Title: Best Practices for Virtual Care, a Consensus Statement from the Canadian Rheumatology Association

Running Head: Best Practices for Virtual Care

Given names and surnames of all the authors:

Claire E.H. Barber^{1,2,3,4} (orcid.org/0000-0002-3062-5488), Deborah M. Levy^{5,6} (0000-0003-1023-9499), Vandana Ahluwalia⁷ (orcid.org/0000-0001-9381-553X), Arielle Mendel^{8,9} (orcid.org/0000-0001-9732-616X), Regina Taylor-Gjevre¹⁰ (orcid.org/0000-0003-2930-7607), Tommy Gerschman¹¹, Sahil Koppikar¹²⁻¹⁴, Konstantin Jilkin¹⁵, Elizabeth Stringer¹⁶ (orcid.org/0000-0002-1863-2562), Cheryl Barnabe^{1,2,3,4} (orcid.org/0000-0003-3761-237X), Sibel Zehra Aydin^{17,18} (orcid.org/0000-0001-8792-4449), Nadia Luca^{19,20} (orcid.org/0000-0001-7754-7213), Roberta Berard²¹ (orcid.org/0000-0003-2780-0617), Keith Tam¹, Jennifer Burt²², Jocelyne C. Murdoch²³, Graeme Zinck²⁴, Therese Lane²⁵, Jennifer Heeley²⁴, Megan Mannerow²⁴, Renee Mills²⁴, Linda Wilhelm²⁵, Nicole Spencer¹, Brent Ohata²⁶

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¹Department of Medicine, University of Calgary, Calgary, Alberta, Canada

²Department of Community Health Sciences, University of Calgary, Calgary, Alberta, Canada

³Arthritis Research Canada, Canada

⁴McCaig Institute for Bone and Joint Health, University of Calgary, Alberta, Canada

⁵Hospital for Sick Children, Toronto, Ontario

⁶Department of Pediatrics, Division of Pediatric Rheumatology, University of Toronto, Toronto, Ontario

⁷William Osler Health System, Brampton, Ontario

⁸Department of Medicine, Division of Rheumatology, McGill University Health Centre, Montreal, Quebec, Canada

⁹Centre for Outcomes Research and Evaluation, Research Institute of the McGill University Health Centre, Montreal, Quebec, Canada

¹⁰Department of Medicine, Division of Rheumatology, University of Saskatchewan, Saskatoon, Saskatchewan, Canada

¹¹Department of Pediatrics, Division of Pediatric Rheumatology, University of British Columbia, Canada

¹²Women's College Hospital, Toronto, Ontario, Canada

¹³Timmins & District Hospital, Timmins, Ontario, Canada

¹⁴Department of Medicine, Division of Rheumatology, University of Toronto, Toronto, Ontario, Canada

¹⁵Department of Medicine, Division of Rheumatology, University of Manitoba, Winnipeg, Manitoba, Canada

¹⁶Department of Pediatrics, Division of Pediatric Rheumatology, Dalhousie University, Halifax, Nova Scotia, Canada

¹⁷Department of Medicine, Division of Rheumatology, University of Ottawa, Ottawa, Ontario, Canada

¹⁸The Ottawa Hospital Research Institute, Ottawa, Ontario, Canada

¹⁹Department of Pediatrics, Section of Rheumatology, University of Calgary, Calgary, Alberta, Canada

²⁰Alberta Children's Hospital Research Institute, Calgary, Alberta, Canada

²¹Department of Pediatrics, Division of Rheumatology, Western University, London, Ontario

²²Division of Rheumatology, Eastern Health

²³The Arthritis Society

²⁴Cassie + Friends

²⁵Canadian Arthritis Patient Alliance

²⁶Department of Medicine, Division of Rheumatology, University of British Columbia, Vancouver, British Columbia

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Initials, surnames, appointments, and highest academic degrees of all authors:

CEH Barber MD PhD: Associate Professor Departments of Medicine and Community Health Sciences Cumming School of medicine, University of Calgary, Research Scientist Arthritis Research Canada

DM Levy MD MS FRCPC: Associate Professor, Department of Pediatrics, University of Toronto, Staff Physician and Clinical Director, Division of Rheumatology, Hospital for Sick Children

V Ahluwalia MD FRCPC: Rheumatologist, William Osler Health System, Past President, Canadian Rheumatology Association

A Mendel MD FRCPC MSc: Assistant Professor, Department of Medicine, McGill University

RM Taylor-Gjevre MD, MSc, FRCPC, DRCPC: Professor of Medicine, College of Medicine, University of Saskatchewan

T Gerschman, MD, FRCPC, MSc: Clinical Instructor, Department of Pediatrics, UBC

S Koppikar MD FRCPC: Rheumatologist, Women's College Hospital and Timmins and District Hospital

K Jilkin, MD FRCPC: Assistant Professor of Medicine, Max Rady College of Medicine, University of Manitoba.

