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Title:

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Date:

2018-04-01

Citation:

Rieger, K. L., Hack, T. F., Beaver, K. & Schofield, P. (2018). Should consultation recording use be a practice standard? A systematic review of the effectiveness and implementation of consultation recordings. *Psycho Oncology*, 27 (4), pp.1121-1128. <https://doi.org/10.1002/pon.4592>.

Persistent Link:

<https://hdl.handle.net/11343/294055>

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Systematic Review of Consultation Recordings

**Should Consultation Recording Use be a Practice Standard? A Systematic Review of the
Effectiveness and Implementation of Consultation Recordings**

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This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the [Version of Record](#). Please cite this article as doi: [10.1002/pon.4592](https://doi.org/10.1002/pon.4592)

Abstract

Objective: To conduct a systematic review of the effectiveness of consultation recordings, and identify factors contributing to their successful implementation in healthcare settings.

Methods: A systematic review was conducted for quantitative studies examining the effectiveness of consultation recordings in healthcare. Two independent reviewers assessed the relevance and quality of retrieved quantitative studies using standardized criteria. Study findings were examined to determine consultation recording effectiveness and to identify barriers and facilitators to implementation. A supplementary review of qualitative evidence was performed to further explicate implementation factors.

Results: Of the 3,373 articles retrieved in the quantitative search, 26 satisfied the standardized inclusion criteria (12 randomized controlled trials, 1 quasi-experiment, and 13 cross-sectional studies). The majority of patients found consultation recordings beneficial. Statistically significant evidentiary support was found for the beneficial impact of consultation recordings on the following patient reported outcomes: knowledge, perception of being informed, information recall, decision-making factors, anxiety, and depression. Implementation barriers included strength of evidence concerns, patient distress, impact of the recording on consultation quality, clinic procedures, medico-legal issues, and resource costs. Facilitators included comfort with being recorded, clinical champions, legal strategies, efficient recording procedures, and a positive consultation recording experience.

Conclusions: Consultation recordings are valuable to patients and positively associated with patient reported outcomes. Successful integration of consultation recording use into clinical practice requires an administratively supported, systematic approach to addressing implementation factors.

Background

Patients commonly seek detailed diagnostic and treatment information to gain a fuller understanding of their disease and its management.^{1,2} Patients can be overwhelmed, however, by the complexity of information provided during healthcare consultations.³ Elevated levels of anxiety may hinder efforts to process and retain information imparted during these consultations,⁴ making it difficult to remember.^{5,6}

The most recent Cochrane review, conducted almost one decade ago, concluded that consultation recordings in oncology “may benefit most adults with cancer...most patients find them very useful”.^{5 p.2} The Cochrane review also identified further questions worth exploring, many of which have been the focus of subsequent research studies that have not been subjected to systematic review. Providing patients with audio-recordings of important consultations can reduce their anxiety, improve recall of information, and enhance their perception that they have been adequately informed about their disease and treatment.⁵⁻⁹ Recordings enable greater patient participation in decisions surrounding disease management, reduce treatment decision regret, and facilitate patient

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satisfaction with care.^{4, 5, 7, 8, 10} Despite the established benefits of recordings, use of this intervention in clinical practice is sporadic.

The provision of recordings of key consultations is topical and controversial. While some researchers and patient advocacy groups have argued for its routine use in clinical practice, many clinicians are hesitant to record consultations fearing litigation.¹¹ Many believe the evidence base is mixed and inconclusive, while others believe the resources required to implement the intervention preclude its use in standard care.¹² If implementation barriers are perceived to be strong enough to preclude implementation of an empirically validated intervention, then these barriers need to be remedied. The objectives of the present review were to: 1) Conduct a systematic review of the effectiveness of consultation recording use; and 2) Review the consultation recording literature to identify key implementation factors and the best ways to address them.

Methods

Review Objective One

Inclusion and exclusion criteria. To be included, studies had to involve adults or children having a clinical consultation in a healthcare setting, after which the patient or family received a consultation recording (tape or digital). Primary quantitative study designs eligible for inclusion were randomized controlled trials (RCTs), quasi-experimental studies (QE), analytical cross-sectional (observational) studies, and descriptive cross-sectional studies. Studies from all countries were considered if they were written in English. We excluded studies that investigated written summaries or video recordings of consultations alone, did not provide the recording to the patient, or examined the use of standardized audio-recorded education materials. An a priori systematic

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review protocol guided this work. Research ethics board approval was not required for this systematic review.

