



Multi-level Integrated Data for Musculoskeletal Health Intelligence and Actions: Population Survey

The project was funded by the Nuffield Foundation's Oliver Bird Fund and Versus Arthritis (OBF/43990), but the views expressed are those of the authors and not necessarily the funders.

The authors have no competing interests to declare.

Painful musculoskeletal conditions like back pain and osteoarthritis cause more disability in the general population than any other health conditions. Poorer communities and individuals are often the hardest hit. To have a suitably 'joined up' response to this challenge we need accurate and meaningful joined up information on musculoskeletal health, risk, and care in local populations.

Study aims

1. To describe musculoskeletal health and inequalities in the adult population
2. To describe and compare the biopsychosocial context of adults with musculoskeletal health problems
3. To relate local estimates of musculoskeletal health need with use of healthcare services

We invited adults aged 35 years and over in North Staffordshire and Stoke-on-Trent to complete a questionnaire that collected information on pain and its effects on people, with a particular focus on disability and work. We examined the extent of health inequalities in these and in the key social and behavioural risk factors that are believed to determine them. Participants had the option of completing the survey either online or by postal return. Additionally, researchers visited six areas within Stoke on Trent and North Staffordshire with higher rates of non-completion, diversity and ethnic diversity to offer doorstep face to face questionnaire completion. With consent, we linked their questionnaire responses with information held in their medical records so that we can piece together information on the care that people are receiving. Potential participants were registered with one of 30 participating general practices across North Staffordshire and Stoke-on-Trent, particularly those serving more deprived and ethnically diverse areas, that have preferably been part of a linked MIDAS-GP study.

Our initial findings suggest that:

The number of people who experience chronic and high impact chronic pain has increased between 2016/17 to 2022/23; a 36% increase for chronic pain and 57% increase for high impact chronic pain. The increase is greater in woman, those aged 35 to 54 years old and

for those who experience socio-economic deprivation. Our results also indicate that musculoskeletal health is worse for those who experience musculoskeletal pain in 2022/23 than for similar people who experienced musculoskeletal pain in 2016/17.

In line with our previous work, using information from 2016/17 data, our results suggest that the need for public health and healthcare to prevent and reduce the number of people who experience musculoskeletal pain and its impact will vary by area (of around 650 households) within North Staffordshire and Stoke-on-Trent; this need is driven by the number of people who experience poverty and are older.

Although data collection is complete, we are still undertaking further analyses of these data to address the study's secondary objectives.

Communicating our findings

We have presented our initial findings to our Patient Advisory Group (PAG), and to scientific, clinical, and lay audiences at the National MSK Health Data meeting. Research articles are being drafted for submission to peer-reviewed journals. We have worked with our PAG to produce plain language summaries for these. A final report for the MIDAS project overall and targeted towards policymakers is being drafted for publication on our webpages.

Patient and Public Involvement

A group of 7 people with a range of experience of living with musculoskeletal pain conditions and using healthcare services were part of a MIDAS Patient Advisory Group (PAG). Over a series of monthly meetings with researchers that ran for the entire study period they contributed to how this study was designed, carried out, and reported. Specific contributions included:

- Encouraging us to add a booster survey component to our mailed/online survey to improve research inclusion. This was in-person, interviewer-administered and targeted at neighbourhoods with higher levels of socioeconomic deprivation and ethnic diversity. Our PAG helped design this, procure the third-party survey provider to conduct it, and reviewed and monitored the results from this
- Critical discussion about how to approach and analyse data on social determinants of health, the interpretation of analyses, their value for public/patient audiences, and suggesting channels for communicating with public audiences
- Reviewing and contributing to the drafting of plain language summaries of findings

The format of regular monthly group meetings was valued by PAG members.

"I was able to question the process, from beginning to the end changes were made. How to engage and include the seldom heard communities, this was the measure for me of why this study was so important to me. Talking and questioning the lack of equity in research."

"MIDAS should be used as an example of PPI done well by all involved."

"I noticed that this regular contact gave me a sense of ownership which impacted on both my commitment and enjoyment of the research. Involvement itself became easier because I was familiar with the project. I didn't need to check my notes to the same degree or trawl through e-mails before attending meetings. The regular contact ensured that my memory of what we had done, what we still need to do and where we were up to was easier to access – in the way it would be with any other regular work."

Acknowledgement

We would like to thank the participants who consented to take part in this study, practice managers and staff at participating practices and acknowledge the contributions of the MIDAS Patient Advisory Group, Gerri Mulcahy and members of the NIHR Clinical Research Network: West Midlands, staff at MJog by Livi, and to Sarah Lawton, Clare Thompson, Jo Smith, Sarah Lewis, and the administration support staff in Keele CTU who contributed to the design and implementation of practice-based patient recruitment methods for MIDAS-POP

You can learn more about the MIDAS POP study at [MIDAS - Keele University](#)