E Stringer MD MSc FRCPC: Associate Professor of Pediatrics, Dalhousie University, Pediatric Rheumatologist, IWK Health
C Barnabe MD MSc FRCPC: Professor Departments of Medicine and Community Health Sciences, Cumming School of Medicine, University of Calgary, Senior Research Scientist Arthritis Research Canada
SZ Aydin, MD: Associate Professor at University of Ottawa, Senior Clinician Investigator at the Ottawa Hospital Research Institute
NJC Luca, MD, MSc, FRCPC: Clinical Associate Professor, Department of Pediatrics, University of Calgary
RA Berard MD FRCPC MSc, Associate Professor of Pediatrics, Western University, Pediatric Rheumatologist, Children’s Hospital, London Health Sciences Centre
K Tam, MD: Internal Medicine Resident, University of Calgary
J Burt, BscPT: ACPAC program-trained ERP
JC Murdoch, BScOT: ACPAC program-trained ERP
G Zinck, BSc: Patient partner, Cassie + Friends
T Lane Bsc Nursing: Patient Partner, Canadian Arthritis Patient Alliance
R Mills, BA Child and Youth Care, Patient partner, Cassie + Friends
J Heeley: BSW: Parent Partner Cassie and Friends
M Mannerow: Parent Partner, Cassie + Friends, London Ontario Chapter
L Wilhelm: Patient partner, Canadian Arthritis Patient Alliance
N Spencer: Research Assistant, University of Calgary
B Ohata MD FRCPC: Clinical Assistant Professor, Division of Rheumatology, University of British Columbia

Corresponding author’s name, address, and email:

Claire Barber MD PhD FRCPC
cehbarbe@ucalgary.ca
3280 Hospital Dr NW
HMRB Building, Room 451
Calgary, AB T2N 4N1

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Abstract (250/250)

Objectives: To develop best practice statements for the provision of virtual care in adult and pediatric rheumatology for the Canadian Rheumatology Association's (CRA) Telehealth Working Group (TWG).

Methods: Four members of the TWG representing adult, pediatric, university-based and community rheumatology practices defined the scope of the project. A rapid literature review was conducted between April-May 2021 of existing systematic reviews, policy documents and published literature and abstracts on the topic. The review informed a candidate set of 7 statements and a supporting document. The statements were submitted to a 3-round (R) modified Delphi process with 22 panelists recruited through the CRA and patient advocacy organizations. Panelists rated the importance and feasibility of the statements on a Likert scale of 1-9. Statements with final median ratings between 7-9 with no disagreement were retained in the final set.

Results: 21 (95%) panelists participated in R1, 15 (71%) in R2 and 18 (82%) in R3. All but one statement met inclusion criteria during R1. Revisions were made to 5/7 statements following R2 and an additional statement was added. All statements met inclusion criteria following R3. The statements addressed the following themes in the provision of virtual care: adherence to existing standards and regulations, appropriateness, consent, physical examination, patient-reported outcomes, use in addition to in-person visits, and complex co-management of disease.

Conclusions: The best practice statements represent a starting point for advancing virtual care in rheumatology. Future educational efforts to help implement these best practices and research to address identified knowledge gaps are planned.

The rheumatology community has a long history of virtual patient care, often referred to as “Telerheumatology”¹. Virtual care is an emerging term adopted by the Canadian Medical Association (CMA) as “any interaction between patients and/or members of their circle of care, occurring remotely, using any form of communication or information technology with the aim of facilitating or maximizing the quality and effectiveness of patient care”². Prior to the COVID-19 pandemic, virtual care was practiced infrequently in rheumatology³, and used primarily to deliver care to more rural and remote regions across Canada, often through Telehealth with a physical exam presenter conducting a musculoskeletal exam at the patient’s site with the rheumatologist remaining at their usual clinical site⁴.

During the COVID-19 pandemic there has been a rapid increase in virtual care in many specialties including rheumatology, where it posed unique challenges. Rheumatologic conditions often affect multiple organ systems, some of which can be challenging to assess by virtual care. Additionally, the standard of care for many autoimmune inflammatory diseases is “treating to target”⁵⁻⁷, which involves the frequent reassessment of disease activity which, depending on disease, may include review of laboratory and other appropriate diagnostic tests and a physical exam (i.e., a tender and/or swollen joint count). Additional challenges for both patients and rheumatology healthcare providers have included overcoming technological barriers, determining the appropriateness of virtual visits, involving learners in virtual care, and determining the long-term impact of virtual care on patient outcomes.

To address rheumatologists’ needs for guidance on best practices for virtual care, the Canadian Rheumatology Association (CRA) convened the Telehealth Working Group on virtual care in October 2020. The group deployed a survey in December 2020 to better understand

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Canadian rheumatologists' virtual care practices and knowledge needs⁸, and then developed the CRA's virtual care position statement⁹. Development of rheumatology virtual care best practice guidance was recognized as a potentially valuable additional support for clinicians.

METHODOLOGY

There were three phases in development of the best practice statements.

Phase 1. Drafting initial topics for best practice statements. In Phase 1, a core working group of 4 rheumatologists (one pediatric: DL, and three adult rheumatologists: BO, CEHB, VA, two of whom were community-based) met four times and ascertained the scope and approach for the project, which was then approved by the Telehealth Working Group. An initial list of potential topics was developed based on group discussion and in response to the results of the CRA's virtual care survey⁸. The scope included the provision of virtual care in rheumatology across adult and pediatric populations. Virtual care education for rheumatology trainees was excluded from the scope of this work.