Search strategy, study selection, and analysis. Online databases including MEDLINE, CINAHL, PsychINFO, EMBASE, Web of Science, Sociological Abstracts, and ProQuest Dissertations & Theses were systematically searched from January 1, 2002, to August 30, 2016 (see supporting information Table S1). A grey literature search was conducted of Conference Proceedings Citation Index, Grey Matters, Google Scholar, and relevant websites. Two independent reviewers (KR, TH) screened titles/abstracts of retrieved articles for potential inclusion criteria and one reviewer read the full-text of relevant articles to confirm eligibility. Two independent reviewers (KR, TH) critically assessed eligible RCTs with two widely used quality appraisal tools: the Joanna Briggs Institute (JBI) Critical Appraisal Tool for Randomized Controlled Trials¹³ and the Effective Public Health Practice Project Quality Assessment Tool for Quantitative Studies (EPHPP).¹⁴ Quasi-experimental studies were assessed by two reviewers (KR, TH) with the JBI Critical Appraisal Tool for Quasi-Experimental Studies.¹⁵ To be included in the review, an RCT or quasi-experimental study had to meet key criteria determined by two reviewers (see supporting information Table S2). Disagreements were resolved through discussion between the two reviewers. The PRISMA statement for reporting systematic reviews was utilized to frame the search and study selection process.¹⁶ The heterogeneity of the samples, methods, and outcomes in the reviewed studies precluded a meta-analysis; therefore, the extracted data was analyzed using a narrative synthesis.

Review Objective Two

In addition to the descriptive findings and narrative comments contained within the quantitative papers from the first objective, a systematic review of the qualitative literature was conducted using terms associated with healthcare consultations, consultation recordings, and qualitative research.¹⁷ (see supporting information Table S1) MEDLINE, CINAHL, and the grey literature were searched from January 1, 2002, to February 5, 2017. Two reviewers screened retrieved titles/abstracts for relevance (KR, TH), and all qualitative designs were included. Only data addressing the barriers and facilitators contributing to the successful implementation of recordings were extracted and thematically analyzed from the included quantitative and qualitative studies.

Results

Quantitative Studies for Inclusion

The database search for objective one retrieved 3359 articles, and an additional 14 articles were retrieved through searching the grey literature, reference lists, and Scopus using the forward search function (see Figure 1). After removing duplicates (n=1374), 1999 titles/abstracts were examined and 1911 articles were excluded for not meeting the inclusion criteria. The full texts of the remaining articles (n=88) were reviewed in-depth, and a further 61 articles were excluded. Reasons for exclusion are provided in Figure 1. After critically appraising the RCT and QE studies, 12 RCTs, 1 QE study, and 13 cross-sectional descriptive (CS) studies were included. One RCT was excluded as it did not meet our quality criteria.¹⁸

Description and Quality Appraisal of Quantitative Studies

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The majority of studies (see supporting information Table S3 for study details) examined consultation recordings for patients with cancer (n=19).^{1-3, 8, 9, 19-32} Some unique oncology contexts included patients transitioning from curative to palliative care,⁸ parents of children with leukemia having an initial consultation,²⁵ and migrant patients with cancer who requested an interpreter.²² Three studies examined the usefulness of recordings for enhancing informed consent.^{4, 20, 21} The remaining seven studies occurred outside of the oncology context.^{4, 10, 33-37} The geographical settings included the United Kingdom,^{2, 4, 10, 26, 28-30, 33, 34} United States,^{1, 19, 24, 32, 36} Canada,^{9, 21, 27, 31} Australia,^{3, 22, 23, 37} Sweden,²⁰ The Netherlands,⁸ Italy,²⁵ and Denmark.³⁵ Supporting information table S2 summarizes the RCT and QE quality appraisals. On the JBI checklist,¹³ 11 RCTs received 8-13 out of a possible 13 points, and one received 5-7 points. On the EPHPP tool,¹⁴ five RCTs received a strong global rating, five received a moderate rating, and two received a weak rating. The one QE²⁶ study received seven out of nine points on the JBI QE tool.¹⁵

Description of Qualitative Studies

In addition to the descriptive data and narrative comments from the quantitative studies, 12 qualitative studies were included to answer the second review objective. These qualitative studies were identified when screening titles/abstracts for objective one or found in the 92 articles retrieved in the systematic search for objective two. Studies explored patients' experiences/perspectives of consultation recording^{26, 31, 34, 36, 38-42} and healthcare professionals' experiences of consultation recording implementation.^{12, 31, 34, 36, 40, 43, 44} The qualitative studies took place in the United States,^{36, 38, 40, 43, 44} UK,^{26, 34, 39, 41, 42} Canada,³¹ and Australia.¹²

