

Editorial

# COVID-19 Disrupts Rheumatology Care: An Opportunity for Innovation?

Rebecca Grainger<sup>1</sup>  and Valerie Milne<sup>2</sup> 



Pandemics are disruptive. Transport, commerce, education, recreation, and health are all affected. As a rheumatology community, we should be particularly considering the effects on rheumatology care and patient outcomes. Further, what can we learn from this pandemic that may provide focus for future developments in the practice of rheumatology? What happened to rheumatology care during the pandemic?

In this issue of *The Journal of Rheumatology*, Kwok and colleagues report on the volumes and types of rheumatology visits for adults in Ontario, Canada, using population-level data, before and during the coronavirus disease 2019 (COVID-19) pandemic.<sup>1</sup> Data on rheumatology consultations in the 3 years up to March 2020, the start of the pandemic, and 18 months after were extracted from the administrative databases in Ontario. Consultation data included outpatient in-person office visits, telemedicine visits (combined data for telephone and video), inpatient visits, and emergency department visits. In the year leading up to the start of the pandemic, 289,202 patients were seen by 239 rheumatologists, and in the first year of the pandemic, 276,686 patients were seen by 247 rheumatologists. The week after restrictive public health measures were implemented, the number of outpatient office visits decreased by 76%, with a relatively rapid recovery by adoption of telemedicine. Telemedicine remained a dominant mode of care delivery the first year of the pandemic, sustained at just under 40% of outpatient consultations in September 2021.

Although rheumatologists in Ontario largely maintained service volumes, rheumatology consultations for new patients

in Ontario dropped 10% during the first year of the pandemic, accelerating a pre-pandemic pattern. The nadir of monthly new patient visits occurred in May of 2020, with consultation rates approximately 40% lower than that expected from the previous year's data, with some recovery over time. This drop in new patient visits is a concerning finding, as diagnosis and treatment delays may impede good patient outcomes. Some of this drop may be due to people with indolent symptoms not seeking primary care or primary care choosing not to refer on conditions where management can occur in primary care, such as osteoarthritis and fibromyalgia. However, it is also of some concern that a report using primary care data collated at a national level in the United Kingdom showed a drop in rates of diagnosis of inflammatory arthritis in the first year of the pandemic.<sup>2</sup> Without a diagnosis, a patient cannot have an appropriate treatment plan; indeed, these investigators also reported a shift in prescribing patterns, with less use of methotrexate and leflunomide, and more sulfasalazine and hydroxychloroquine during the pandemic. What, then, are the events in the journey of a person with symptoms of significant inflammatory rheumatic disease (IRD) to a first visit with a rheumatologist?

There are 4 key steps between the onset of IRD and definitive management. The first 3 steps occur before seeing a rheumatologist—patient symptom recognition and attendance at primary care, primary care recognition of IRD features and referral to rheumatology, and receipt of referral and booking of a rheumatology clinic visit—with the fourth, attendance at rheumatology consultation including diagnosis and commencement of therapy.<sup>3</sup> Even without a pandemic, people with IRD regularly face delays in diagnosis.<sup>4,5</sup> Although it remains a responsibility of rheumatologists to ensure timely first visits are offered to people with suspected IRD, delays in accessing primary care, lack of recognition of features of IRD, and referral delays are significant contributors to definitive diagnosis and management.<sup>5-7</sup> An ongoing focus for research and clinical practice is how to expand the evidence base regarding effective strategies to facilitate movement through these steps.

There are many ways the journey for a person with new IRD symptoms to a consultation in rheumatology may have

<sup>1</sup>R. Grainger, PhD, Professor, Department of Medicine, University of Otago Wellington, and Rheumatologist, Te Whatu Ora Health New Zealand, Capital Coast and Hutt; <sup>2</sup>V. Milne, Research Fellow, PhD, Department of Medicine, University of Otago Wellington, Wellington, New Zealand.

RG reports personal fees from AbbVie, Janssen, Cornerstones, Novartis; and meeting attendance support from Pfizer. VM declares no conflicts of interest relevant to this article.

Address correspondence to Dr. R. Grainger, Department of Medicine, University of Otago, PO Box 7343, Newtown, Wellington 6242, New Zealand. Email: Rebecca.Grainger@otago.ac.nz.