Phase 2. Evidence reviews for best practices in virtual care. To support the best practice statements, a rapid review was conducted using methodology proposed by the National Collaborating Center for Methods and Tools¹⁰ between March and April 2021. The review was conducted by a single primary reviewer skilled in literature reviews (CEHB). Literature to support the best practice statements was derived through a review of the following sources: 1) existing systematic reviews on relevant topics including virtual care in rheumatology identified through targeted literature searching¹¹⁻¹⁴, mobile health applications (mHealth) or electronic health (eHealth) technologies¹⁵⁻¹⁷, patient reported joint exams in rheumatology^{18,19}, and diagnostic accuracy of virtual care²⁰; 2) review of best practices, guidelines and policy

documents on virtual care from other organizations in Canada, the United States, Europe and Australia; 3) abstracts from the rheumatology scientific meetings since 2020 including the CRA and the American College of Rheumatology (ACR) Annual Scientific Meetings; 4) MeSH term search of Pubmed from database inception including the terms "Telemedicine"[Mesh] AND "Rheumatic Diseases"[Mesh] conducted on April 20th 2021; 5) a Cochrane library search from database inception conducted on April 20th 2021 ("telehealth" rheumatology); 6) a “hand search” of the literature conducted by members of the working group to provide any additional documents on the provision of virtual care that were available provincially/locally.

Data from the rapid literature review were extracted using a standardized format to document the purpose, approach and main findings of each study or guidance. Articles that were included in the systematic reviews of rheumatology virtual were not re-abstracted.

Phase 3. Development of the best practice statements draft. Initial drafts of the best practice statements were compiled by the core working group. The group used the Canadian Quality and Patient Safety Framework for Health Services ²¹, developed by the Canadian Patient Safety Institute, as a framework for creating the best practice statements. The framework outlines 5 overarching goals for healthcare: people-centered care, safe care, accessible care, appropriate care, and integrated care ²¹. The group also reviewed equity considerations for each best practice recommendation using the PROGRESS-Plus tool²². This tool can be used to help understand which populations face inequities in social determinants of health.

Phase 4. Three-round modified Delphi consensus process to finalize best practice statements. Panelists in the modified Delphi panel included rheumatologists, allied healthcare providers

(AHPs), patients, and parents. Rheumatologists and AHPs were recruited through the CRA's Telehealth Working Group and Quality of Care Committees, and patients were recruited from two organizations (Cassie + Friends, a pediatric rheumatology patient organization, and the Canadian Arthritis Patient Alliance, CAPA). Panelists were provided a background description of the project, including a summary of the results of the literature review, the candidate best practice statements and the associated proposed rationale. A one-hour teleconference was held to review this information and outline the Delphi process. Then participants were sent an electronic survey for Round 1 voting and asked to answer two questions on a Likert scale of 1-9 for each draft best practice statement: 1) How important is this "best practice" in providing high quality virtual rheumatology care (1=not important at all, 9=extremely important); 2) How feasible/easy do you think it is to do this "best practice" (1=not feasible at all, 9=extremely feasible). Open text boxes were available for participants to share their response rationale. Participants had approximately 10 days to provide their votes.

In Round 2, a facilitated discussion was held by teleconference with panelists to review and discuss the group ratings. Following the group discussion, the survey was readministered for the final vote using the same two questions for each statement, as described for Round 1. To be included in the final set of best practice statements required a median vote of 7 to 9 with no disagreement. Disagreement was defined according to the RAND appropriateness method²³ when the Interpercentile Range for a particular question was larger than the Interpercentile Range Adjusted for Symmetry.

Ethics: All participants in the Delphi provided informed consent to participate and the study was approved by the University of Calgary Conjoint Health Research Ethics Board REB21-0569.

RESULTS

Development of Candidate Best Practice Statements

Results of the rapid review are shown in Supplemental Figure 1 and Supplemental Tables 1-3.

These results informed the generation of 7 candidate best practice statements for virtual care in rheumatology. During the process of development, the statements were mapped to 5 overarching “Goals” for health services from the Canadian Quality and Patient Safety Framework²¹. Table 1 describes the relationship between the statements and 5 overarching “Goals” for safe and high-quality care.

Table 2 provides considerations for the application of the statements on rheumatology virtual care based on equity considerations²². In many instances the rapid review discovered little evidence, signalling the need for more research on the equity considerations of virtual care delivery in rheumatology.

Delphi panel results

Twenty-two panelists agreed to participate in the panel, 21 (95%) participated in Round 1, 15 (71%) in Round 2 discussions and 18 (82%) in Round 3. There were representatives from 10 Canadian provinces and Territories (Supplemental Table 4). Of those who responded to demographic questions (n=21), 15 (71%) were female and 5 (24%) were male. Participants were asked about their experience with rheumatic conditions and could select multiple roles. Fourteen participants indicated they were healthcare providers (6 adult and 4 pediatric rheumatologists, 3

AHPs and 1 trainee) and 9 were persons with a lived experience with a rheumatologic condition (patient or parent). Four healthcare providers worked in outreach clinics and/or travelled to a remote site for clinics, 9 worked at university-based clinics and 2 in community-based clinics.

During Round 1 voting, all but one of the 7 statements met criteria for inclusion in the final set (Supplemental Table 5). There was concern about the feasibility of the fourth statement on the topic of virtual physical exam, leading to a median rating of 6. Despite high ratings of all the other statements in the domains of importance and feasibility, participants had several comments about the wording of the statements which were collected during Round 1 and discussed during Round 2. This prompted revision of five of the original statements (Supplemental Table 6).