Objective One: Effectiveness of Consultation Recordings

Satisfaction. Patients had an overall positive perspective of consultation recordings. Sixteen studies (7 RCTs, 9 CS) reported that the majority of participants found recordings useful or beneficial, with a range of 55-98% across studies.^{1-3, 8, 10, 20, 22-25, 28-30, 34, 36, 37} However, listening to the recording was distressing (3-18%)^{2, 20, 29} or a source of anxiety (19-26.8%)^{3, 25} for small proportions of participants. In one study, participants had a marginally significant preference for consultation recordings over standardized audio-recordings.²¹ In another study, 17 (57%) patients preferred to receive both a recording and summary letter, 7 preferred the audio-recording alone, and 3 preferred the letter alone, with participants more likely to give the recording (69%) to a family member or friend than the letter (50%).³ Five RCTs examined if recordings had an impact on the patients' satisfaction with communication with the health provider, but none found significant differences.^{9, 21, 23, 27, 37}

Use of consultation recordings. Most studies reported that the majority of participants (51-100%) listened to their recordings,^{2-4, 8-10, 19, 20, 22-25, 27-29, 31-34, 37} although one study found that only 31% of participants listened.³⁵ Some participants listened more than once, with an average use of 1.3 to 3.0 times.^{9, 10, 21, 25-28, 30, 31} Reasons cited for not listening included technological issues,^{26, 31, 35} not wanting to revisit their decision,²⁶ feeling they had received sufficient information already,^{3, 26, 29, 31} worrying it would evoke negative emotions,^{20, 29} intending the recording for a family member,²⁹ being overwhelmed or too busy,^{31, 34} desiring to move on,^{3, 31} preferring another modality,³¹ feeling too sick,³¹ disliking the sound of their voice,³⁴ and lacking the privacy to listen to the recording.³⁴ When patients were prompted to record their own consultations, one study found that only 20% did so.³² Between 20 and 100% of participants in 14 studies reported that they shared

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their recording with others.^{1-3, 8-10, 19, 20, 22, 23, 27, 29, 31, 32} Patients shared their recording with spouses/partners, children, family members, friends, and doctors. A number of factors were associated with using the recording including increased anxiety,²³ being married,³ receiving bad news,³ having longer consultations,³ increasing age,³⁵ and gender (female patients and their relatives replaying together; relatives of male patients replaying alone).³⁵

Knowledge, perception of being informed, and recall of information. Nine (75.0%) RCTs assessed the impact of recordings on knowledge, perception of being informed, or recall of information, and five found significant positive results. Of the four RCTs specifically measuring knowledge, three investigated knowledge relevant to enhancing informed consent^{4, 20, 21} and only one demonstrated significant findings.⁴ Two^{9, 27} of the three^{9, 21, 27} studies examining patients' perception of being informed, and two^{2, 37} of the three^{2, 33, 37} studies measuring recall, showed that the recording provided significant benefit.

Psychological health and well-being. Seven (58.3%) RCTs measured anxiety, depression, and/or stress,^{2, 4, 10, 23, 30, 33, 37} and significant differences were observed in three studies. In two studies, recordings significantly reduced participants' anxiety^{4, 33} and in one study it reduced their depression.⁴ Another RCT found significant decreases in anxiety and depression when the analysis was repeated with only those who had listened to the recording.²³ There were no other RCTs that reported a statistically significant impact of recordings on psychological adjustment,^{9, 27, 30} quality of life,^{8, 9, 27} treatment adherence,¹⁰ or openness to discussing cancer-related issues in the family.⁸

Decision making. Of the three studies assessing the impact of consultation recordings on concepts associated with decision making, all had significant findings. One study found

significantly higher decisional self-efficacy,³⁰ and two found lower decisional regret,^{26, 30} for those who had received a recording. In the QE study, receiving a recording was positively associated with less decision regret, and was even a stronger predictor of decision regret than erectile dysfunction or incontinence.²⁶ Another RCT measured health locus of control, and found that the consultation recording group reported a significantly higher sense of control regarding their own health than the control and standardized recording groups.⁴

Objective Two: Barriers and Facilitators to Consultation Recording

The synthesis for the second question revealed noteworthy individual, interpersonal, and system barriers to implementing consultation recordings, as well as critical facilitators.¹²

Perceived value of consultation recording and the evidence. The qualitative findings showed that both patients and practitioners valued consultation recordings.^{12, 31, 36, 39, 42} Patients appreciated recordings for the purposes of enhancing patient-centred communication and fostering empowerment.³⁹ Some practitioners questioned whether recordings benefited those with a passive decision making style.¹² Healthcare professionals had differing assessments of the empirical evidence on recordings, with the majority being unaware of the supporting evidence base.^{12, 31} The provision of high quality, accessible evidence such as systematic reviews and clinical practice guidelines was identified as an essential facilitator to ensuring staff were adequately informed, and promoting practice change.³¹