See Pandemic effect on rheumatology, page xxx

been further disrupted during the pandemic. In a large survey conducted in primary care practices in the Toronto area, up to one-third of people reported delaying seeking primary care and only 30% of these respondents had in-person care, with most care provided by telephone.<sup>8</sup> A limitation of telemedicine in clinical assessment of IRD presenting with musculoskeletal (or other) symptoms is lack of physical examination. This wholesale change in primary care delivery would seem to be a major contributor to a drop in new patient consultations. A drop in referrals would be consistent with another study that showed at least one-third of rheumatologists in Canada reported seeing fewer patients each week, despite most providing the same or more half-day clinics per week.<sup>9</sup> The factors contributing to this reduced patient volume (which includes follow-ups) are not clear, but disruptions to travel, ability to access laboratory testing, reluctance of people to attend primary care clinics with possible infectious exposure, and barriers to adoption of telemedicine are all likely to have been at play.

Many similar factors will have also influenced the overall reduction in number of in-person consultations for people with established IRD. Early in the pandemic, most people with IRD adopted physical distancing measures that would limit attendance at healthcare facilities.<sup>10</sup> The immediate uptake of telemedicine, facilitated by regulations enabling reimbursement, allowed the continuation of rheumatology care without infectious risk. It does not seem surprising that clinic efficiency dropped when telemedicine was new to almost all rheumatologists and patients, and occurred in an unprepared health system. The literature examining telemedicine in rheumatology care is currently relatively limited and beset by issues of risk of bias; however, telemedicine appears feasible and effective, at least over the short term.<sup>11</sup> In research settings, patient satisfaction with telemedicine interventions is high. For this reason, it remains a priority to evolve models of rheumatology care (considering patient preferences, needs, and clinical setting) to provide a telemedicine option that meets patient expectations.

To support this, the telehealth working group of the Canadian Rheumatology Association has provided evidence-informed, expert-consensus best practice guidelines as a starting point to advancing virtual care in rheumatology.<sup>12</sup> This thoughtful document emphasizes the need to involve patients in the decision to undertake virtual care, addresses issues of equity, and outlines the considerations for telerheumatology as a care model, in general and for specific clinical settings. It is important to remember that telephone-based care has long been an informally accepted mode of healthcare delivery in rheumatology, for example, in the advising of noncritical results and checking for adverse effects of medications. There are also well-established models for long-term patient-initiated, phone-based follow-up for people with rheumatoid arthritis (RA) in remission.<sup>13</sup> These types of innovations in models of care delivery, which can now be supported by technology to capture patient-reported disease activity between visits, have the potential to address workforce limitations while also ensuring positive impact on patient outcomes.

One recent example is a randomized controlled trial (RCT) in the Netherlands on remote monitoring of disease

activity for people with RA and low disease activity through an app, compared with usual care.<sup>14</sup> This study confirmed remote care achieved similar disease activity outcomes after 1 year of follow-up, with the benefit of an almost 40% reduction in in-person visits. These types of approaches are likely to be welcomed by many patients, many of whom are ready and waiting for remote care options so they can continue with their lives with well-controlled inflammatory arthritis in the background.<sup>15-17</sup> Other telemedicine innovations that can address the demands on the rheumatology workforce are eConsultations or asynchronous provision of advice. This approach has been used with success in responding to referrals for positive antinuclear antibody tests and referrals to rheumatology, both of which reduced wait times for new patient consultations.<sup>18,19</sup> These real-world studies used implementation and quality improvement science, which provides a different sort of evidence than the familiar RCT. Rheumatology practices adopting new models of care must plan to evaluate these as part of implementation.

Although there is considerable enthusiasm for telemedicine in rheumatology, there are clinical encounters where in-person visits are likely to remain essential, for example, undifferentiated disease, which requires expert clinical examination, and monoarthritis, where arthrocentesis is required.<sup>12</sup> New patient visits are also most likely to be efficient and effective when conducted in the traditional in-person manner.<sup>20,21</sup> Many other clinical situations may be amenable to virtual care with thoughtful consideration of the reason for the clinical encounter, the type of virtual care (modality), and, most importantly, patient preference and access considerations. The options provided by telemedicine can go some way to address inequitable access to rheumatology care seen in regions or countries that, like Ontario, have a maldistribution of rheumatology services and require some patients to travel long distances for appointments.<sup>22</sup>

The disruption of the COVID-19 pandemic has accelerated the adoption of new processes of care and provided insights as well as tantalizing opportunities for change. It would be easy for a workforce beaten up by a pandemic to revert to familiar models of care. Many of our patients have shown us they are ready for new models that will also enable more strategic use of our workforce. Change is hard but there will never be a better time. Are we ready to take up the challenge and persist with new ways of working in rheumatology?