Based on feedback, an additional statement was generated to address obtaining a medical history from a proxy decision-maker, and submitted for voting in Round 3. While it was felt that ideally it is best practice that patients are present for all their virtual care encounters, in select circumstances patient family members or caregivers may be substitute decision makers due to age of consent or being appointed through legal documents such as an advance directive, as they may serve as a proxy for virtual visits to maintain continuity of care. Examples of such scenarios may include when a paediatric rheumatologist needs to communicate investigation results and treatment plans to the parents of a young child. In adult rheumatology this can occur with elderly patients who may have dementia and have an advanced directive in place to help guide their care. While the statement proposed regarding proxy decision-makers technically met panel thresholds set for inclusion, there were concerns that it may not adequately represent all appropriate proxy scenarios. Additionally, some panelists expressed concern it may be used to

justify excluding patients from participating in care. For these reasons this statement was ultimately removed from the final set.

The final wording and voting results for the seven statements are shown in Table 4 and a rationale for each is discussed below.

Best practice statements

1. Rheumatologists should adhere to national recommendations on best practices and provincial standards and regulations for virtual care including: licensing considerations, patient privacy, confidentiality, documentation, and consent.

Rationale: In Canada, physicians are licensed provincially and must adhere to provincial regulations of their licensing bodies. Organizations including the Canadian Medical Protective Agency (CMPA) and the CMA among others, have also developed specific recommendations to consider for the provision of virtual care. Selected resources are outlined in Table 4 and include discussing the limitations of virtual care with patients, obtaining and documenting consent for virtual care, protecting the privacy and confidentiality of virtual care encounters, and ensuring appropriate documentation of virtual care encounters and appropriate communication of the encounter to other care providers.

2. The appropriateness of virtual care for a rheumatology encounter should be considered based on the following factors: access to local rheumatology care; reason for, urgency and complexity of the clinical encounter (including clinical, cultural and language considerations); patient preferences; and type of virtual care available.

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Rationale: Virtual care may be offered if medically appropriate. According to CMPA “virtual care is not a substitute for in-person assessments or clinical examinations”²⁴ and it is also not a substitute for attending the emergency department for urgent evaluation if required. Various patient, clinical and system-level factors need to be considered to determine the appropriateness of a virtual care encounter. Based on multiple systematic reviews of virtual care in rheumatology, there is limited evidence for the safety and efficacy of virtual care for many rheumatologic conditions¹²⁻¹⁴. There is conflicting evidence from small, older studies that a videoconference for a new patient may offer a similar diagnostic accuracy to an in-person assessment^{1,25,26}, and additional high-quality studies are needed. Many (or all) of these challenges may be alleviated by having a skilled presenter such as an Advanced Clinician Practitioner in Arthritis Care (ACPAC)^{27,28} at the patient site to assist with examination. There is also limited evidence for the long-term efficacy of virtual care with most data available for rheumatoid arthritis (RA)¹¹. Only surveys²⁹ and opinion-based recommendations exist as to the types of rheumatic conditions that may be more or less appropriate for virtual care^{30,31}. Furthermore, patient factors such as comorbidities, language, culture, and other factors should be considered when determining appropriateness of virtual care.

A major factor is access to local in-person rheumatology care, which is limited across many regions in Canada as rheumatologists are primarily located in larger urban centers. Virtual care allows for greater access to rheumatology specialist care in centers without a local rheumatologist and for greater continuity of care in centers where there may only be sporadic access to rheumatology care due to traveling rheumatology clinics.

At the present time, given the varied potential clinical scenarios encountered, we recommend an approach to determining the appropriateness of a virtual encounter that considers multiple system, clinical, and patient factors (Table 5).

3. If virtual care is determined to be medically appropriate, ensure that the provision of virtual care is a shared decision with patients and that patient consent is documented.

Rationale: Virtual care is not always medically appropriate (see Table 3 and Statement #2). If virtual care is appropriate, it should be a shared decision with the patient weighing the benefits and risks of missing subtle clinical findings, which could impact patient outcomes. While the concept of consent is encompassed in statement 2, the panel voted to include statement 3 to emphasize this important concept (Supplemental Table 6). Various organizations have developed tools and templates to help educate patients about virtual care and to document consent. The virtual care tools developed by the Doctors of BC in the Doctors Technology Office Virtual Care Toolkit³² are one example that have been referenced in national CMA documents³³ and adapted for use in other provinces.

4. The standard of care for physical exam by virtual care should allow for appropriate clinical decision-making. If this is not possible, then an in-person physical exam is required and should be completed (either at an in-person rheumatologist visit or completed by a skilled presenter at a remote site).

Rationale: A variety of tools for physical exams in virtual care have been developed³⁴⁻³⁶, although additional validation work is required as they are largely consensus-based. A physical

exam may not always be required and depends on the nature of the clinical encounter. In general, the exam required should be directed based on clinical need to inform appropriate decision-making. Table 6 outlines potential physical exam approaches and their clinical and resource considerations.

5. Where appropriate, patient-reported outcomes that help direct approaches for care should be used during virtual encounters.