Clinician's motivation. Positive feedback motivated clinicians to continue with recordings. Piloting and evaluating consultation recording was identified as a means by which to promote the "buy-in" of stakeholders and to inspire routine implementation,¹² through exposure to the

benefits.^{29, 40, 43} One study offered a feedback letter to oncologists espousing the patient-reported benefits of recordings to reinforce the importance of continuing the practice.³¹

Fear of distressing patients. Clearly identified barriers included concerns that recordings could increase patients' anxiety when replaying distressing content or impose an undesired active decision-making role on patients.^{2, 12, 29} Practitioners noted that certain visits might not be wholly appropriate for recording, such as consultations in which bad news was given, the patient became upset, or the patient was extremely anxious.^{12, 29}

Impact on the consultation. Variation in perspectives regarding the impact of recording on the consultation determined whether this factor was a barrier or facilitator. Some healthcare workers reported feeling anxious or self-conscious about what they said when being recorded as well as concerned that the recording would make the communication more formal, factual, or structured.^{12, 20, 29} Practitioners noted that consultations are not always a straightforward provision of information and that a desire to create a coherent recording could be a barrier.¹² In contrast, others felt at ease with being recorded⁴⁰ or thought that more detailed information was given with recordings.²⁹ Some patients thought the intervention might violate the traditional etiquette of the doctor-patient relationship; thus, challenging the clinicians' status or damaging the relationship.³⁹ Others believed that the recording process would not hinder physicians from sharing information, might increase their accountability, and could enhance respect for clinicians who were willing to be recorded.³⁹

Clinical champions. An essential facilitator of successful implementation was leadership, that is, an identified, respected champion with the administrative or social power to advocate for the intervention, and obtain necessary funds and staff resources for a consultation recording program.³¹

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Support from physicians conducting the consultations was crucial for successful implementation, as was their consistency in following the recording procedures.⁴⁴

Legal and privacy concerns. There was evidence that legal and privacy concerns were substantial barriers to recordings. Physicians were concerned about medico-legal implications, such as who owns the recording, whether the treatment center should retain a copy, how to store the recordings within existing medical records, if the recording might be used in a lawsuit, and with whom the recording would be shared.^{12, 29, 31} There were also concerns about a breach of confidentiality if the consultation was shared without permission, and a loss of control of the recording if it was posted on the internet.^{1, 34, 39} An important facilitator was assuring that legal requirements were met.¹² One strategy involved creating a disclosure/consent form for patients, providers, and the organization, and ensuring the consent process communicated the patients' and providers' rights, obligations, and the appropriate forms of distribution for the recording.¹² One center created a disclaimer which clearly stated that the recording had not been reviewed by physicians, could contain errors or omissions, and that it was primarily for the convenience and personal use of patients.⁴³

Required resources and technology. There were reservations about the amount of time that recordings might require in an already overloaded clinical setting.^{12, 24, 36, 43} However, researchers reported that recordings did not substantially increase the length of consultations,^{1, 9, 10, 24, 29} and some even found it was an efficient means of promoting the doctor-patient partnership.^{10, 12, 34} Intervention and resource costs were identified as other primary barriers to the sustainable implementation of recordings.^{12, 31, 36, 40} One cost-saving facilitator was integrating recording

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procedures into existing staff roles.⁴⁰ Technology was highlighted as a facilitator when no significant technical problems occurred,⁸ and as a barrier when malfunctioning or inaccessible equipment hindered the intervention.^{9, 10, 22, 29, 34, 37} Researchers cited poor recording quality as a barrier to use.^{3, 8, 24, 26, 34} With an array of recording options, selecting the most appropriate recording technology for the target patient population was an important consideration.^{34, 41} The growing accessibility of smartphones for self-recording of consultations was acknowledged as holding potential for facilitating recordings.^{12, 39}

Logistics and procedures. Logistical facilitators included recordings posing a minimal burden to the clinical environment and embedding recordings into usual care.¹² Clear procedures and staff support were critical to preventing problems with recordings and avoiding increased consultation time.^{8, 12} Significant logistical components of supporting recordings included organized scheduling, informing patients of the benefits of recordings and their option to record, ensuring the recording equipment was functioning properly, obtaining consent to record, ensuring the recording occurred despite time pressures, and delivering the recording to the patient.^{12, 24, 31, 38, 43} To address concerns of recordings causing distress, patients should be offered the choice of receiving a recording rather than systematically providing one to all patients.¹² To avoid covert self-recordings, procedures should be in place to allow patients to record their own consultations.^{12, 39}

Conclusions

This systematic review builds upon previous work by including the most recent literature and elucidating the barriers and facilitators of routine implementation. The findings demonstrate that consultation recordings enhance decision-making and patient satisfaction, and that patients

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frequently listen to their recordings and share them with others. Although patients derive benefits from recordings, there were equivocal findings regarding knowledge, information recall, the perception of being informed, and psychological well-being.

