name & email supervisor(s):****Dr Claire Burton** c.burton@keele.ac.uk**Dr Victoria Welsh** v.welsh@keele.ac.uk**Dr Kayleigh Mason** k.mason@keele.ac.uk  |
| **Proposed length of internship and when it could take place:**The internship will take place over 6 weeks and a proposed time when this could take place is:w/c 8th August 2022 – w/c 12th September 2022We are happy to negotiate alternative options. |
| **Host department:**School of Medicine, Keele University |
| **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:**Summarising emerging evidence of potential associations of COVID-19 with a future diagnosis of inflammatory arthropathies: a rapid review |
| **Summary of the internship project:** *(max 250 words, can include hyperlinks to further information)***Background**Around 10% of people who have had COVID-19 experience symptoms more than 4 weeks. Termed 'Long COVID'[1], these multisystemic symptoms and pathophysiological effects involve complex immunological mechanisms.[2] People living with rheumatoid arthritis (RA) may be at increased risk of severe COVID-19, and some anti-rheumatic drugs are associated with severe COVID-19.[3] COVID-19 may lead to a flare of existing RA[4] and case reports suggest that COVID-19 may trigger de novo immune-mediated inflammatory conditions, including arthritis.[5–7] The immunological mechanisms of auto-immune activation and ‘cross-talk’ between RA and COVID-19 is being explored.[2–4,8] The wider study aims to provide longitudinal cohort data to describe the epidemiology of incident rheumatic manifestations in post-COVID-19 patients. This internship aims to summarise reported rheumatic disease as a post-COVID manifestation. **Methods**A rapid review will be conducted[9] (for which a protocol will be registered with PROSPERO). The intern will be supported to perform a systematic search of multiple databases, download references into an appropriate platform, undertake a brief quality appraisal of identified studies, and extract and synthesise data using a narrative synthesis approach. **Outputs**The intern will be supported to write an article for publication in a peer reviewed journal and present their findings at a regional/national conference. Their findings will also inform future observational research. **PPIE**The research question has arisen following clinical observations made by the study team. A PPIE meeting for the proposed programme of work has been arranged for March 2022.   |
| **Learning objectives:**1.To understand and carry out the process of a systematic / rapid review2. To develop an understanding of the proposed pathophysiological mechanisms of post-COVID syndromes3. To produce a high quality, publishable piece of work, also of benefit upstream to linked observational research**Week 1** * Learn about the process of a systematic / rapid review
	+ Refine the study question and design a systematic search strategy to identify literature describing post-COVID rheumatic manifestations

**Week 2*** Run the search and download titles
* Perform a rapid screen of titles, abstracts and full text

**Week 3*** Begin to describe the findings (likely using the principles of a narrative synthesis)

**Week 4 &5*** Complete the rapid review

**Week 6** * Write up and consider outputs (poster / presentation / paper)
 |
| **Any further information:** The intern will have the opportunity to attend Study Management Group meetings for related work programmes during their 6 week attachment where they will meet other members of our multi-disciplinary research team and experience the wider aspects of primary care research.  |
| **How to apply:**For information about each project, applicants should contact the named project supervisors.For information about the School of Medicine at Keele University, or the award, applicants should contact Mel Holden (m.holden@keele.ac.uk).Applicants should email their application to Philippa Bailey (p.bailey2@keele.ac.uk) by the **3rd May 2022** The application should include:1. A copy of the applicants up to date CV (including 2 nominated referees)
2. A supporting statement (no more than 1 side of A4 in length) providing information about:
* The applicants background and experience to date
* Why they want to gain experience in primary care-based research
* Which project they would like to undertake and why

Selection of candidates will be based on the written application only (no interview will be required) using a standardised scoring sheet. |

1. Ahmed S, Zimba O, Gasparyan AY. COVID-19 and the clinical course of rheumatic manifestations. 2021;40:2611–9. Available from: https://doi.org/10.1007/s10067-021-05691-x

2. Zamani B, Moeini Taba S-M, Shayestehpour M. Systemic lupus erythematosus manifestation following COVID-19: a case report. 2021;15:29. Available from: https://doi.org/10.1186/s13256-020-02582-8

3. Tricco AC, Antony J, Zarin W, Strifler L, Ghassemi M, Ivory J, et al. A scoping review of rapid review methods. 2015;13:224. Available from: https://doi.org/10.1186/s12916-015-0465-6

4. Ono K, Kishimoto M, Shimasaki T, Uchida H, Kurai D, Deshpande GA, et al. Reactive arthritis after COVID-19 infection. 2020;6:e001350. Available from: http://rmdopen.bmj.com/content/6/2/e001350.abstract

5. Excellence NI for H and C. COVID-19 rapid guideline: managing the long-term effects of COVID-19 [Internet]. NICE; 2021 [cited 2021 Dec 9]. Available from: https://www.nice.org.uk/guidance/ng188

6. Dewanjee S, Kandimalla R, Kalra RS, Valupadas C, Vallamkondu J, Kolli V, et al. COVID-19 and Rheumatoid Arthritis Crosstalk: Emerging Association, Therapeutic Options and Challenges. 2021.

7. Lakota K, Perdan-Pirkmajer K, Hočevar A, Sodin-Semrl S, Rotar Ž, Čučnik S, et al. COVID-19 in Association With Development, Course, and Treatment of Systemic Autoimmune Rheumatic Diseases. 2021;11. Available from: https://www.frontiersin.org/article/10.3389/fimmu.2020.611318

8. Marques CDL. COVID-19 and Rheumatic Diseases: It Is Time to Better Understand This Association. 2021;48:318–20. Available from: http://www.jrheum.org/content/48/3/318.abstract

9. Gasparotto M, Framba V, Piovella C, Doria A, Iaccarino L. Post-COVID-19 arthritis: a case report and literature review. 2021;40:3357–62. Available from: https://doi.org/10.1007/s10067-020-05550-1

stylefix