Rationale: Treat-to-target refers to the frequent reassessment of disease activity to direct the adjustment of disease modifying therapy to target low or inactive disease activity. This paradigm is part of current guidelines for RA⁷ and emerging for many other rheumatic diseases. The reporting of patient disease activity and/or functional status may be necessary to obtain coverage for advanced therapies for many rheumatic diseases. In addition to measures of disease activity, best practices for RA care may include monitoring functional status^{37,38}. The ACR has recently proposed modifications for the reporting of disease activity and functional status in RA to account for the provision of virtual care³⁹. While recommended patient-reported outcomes do not require modification, some composite disease activity measures do require patient completed joint counts in lieu of provider joint counts and further validation of this approach is required.

For other rheumatic conditions patient-reported outcome measures may also be readily obtained using electronic collection, through telephone or e-mailed surveys. For example, in juvenile idiopathic arthritis, measures of functional status like the childhood Health Assessment Questionnaire (CHAQ) may be collected routinely. In ankylosing spondylitis, disease activity indices may be recorded including the Bath AS disease activity and functional status indices (BASDAI and BASFI). A variety of patient-reported measures have been proposed in lupus⁴⁰

but there remains limited guidance from professional societies as to which measures should be routinely collected.

Other patient reported outcomes may be appropriate to capture including fatigue⁴¹, pain⁴² and measures of mental health^{43,44}. Additionally, there may be specific considerations for the collection of patient-reported outcomes in individuals with limited English proficiency or who have limited health literacy^{45,46}.

6. Virtual care may be used in addition to in-person follow-ups to enhance care.

Rationale: In between rheumatology appointments, virtual care has been used to support patients in a variety of ways. Some examples include: self- monitoring using mobile applications^{17,47}; nurse-led telephone lines⁴⁸; patient self-management courses/education/resources⁴⁷; methotrexate or biologic injection classes; rapid access rheumatology “hotlines” for practitioners to get timely specialist advice. Lastly, alternating virtual and in-person appointments may be appropriate.

Ongoing evaluation and reporting on these care strategies is suggested.

7. In complex co-management of disease, virtual care may be used to enhance communication between providers.

Rationale: Patients with rheumatic disease may have multiple comorbidities that require consultation with different specialists. Across the country there are several examples of combined clinics where a patient may be seen by two or more specialists, in a single clinical encounter and, to enhance communication and clinical decision-making and reduce the need for

multiple visits. These clinics may be amenable to virtual encounters if appropriate. Scenarios where this may occur include co-management of rheumatology care with primary care providers or internists (e.g., including through structured educational and cased-based discussion in Project ECHO)⁴⁹; virtual transition clinics where adult and pediatric rheumatologists assist young adults with transition to adult care; or inter-disciplinary visits (e.g., with a social worker, physiotherapist, or nurse present for part of a visit or the entire visit). Further research is needed in these advanced models of rheumatology virtual care.

DISCUSSION

The COVID-19 pandemic has removed many logistical barriers to virtual care that previously existed, and has improved our understanding of what constitutes an effective virtual care encounter. We recommend that virtual care should continue following the pandemic. The present work contributes an initial set of best practice statements that can be expanded upon as we learn more about the optimal delivery of virtual care in rheumatic diseases. Our intent is not to replace good clinical judgement, nor to supplant regional regulatory requirements.

Importantly, through this work, several areas in need of further study were highlighted including a lack of studies describing the diagnostic accuracy of virtual care modalities for different rheumatic diseases and the safety and long-term efficacy of virtual care for follow-up. Furthermore, limited information exists on equity considerations in the provision of virtual care. A research agenda for future areas of study of virtual care has been outlined in Supplemental Table 7.

Although the final panel ratings met the threshold for inclusion for all the statements, through the Delphi process, some points of discussion were identified. For example, some panelists emphasized that in certain regions of Canada there are no local rheumatologists or even skilled physical exam presenters, and that all patient care may be delivered virtually with no availability of a future in-person rheumatology exam. The best practice statements should not be used to dissuade the provision of rheumatology virtual care in such circumstances. Another point of discussion arose around the final statement on patient proxies, which was added during the Delphi process. Many physician members of the panel indicated that this practice was ongoing in select circumstances to ensure continuity of care. Patient panel members in particular urged caution in the application of this statement as active engagement in care for adults and children is critical to optimize outcomes. Due to these concerns, as well as challenges with wording a statement that would be appropriate for all circumstances, it was removed from the final list.

While the process for the development of the best practice statements was rigorous and transparent there are important limitations to highlight. Firstly, a rapid review was used instead of a systematic review and as such could have potentially resulted in missed evidence. Additionally, the literature available was limited and future research in this area is needed and many statements represented expert opinion. Some Delphi participants wanted better guidance on clinical scenarios most appropriate for virtual care and on physical exam techniques required. Unfortunately, given the existing challenges with access to rheumatology in-person care in some regions, the myriad of possible clinical scenarios, and general lack of evidence, it was not possible to generate prescriptive recommendations at this time. Finally, while it is possible that a different panel composition may have generated different recommendations our panel was geographically diverse and well-balanced regarding participant type.