Only a proportion of the studies reported significant results for anxiety and depression. It may be unreasonable to expect patients' psychological well-being to be significantly improved by a recording only a short time after a life-altering diagnosis.⁹ There was also variation in patients' perceptions of recordings and identified factors that contributed to their use. Recordings may also resonate more with certain individuals depending on their preferred coping mechanisms. If patients prefer to use denial as a coping mechanism, recordings may not be valuable to them, and may actually cause anxiety.⁶

The findings of this present review had notable differences with the earlier Cochrane review⁵ A distinct finding, which was only evident in this review, was that recordings had an unequivocally positive impact on concepts associated with decision making. Lower decision regret may be a result of consultation recordings enhancing patients' understanding of the risks, benefits, and outcomes of various treatments, all contributing to more fully informed decision making.²⁶

This review also extended the Cochrane review by identifying key implementation factors and strategies to address them. Barriers to implementation of recordings included a lack of awareness of the empirical evidence on recordings, feeling self-conscious about being recorded, perceptions that the recording process will negatively impact the consultation, variation in physician cooperation with recording procedures, lack of staff and financial resources, and medico-legal concerns. Important implementation facilitators included acceptance of research evidence, valuing

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recordings as a communication tool, champions to promote recordings, positive feedback for clinicians who use recordings, and dedicated staff to support recordings. Producing research knowledge alone is often insufficient to change practice. This systematic identification of consultation recording implementation factors is vital to establishing and maintaining a recording service.⁴⁵

Although none of the reviewed studies were conducted in low-income countries, some of the studies included participants from disadvantaged populations.^{2, 22, 41} Recordings may be especially useful for those with low literacy or for non-English speakers, as the intervention does not rely on written information alone.^{2, 22, 41} A patient in one study who spoke English as a second language thought the recordings allowed a careful review of sentences not initially understood.³ This potential of recordings is important, as literacy is identified as a determinant of health and recordings may promote health literacy through a more accessible medium.⁴⁶ Further, one study reported that the commonly observed positive association between deprivation and anxiety was not found in patients who received a recording.² Thus, recordings may reduce the negative impact of socio-economic factors. These observations are noteworthy as a review of audio-recordings for health literacy found no studies of recordings with disadvantaged or low-literacy populations.⁴⁶

Study limitations. First, we included evidence from cross-sectional descriptive studies to capture informative data about the use of, and satisfaction with, recordings in diverse settings. This study design is especially vulnerable to the impact of confounding variables and alternative explanations for the results.⁴⁷ Second, there were a number of studies in which consultation recording was part of a complex intervention that included other decision or communication aids.^{19,}

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^{30, 32, 36} In a complex intervention, it may not be possible to attribute findings to a particular component of an intervention such as the recording. Lastly, all of the studies took place in Canada, US, Europe, or Australia. These findings may not be generalizable to countries in South America, Asia or Africa where there may be appreciable differences in healthcare provider-patient communication and the impact of recordings.

Implications for research. Although there has been some preliminary work carried out in regard to who benefits most from recordings and what types of consultations should be recorded, more research is needed.^{7, 8, 10} The mechanisms by which benefits occur with recordings need to be better understood as this knowledge could inform outcome variables and the most appropriate measurement time-points.^{7, 27} More research on the factors associated with valuing and utilizing recordings is needed. Continued investigation of recordings amongst diverse and disadvantaged populations would be insightful and support broader use of this intervention.⁴⁰ Further study is needed regarding healthcare providers' perspectives of patient self-recording, why more patients do not record their consultations, and how healthcare providers could enable patients to do so.³² Given the growing body of evidence supporting consultation recordings, systematic implementation studies targeting the barriers and facilitators identified in this review are also needed.³¹

Clinical implications. The current review provides convincing evidence of the effectiveness of recordings in supporting informed decision making and demonstrates that patients value and use recordings. Findings also suggest that recordings can foster recall of information, the perception of being informed, knowledge, and psychosocial adjustment in some situations. Although there were equivocal findings on certain outcomes, recordings were highly valued by patients and are not

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burdensome in regard to time and costs. This strength of the evidence suggests that the routine implementation of recording use should be considered in oncology, i.e., the clinical area with the largest, most compelling evidence base. The findings of this review also indicate that recordings may be helpful for many patients but not for all. Providing patients with a choice of whether to receive the recording or other communication aids may be important to address personal preferences. Clinicians should also be aware of the potential for distress for some patients and provide adequate psychosocial supports, especially for distressing consultations.