## REFERENCES

1. Kwok TSH, Kuriya B, King LK, et al. Changes in service delivery and access to rheumatologists before and during the COVID-19 pandemic in a Canadian universal healthcare setting. *J Rheumatol* xxxxxx.
2. Russell MD, Galloway JB, Andrews CD, et al. Incidence and management of inflammatory arthritis in England before and during the COVID-19 pandemic: a population-level cohort study using OpenSAFELY. *Medrxiv* 2022 Aug 16 [Preprint. Accessed November 8, 2022.] Available from: doi.org/10.1101/2022.08.15.22278736
3. Villeneuve E, Nam JL, Bell MJ, et al. A systematic literature review of strategies promoting early referral and reducing delays in the diagnosis and management of inflammatory arthritis. *Ann Rheum Dis* 2012;72:13-22.

4. Zhao SS, Pittam B, Harrison NL, Ahmed AE, Goodson NJ, Hughes DM. Diagnostic delay in axial spondyloarthritis: a systematic review and meta-analysis. *Rheumatology* 2021;60:1620-8.
5. Stack RJ, Nightingale P, Jinks C, et al. Delays between the onset of symptoms and first rheumatology consultation in patients with rheumatoid arthritis in the UK: an observational study. *BMJ Open* 2019;9:e024361.
6. Kumar K, Daley E, Carruthers DM, et al. Delay in presentation to primary care physicians is the main reason why patients with rheumatoid arthritis are seen late by rheumatologists. *Rheumatology* 2007;46:1438-40.
7. Lapane KL, Dubé C, Ferrucci K, et al. Patient perspectives on health care provider practices leading to an axial spondyloarthritis diagnosis: an exploratory qualitative research study. *BMC Fam Pract* 2021;22:251.
8. Agarwal P, Wang R, Meaney C, et al. Sociodemographic differences in patient experience with primary care during COVID-19: results from a cross-sectional survey in Ontario, Canada. *BMJ Open* 2022;12:e056868.
9. Kulhawy-Wibe SC, Widdifield J, Lee JY, et al. Results from the 2020 Canadian Rheumatology Association's workforce and wellness survey. *J Rheumatol* 2022;49:635-43.
10. Hausmann JS, Kennedy K, Simard JF, et al; COVID-19 Global Rheumatology Alliance. Immediate effect of the COVID-19 pandemic on patient health, health-care use, and behaviours: results from an international survey of people with rheumatic diseases. *Lancet Rheumatol* 2021;3:e707-14.
11. Jackson LE, Edgil TA, Hill B, et al. Telemedicine in rheumatology care: a systematic review. *Semin Arthritis Rheum* 2022;56:152045.
12. Barber CEH, Levy DM, Ahluwalia V, et al. Best practices for virtual care, a consensus statement from the Canadian Rheumatology Association. *J Rheumatol* 2022;49:408-18.
13. Hewlett S, Kirwan J, Pollock J, et al. Patient initiated outpatient follow up in rheumatoid arthritis: six year randomised controlled trial. *BMJ* 2005;330:171.
14. Seppen B, Wiegel J, Wee MM, et al. Smartphone-assisted patient-initiated care versus usual care in patients with rheumatoid arthritis and low disease activity. *Arthritis Rheumatol* 2022;74:1737-45.
15. Grainger R, Townsley HR, Ferguson CA, Riley FE, Langlotz T, Taylor WJ. Patient and clinician views on an app for rheumatoid arthritis disease monitoring: function, implementation and implications. *Int J Rheum Dis* 2020;23:813-27.
16. Najm A, Lempp H, Gossec L, Berenbaum F, Nikiphorou E. Needs, experiences, and views of people with rheumatic and musculoskeletal diseases on self-management mobile health apps: mixed methods study. *JMIR Mhealth Uhealth* 2020;8:e14351.
17. Flurey CA, Morris M, Richards P, Hughes R, Hewlett S. It's like a juggling act: rheumatoid arthritis patient perspectives on daily life and flare while on current treatment regimes. *Rheumatology* 2014;53:696-703.
18. Patel V, Stewart D, Horstman MJ. E-consults: an effective way to decrease clinic wait times in rheumatology. *BMC Rheumatol* 2020;4:54.
19. Malcolm EJ, Brandon Z, Wilson LE, et al. eConsults' impact on care access and wait times in rheumatology. *J Clin Rheumatology* 2022;28:147-54.
20. Ahmed S, Grainger R, Santosa A, et al. APLAR recommendations on the practice of telemedicine in rheumatology. *Int J Rheum Dis* 2022;25:247-58.
21. Thurah A de, Bosch P, Marques A, et al. 2022 EULAR points to consider for remote care in rheumatic and musculoskeletal diseases. *Ann Rheum Dis* 2022;81:1065-71.
22. Widdifield J, Bernatsky S, Pope JE, et al. Evaluation of rheumatology workforce supply changes in Ontario, Canada, from 2000 to 2030. *Healthc Policy* 2021;16:119-34.