In conclusion, this work represents a starting point for future research and practice advances in virtual care for rheumatology. We anticipate increased research in this area over time and will look to updating these statements in accordance with advances in the field. In the interim the work will be used to advocate for resources and develop educational materials to support current virtual care best practices for rheumatologists and persons living with rheumatic diseases.

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Table 1. Quality and Patient Safety Considerations when Developing the Best Practice Statements for Rheumatology Virtual Care

Goals from the Canadian Quality & Patient Safety Framework for Health Services (29)	How the framework was considered in the development of the best practice statements (BPS) for virtual care
People-centered care: “people using health services are equal partners in planning, developing and monitoring care to make sure it meets their needs and to achieve the best outcomes.”	<ul style="list-style-type: none"> ▪ Virtual care is a shared decision between healthcare providers and patients (see BPS #3). ▪ Inclusion of people living with rheumatic diseases and their families in development of the best practice statements.
Safe care: “Health services are safe and free from preventable harm.”	<ul style="list-style-type: none"> ▪ Various considerations need to be considered to ascertain the medical appropriateness of virtual care to reduce any safety considerations and avoid harm (see BPS #2). ▪ Patient privacy, consent and confidentiality are important considerations (see BPS #1).
Accessible care: “People have timely and equitable access to quality health services.”	<ul style="list-style-type: none"> ▪ Accessibility to scarce rheumatology resources is considered when determining the appropriateness of virtual care (see BPS #2). ▪ Accessible care is an overarching principle in this document as when used appropriately, virtual care can increase access to care for many individuals living

	with rheumatic diseases, especially in underserved, rural and remote areas in Canada.
Appropriate care: “Care is evidence-based and people centered”	<ul style="list-style-type: none">▪ Various considerations need to be considered to ascertain the medical appropriateness of virtual care to ensure optimal outcomes (see BPS #2).▪ Use of appropriate physical exam techniques and monitoring patient important outcomes (see BPS #4 and #5).
Integrated care: “Health services are continuous and well-coordinated promoting smooth transitions.”	<ul style="list-style-type: none">▪ Virtual care may be used in between scheduled appointments to enhance care (BPS #6).▪ In complex co-management of disease, virtual care may be used to enhance communication between providers (BPS #7).

Table 2. Equity Considerations (30) when Applying Best Practice Statements to Rheumatology Virtual Care

Place of residence	<ul style="list-style-type: none"> ▪ Access to high-speed internet and/or cellular service may impact accessibility of virtual care. This often varies along urban/rural divides (4). ▪ Rheumatologists are primarily located in major urban centers across Canada, residing outside of these centers may adversely impact access to in-person visits and access may be improved through virtual care. ▪ Limited access to presenters skilled in musculoskeletal exam (e.g., ACPAC trained extended role practitioners). ▪ There may be different license requirements that may affect access to virtual care in different provinces across Canada (4). ▪ Access to medical charts (e.g., having a single patient chart) varies in different jurisdictions and may impact connectivity and virtual care (4).
Race/ethnicity/ culture/language	<ul style="list-style-type: none"> ▪ The use of virtual care should improve and not exacerbate existing inequities in healthcare delivery and outcomes in Black, Indigenous, other people of colour and other minority populations living with rheumatic diseases (further research is needed in this area of rheumatology). ▪ Translation services should be used to facilitate communication with patients when required using virtual care. ▪ When developing mHealth, eHealth interventions to support care, or educational resources delivered virtually, ensure they are translated into

	languages prevalent in the population served and that they are culturally appropriate (further research is needed in this area of rheumatology).
Occupation	<ul style="list-style-type: none">▪ The use of virtual care may be highly appropriate for individuals in a variety of occupations, especially those who may not be readily able to take time out of work to come to in-person appointments.▪ The safety of doing virtual care appointments while at work should still be considered (e.g., not operating heavy machinery or driving during a virtual appointment).▪ The privacy of virtual appointments conducted at work should be considered.
Gender/sex	<ul style="list-style-type: none">▪ Gender/sex considerations in virtual care have not been broadly investigated (further research is needed in this area of rheumatology).▪ For those in caregiver roles, virtual care may offer more convenience as less of a need to find alternative caregivers.
Religion	<ul style="list-style-type: none">▪ It is possible that some religious beliefs may limit use of virtual care (further research is needed in this area).
Education	<ul style="list-style-type: none">▪ Lower health and digital literacy may impact ability to use virtual care (further research is needed in this area).
Socioeconomic	<ul style="list-style-type: none">▪ Access to a computer, smart phone or internet may be limited in those with lower socioeconomic means, limiting access to virtual care.
Social capital	<ul style="list-style-type: none">▪ An individual's networks and relationships may influence knowledge of virtual care resources (56).

	<ul style="list-style-type: none"> Some types of virtual care may enhance social capital by increasing social networking, peer support (24).
Personal characteristic associated with discrimination (e.g., age, disability)	<ul style="list-style-type: none"> Age may influence patient acceptability of certain virtual care modalities but access to technology and digital literacy may be more important factors (57). Additional technology considerations for individuals who are blind, deaf or hard-of-hearing may be required when considering the most appropriate modality for virtual care and any specific adaptations (58). Individuals with significant mobility impairment may find a virtual visit more convenient and comfortable.
Time-dependent relationships (e.g., transitions between care providers)	<ul style="list-style-type: none"> Virtual care may be used to facilitate triage and reduce waiting times for care. Virtual care may be used to enhance communication between providers for complex cases. Virtual care (especially through nurse-led help lines) may facilitate access to care in between appointments.