The findings also revealed that despite the positive evidence base for this intervention, several factors impede its uptake into clinical practice. Fears of litigation are a commonly expressed rationale for not recording consultations with patients. Concerns that these recordings may turn up in social media and other public domains are frequent. However, Elwyn and colleagues⁴⁸ argue that liability insurers believe recordings actually protect clinicians, that patients primarily share their recordings with family and caregivers, and that clinicians may be able take legal action against patients who intentionally use a recording to harm their reputation. Although accurate information can allay fears, other implementation hurdles exist. Organizational resource costs must be addressed to enable successful implementation. This review suggests that for implementation to be successful, treatment centers need to be committed to providing a recording service, assign responsibility for the service, ensure recording equipment is available for all consultations, and develop staff education materials among other associated implementation processes and materials. Time is necessary for staff education, and for evaluating and maintaining the service. While senior administrative levels may express concern that there are insufficient resources to support a

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recording service, it is much less expensive now than in the past. The cost of recording and memory storage devices have dropped significantly over the past decade, and in some instances patients can record the consultations themselves on their cellular devices, thereby freeing up clinic resources that might otherwise have been used to purchase recording materials. The cost of educating staff in the service, and the cost of recording mediums such as digital recorders and USB memory keys is low when compared against other clinical services.

In the absence of a recording service, patients are recording consultations on their own, sometimes covertly, out of concern their clinicians may look upon them with disfavor if they express their intention or desire to have their consultations recorded. In one survey, 15% of respondents reported having covertly recorded a consultation, and 35% admitted that they would consider doing so.³⁹ If increasing numbers of patients are desiring to record consultations on their own,^{39, 49-51} should clinical centers establish policies and procedures for addressing this trend? In most western nations, anecdotal legal opinion suggests that the law supports the right of citizens to record personal communications with a second party without second party consent, as both parties engaged in a mutually agreed to conversation are said to “own” the conversation. Moreover, an online public forum in the UK, which attracted legal commentary, concluded that patients did not have to seek permission to record consultations, and that such recordings were legal.¹¹ Additional study of the rights of patients and clinicians surrounding the use of recordings is needed to clarify the limit of any legal argument.

Moving forward, decisions should be made at the highest administrative levels as to whether the practice of recording is supported, and if so, then further decisions need to be made as to how to

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establish the service. If clinic staff are responsible for recording consultations, then standardized procedures will be required, including decisions surrounding which consultations to record, what parts of the consultation to record, whether the clinic will retain a copy of the recording, and whether to include a disclaimer statement for legal protection. If patients are encouraged to record consultations, then how will patients become aware of the option to record their consultations? Implementation tips have been prepared for those wanting to initiate a recording service (see Table 1).⁷ On the other hand, if administration decides not to support the use of recordings in practice, then procedures should be established for responding to patients who express a desire to record consultations, keeping in mind that an increasing number of patients are recording consultations covertly, and in most developed countries are likely protected by law in doing so.

Acknowledgements:

This work was supported by the St. Boniface Hospital Foundation and a Chair in Psychosocial Oncology and Supportive Care Research awarded to Dr. Thomas Hack from the Canadian Breast Cancer Foundation.

We would like to thank Ms. Lisa Demczuk for her assistance with the search strategy.

Conflicts of interest:

We have no conflicts of interest to declare.

References

1. Seider MI, Damato BE. Digital audio recording of initial patient visits to an ocular oncology clinic: a pilot study. *OSLI Retina*. 2015;46(5):597-599. doi: 10.3928/2325816020150521-16
2. Stephens MR, Gaskell AL, Gent C, Pellard S, Day-Thompson R, Blackshaw GR, Lewis WG. Prospective randomised clinical trial of providing patients with audiotape recordings of their oesophagogastric cancer consultations. *Patient Educ Couns*. 2008;72(2):218-222. doi: 10.1016/j.pec.2008.04.004
3. Knox R, Butow PN, Devine R, Tattersall MH. Audiotapes of oncology consultations: Only for the first consultation? *Ann Oncol*. 2002;13(4):622-627.