Advanced Clinical Practitioner in Arthritis Care (APAC). Mobile health (mHealth) refers to the delivery of healthcare and innovations in healthcare using mobile technologies; Electronic Health (eHealth) refers to innovations in the use of information and communication in healthcare.

Table 3. Round 3 Delphi Panel Ratings on Best Practice Statements for Virtual Care in Rheumatology

Best Practice Statement	Delphi Median Ratings (IPRAS rule decision)	
	Importance	Feasibility
1. Rheumatologists should adhere to national recommendations on best practices and provincial standards and regulations for virtual care including: licensing considerations, patient privacy, confidentiality, documentation, and consent.	9 (Agreement)	8 (Agreement)
2. The appropriateness of virtual care for a rheumatology encounter should be considered based on the following factors: access to local rheumatology care; reason for, urgency and complexity of the clinical encounter (including clinical, cultural and language considerations); patient preferences; and type of virtual care available.	9 (Agreement)	8 (Agreement)
3. If virtual care is determined to be medically appropriate, ensure that the provision of virtual care is a shared decision with patients and that patient consent is documented.	8.5 (Agreement)	8 (Agreement)
4. The standard of care for physical exam by virtual care should allow for appropriate clinical decision-making. If this is not possible, then an in-person physical exam is required and should be completed (either at an in-person rheumatologist visit or completed by a skilled presenter at a remote site).	9 (Agreement)	8 (Agreement)
5. Where appropriate, patient-reported outcomes that help direct approaches for care should be used during virtual encounters.	8 (Agreement)	8 (Agreement)
6. Virtual care may be used in addition to in-person follow-ups to enhance care.	9 (Agreement)	9 (Agreement)
7. In complex co-management of disease, virtual care may be used to enhance communication between providers.	8.5 (Agreement)	7 (Agreement)

Table 4. Key points to consider when providing virtual care (32, 56, 57)

<p>General considerations:</p> <p>Telephone, videos and/or photos may not provide a substitute for in-person care</p> <p>An in-person visit may be necessary to complete the assessment</p> <p>Document data used to make a diagnosis and how these data were obtained</p> <p>Document what could not be assessed due to the limitations of virtual care</p> <p>Document who was present for the visit</p> <p>Document clinical considerations and any impact of type of visit on how diagnosis/approach made</p> <p>Document follow-up instructions provided to the patient</p> <p>Ensure other care providers receive a document outlining care plan</p>
<p>Consent considerations:</p> <p>Obtain and document consent</p> <p>Discuss clinical and/or technology limitations of virtual care</p> <p>Discuss alternatives to virtual care</p> <p>CMPA suggests considering PARQ to frame discussion: Procedure (virtual care), Alternatives, Risks and Benefits, and allow the patient to ask Questions.</p>
<p style="text-align: center;"><u>Helpful resources include</u></p> <p>CMPA microlearning activities and resources: https://www.cmpa-acpm.ca/en/covid19/telehealth-and-virtual-care</p> <p>CMA: Virtual Care Playbook and Virtual Care Taskforce: https://www.cma.ca/sites/default/files/pdf/Virtual-Care-Playbook_mar2020_E.pdf</p> <p>Royal college links to provincial virtual care guidelines and resources: https://www.royalcollege.ca/rcsite/documents/about/covid-19-resources-telemedicine-virtual-care-e</p>

Canadian Medical Protective Agency (CMPA)

Table 5. Considerations for the Appropriateness of Rheumatology Virtual Care Encounters

Reason for clinical encounter	Clinical Considerations	Types of virtual care available	Patient preferences & access considerations
Reviewing test results	Consider if routine vs emergent and whether asynchronous vs synchronous discussion clinically appropriate.	Telephone, asynchronous electronic communication, video consultation, patient accesses & views directly.	May depend on access to WIFI, availability of a computer, and computer literacy. Patients may also have varied individual preferences for telephone or asynchronous notification of results, and/or accessing their own results online.
Stable disease (e.g., may apply to a variety of rheumatic conditions)	Whether a disease is stable or not may depend on clinical	Assessment of disease activity for DMARD or biologic	Patient preference may vary depending on their current

including but not limited to gout, osteoporosis, PMR, RA, vasculitis, connective tissue disease, SpA, osteoarthritis, JIA)	factors (e.g., stability of laboratory investigations, duration of disease, length of stability) and patient experience with disease (e.g., patient perception of any unmet care-related needs that would require an in-person assessment) Risk of missing subtle clinical findings.	renewals could be done by telephone or video consultations in the short to medium term. Lack of evidence to date for long-term outcomes from this strategy. If extended-role practitioner monitoring physical exam periodically, virtual care could be done indefinitely.	needs and healthcare concerns. Preferences for virtual care may vary depending on other work and social obligations which may impact ability to attend in-person visits. Access to rheumatologist (e.g., virtual care may be only option available). As above access to WIFI and technologies used to access virtual care
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			services may impact access.
Pre-screen to assess suitability for virtual care vs in-person visit (may ensure appropriate investigations done or avoid misdirected referral)	May help triage new and/or follow-up assessments for appropriateness for virtual care.	Telephone, electronic survey (note lack of widely used well validated surveys), video consultation.	Need to ensure patient understands that the nature of the encounter is to assess needs and to help determine urgency of care.
New complex patient (e.g., SLE, vasculitis, undifferentiated connective tissue disease) especially if rapid development of symptoms, clinically unwell	Risk of missing subtle clinical findings must be weighed against greater access to care especially if no local rheumatologist readily available.	Less appropriate for telephone only in the absence of another healthcare provider helping to relay clinical findings from physical exam. Videoconference directly with patients or with the assistance of an extended role	May depend on access to WIFI, availability of a computer, and computer literacy. Patients may also have varied individual preferences for telephone or videoconference. Access to rheumatologist (e.g.,