Systematic Review of Consultation Recordings

4. Mishra PK, Mathias H, Millar K, Nagrajan K, Murday A. A randomized controlled trial to assess the effect of audiotaped consultations on the quality of informed consent in cardiac surgery. *Arch Surg* 2010;145(4):383-388. doi: 10.1001/archsurg.2010.45
5. Pitkethly M, MacGillivray S, Ryan R. Recordings or summaries of consultations for people with cancer. *Cochrane Database Syst Rev*. 2008;3:1-58. doi: 10.1002/14651858.CD001539.pub2
6. McClement SE, Hack TF. Audio-taping the oncology treatment consultation: a literature review. *Patient Educ Couns*. 1999;36(3):229-238.
7. Hack TF, Beaver K, Schofield P. Audio-recording cancer consultations for patients and their families – putting evidence into practice. In: Kissane DW, Bultz BD, Butow PN, Bylund CL, Noble S, Wilkinson S eds. *Oxford Textbook of Communication in Oncology and Palliative Care*. 2nd ed. Oxford: Oxford University Press; 2017. p. 56-60
8. Uitdehaag MJ, van der Velden L-A, de Boer MF, Spaander MC, Steyerberg EW, Kuipers EJ, et al. Recordings of consultations are beneficial in the transition from curative to palliative cancer care: a pilot-study in patients with oesophageal or head and neck cancer. *Eur J Oncol Nurs*. 2012;16(2):109-114. doi: 10.1016/j.ejon.2011.04.006
9. Hack TF, Pickles T, Bultz BD, Reuther JD, Weir LM, Degner LF, et al. Impact of providing audiotapes of primary adjuvant treatment consultations to women with breast cancer: a multisite, randomized, controlled trial. *J Clin Oncol*. 2003;21(22):4138-4144. doi: 10.1016/j.ejon.2011.04.006

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10. Liddell C, Rae G, Brown TR, Johnston D, Coates V, Mallett J. Giving patients an audiotape of their GP consultation: a randomised controlled trial. *Br J Gen Pract.* 2004;54(506):667-672.
11. Elwyn G. “Patientgate”—digital recordings change everything. *BMJ.* 2014;348:1-2. doi: 10.1136/bmj.g2078
12. Moloczij N, Krishnasamy M, Butow P, Hack TF, Stafford L, Jefford M, et al. Barriers and facilitators to the implementation of audio-recordings and question prompt lists in cancer care consultations: a qualitative study. *Patient Educ Couns.* 2017;100(6):1083-1091. doi: 10.1016/j.pec.2017.01.005.
13. Joanna Briggs Institute. The Joanna Briggs Institute critical appraisal checklist for randomized controlled trials. Adelaide: Joanna Briggs Institute; 2016. Available from: http://joannabriggs.org/assets/docs/critical-appraisal-tools/JBI_Critical_Appraisal-Checklist_for_Randomized_Controlled_Trials.pdf
14. Thomas BH, Ciliska D, Dobbins M, Mirucci S. A process for systematically reviewing the literature: providing the research evidence for public health nursing interventions. *Worldviews Evid Based Nurs.* 2004;1(3):176-184. doi: 10.1111/j.1524-475X.2004.04006.x
15. Joanna Briggs Institute. The Joanna Briggs institute critical appraisal checklist for quasi-experimental studies. Adelaide: Joanna Briggs Institute; 2016. Available from: http://joannabriggs.org/assets/docs/critical-appraisal-tools/JBI_Critical_Appraisal-Checklist_for_Quasi_-_Experimental_Studies.pdf

16. Liberati A, Altman DG, Tetzlaff J, Mulrow C, Gøtzsche PC, Ionnidis JPA, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate healthcare interventions: explanation and elaboration. *BMJ*. 2009;339:1-27. doi: 10.1136/bmj.b2700
17. Tricco AC, Antony J, Zarin W, Strifler L, Ghassemi M, Ivory J, et al. A scoping review of rapid review methods. *BMC Medicine*. 2015;13:1-15. doi: 10.1186/s12916-015-0465-6
18. Wolderslund M, Kofoed PE, Holst R, Axboe M, Ammentorp J. Digital audio recordings improve the outcomes of patient consultations: A randomised cluster trial. *Patient Educ Couns*. 2016;100(2):242-249. doi: 10.1016/j.pec.2016.08.029
19. Belkora J, Volz S, Loth M, Teng A, Zarin-Pass M, Moore D, et al. Coaching patients in the use of decision and communication aids: re-aim evaluation of a patient support program. *BMC Health Serv Res*. 2015;15:1-14. doi: 10.1186/s12913-015-0872-6
20. Bergenmar M, Johansson H, Wilking N, Hatchek T, Brandberg Y. Audio-recorded information to patients considering participation in cancer clinical trials - a randomized study. *Acta Oncol*. 2014;53(9):1197-1204. doi: 10.3109/0284186X.2014.921726
21. Hack TF, Whelan T, Olivotto IA, Weir L, Bultz BD, Magwood B, et al. Standardized audiotape versus recorded consultation to enhance informed consent to a clinical trial in breast oncology. *Psycho-Oncology*. 2007;16(4):371-376. doi: 10.1002/pon.1070
22. Lipson-Smith R, Hyatt A, Butow P, Hack TF, Jefford M, Hale S, et al. Are audio recordings the answer? — a pilot study of a communication intervention for non-English speaking patients with cancer. *Psycho-Oncology*. 2016;25(10):1237-1240. doi: 10.1002/pon.4193