		<p>practitioner to present the exam.</p> <p>eConsultation with local internist or general practitioners for co-management.</p>	<p>virtual care may be only option available).</p>
<p>New inflammatory disease with clear serologic and/or imaging features</p>	<p>Seropositive RA, AS with sacroiliitis and HLA B27, selected SLE cases[§], gout.</p> <p>There is still a risk of missing subtle clinical findings that must be weighed against greater access to care (especially for those with no local rheumatologist readily available).</p>	<p>Telephone, videoconference +/- an extended role presenter,</p> <p>eConsultation with local internist or general practitioners for co-management.</p>	<p>As above</p>

Undifferentiated disease	Likely greater risk of missing clinical findings when disease is undifferentiated. If virtual care is used, consider it as preliminary to guiding additional investigations and to help triage timing of in-person review.	Likely less appropriate for telephone follow-up unless using for triage purposes.	As above
Monoarthritis (new, cannot exclude septic arthritis)	Requires arthrocentesis which requires either an in-person appointment but may be done by other practitioners (e.g., guided aspirate, primary care, local orthopedics if no	NA	Rheumatologic emergency requires an in-person arthrocentesis but can be done by a local provider (not necessarily the rheumatologist).

	rheumatologist readily available)		
Required infusion/injection of treatment (e.g., in office IM steroid, IA steroid, denosumab, administration of other IV or IM medications including biologics)	Depends on type of agent being administered. Choose locally appropriate provider based on availability and nature of injection/infusion.	NA	Intra-office infusion/injection should be a shared decision with the patient and options discussed (if available) for options which would not require a visit.
“Failed” virtual care/ Challenges	Challenges with virtual care may include: technology failures, identifying during the virtual visit that an in-person visit is required, missed diagnosis, difficulties in rapport,	If challenges occur using one type of virtual care and they were specific to that modality (e.g., internet connectively), another modality (e.g., telephone) may be used if virtual care is still appropriate.	If patients experience challenges with virtual care and communication with their provider, they should be able to ask to have a face-to-face encounter within a reasonable time frame.

	communication or other challenges.	Requesting the help of a skilled presenter may help with some virtual care challenges. If an in-person visit is required, it should be offered.	
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Ankylosing Spondylitis (AS), Disease modifying anti-rheumatic drug (DMARD), electronic consultation (eConsultation), Juvenile Idiopathic Arthritis (JIA), Rheumatoid arthritis (RA), Spondylarthritis (SpA), Systemic lupus erythematosus (SLE)

§While SLE can be a complex disease involving multiple organ systems, in selected cases, initial diagnosis may be possible, as with other rheumatic conditions, using virtual care if appropriate history, laboratory and other investigations are available.

Table 6. Virtual Physical Exam Considerations in Rheumatology

Virtual Physical exam approach	Clinical considerations	Resource considerations
Skilled presenter at a remote site	There is evidence of effectiveness of this approach (19). Limited evidence shows potential harms/delays in diagnosis for unskilled remote presenters (33).	More resource-intensive (requires appropriate resources and training, may involve travel of patients and skilled presenters to remote site).
Videoconference directly with patients using either directed or screening joint and/or physical exam	There have been some tools developed in pediatrics (41), and adults (40, 42) for joint exam. Parts of the physical exam limited or excluded given present technologies.	May take more time to orient patients and healthcare providers to new methods for physical exam. Requires good WIFI and patient access to computer or a mobile phone with videoconferencing capabilities.
Asynchronous collection of patient-reported joint counts/disease activity or	A variety of tools have been developed for the collection of patient-reported joint counts and	Collection electronically, via paper or by telephone may all require different

other patient reported outcomes using a validated tool	<p>disease activity which can be employed. Most studies of joint counts have found good agreement between physicians and patients with tender joint counts but lower in swollen joint counts (26, 27). More accurate in lower disease states.</p> <p>Patient reported outcome measures including pain, fatigue, and functional status may be readily collected.</p>	<p>resource considerations.</p> <p>Incorporation into the electronic medical record ideal but not always feasible.</p>
Telephone description of active vs stable joints or other clinical problems of concern	<p>Not necessarily validated and may depend on patient report of physical exam findings (see above). May be appropriate for stable follow-up patients with no new concerns.</p>	<p>Less resource intensive but may require physical exam (in-person or via video) to confirm findings if concerned about flares/active disease and major intensification of therapy required.</p>

Photography	Resolution may not be sufficient for a joint exam, may be useful for skin exam.	Need secure manner to transmit photos. Patients require a smartphone with a camera.
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