23. Lobb E, Butow P, Meiser B, Barratt A, Kirk J, Gattas M, et al. The use of audiotapes in consultations with women from high risk breast cancer families: a randomised trial. *J Med Genet.* 2002;39(9):697-703. doi: 10.1136/jmg.39.9.697
24. Bowden JR, Brennan PA, Butler-Keating R, Zaki GA. Use of audiotaped patient consultations in a head and neck oncology clinic and survey of patient attitudes to this facility. *J Laryngol Otol.* 2006;117(11):879-882. doi: 10.1258/002221503322542890
25. Masera G, Beltrame F, Corbetta A, Fraschini D, Adamoli L, Jankovic M, et al. Audiotaping communication of the diagnosis of childhood leukemia: parents' evaluation. *J Pediatr Hematol Oncol.* 2003;25(5):368-371.
26. Good DW, Delaney H, Laird A, Hacking B, Stewart GD, Mcneill SA. Consultation audio-recording reduces long-term decision regret after prostate cancer treatment: a non-randomised comparative cohort study. *Surg.* 2016;14(6):308-314. doi: 10.1016/j.surge.2014.10.006.
27. Hack TF, Pickles T, Bultz BD, Ruether JD, Degner LF. Impact of providing audiotapes of primary treatment consultations to men with prostate cancer: a multi-site, randomized, controlled trial. *Psycho-Oncology.* 2007;16(6):543-552. doi: 10.1002/pon.1094
28. Purbrick RMJ, Tu KL, Damato BE. The patient's role in the decision-making process - a perspective from the Liverpool Ocular Oncology Centre. *Eye.* 2005;20(9):1034-1039. doi: 10.1038/sj.eye.6702074
29. Haslop C. Taped consultations in a thoracic oncology lung cancer service. *Cancer Nurs Pract.* 2005;4(3):35-38. doi: 10.7748/cnp2005.04.4.3.35.c163

30. Hacking B, Wallace L, Scott S, Kosmala-Anderson J, Belkora J, Mcneill A. Testing the feasibility, acceptability and effectiveness of a 'decision navigation' intervention for early stage prostate cancer patients in Scotland--a randomised controlled trial. *Psycho-Oncology*. 2013;22(5):1017-1024. doi: 10.1002/pon.3093
31. Hack TF, Ruether JD, Weir LM, Grenier D, Degner LF. Promoting consultation recording practice in oncology: identification of critical implementation factors and determination of patient benefit. *Psycho-Oncology*. 2013;22(6):1273-1282 doi:10.1002/pon.3135.
32. Volz S, Moore DH, Belkora JK. Do patients use decision and communication aids as prompted when meeting with breast cancer specialists? *Health Expect*. 2015;18(3):379-91. doi: 10.1111/hex.12042
33. Cope CD, Lyons AC, Donovan V, Rylance M, Kilby MD. Providing letters and audiotapes to supplement a prenatal diagnostic consultation: effects on later distress and recall. *Prenat Diagn*. 2003;23(13):1060-1067. doi:10.1002/pd.747.
34. Shepherd L, Salkovskis PM, Morris M. Recording therapy sessions: an evaluation of patient and therapist reported behaviours, attitudes and preferences. *Behav Cogn Psychother*. 2009;37(2):141-150. doi: 10.1017/S1352465809005190.
35. Wolderslund M, Kofoed PE, Holst R, Ammentorp Jette. Patients' use of digital audio recordings in four different outpatient clinics. *Int J Qual Health Care*. 2015;27(6):466-72. doi: 10.1093/intqhc/mzv069
36. Bozic KJ, Chenok KE, Schindel J, Chan V, Huddleston JI, Braddock C, et al. Patient, surgeon, and healthcare purchaser views on the use of decision and communication aids in orthopaedic

- surgery: a mixed methods study. *BMC Health Serv Res*. 2014;14:1-10. doi: 10.1186/1472-6963-14-366.
37. Koh TH, Butow PN, Coory M, Budge D, Collie LA, Whitehall J, et al. Provision of taped conversations with neonatologists to mothers of babies in intensive care: randomised controlled trial. *BMJ*. 2007;334:28-31. doi: [10.1136/bmj.39017.675648.BE](https://doi.org/10.1136/bmj.39017.675648.BE)
38. Belkora JK, Loth MK, Volz S, Rugo HS. Implementing decision and communication aids to facilitate patient-centered care in breast cancer: a case study. *Patient Educ Couns*. 2009;77(3):360-368. doi: 10.1016/j.pec.2009.09.012
39. Elwyn G, Barr PJ, Grande SW. Patients recording clinical encounters: a path to empowerment? Assessment by mixed methods. *BMJ*. 2015;5:1-8. doi: 10.1136/bmjopen-2015-008566
40. Hacking B, Scott SE, Wallace LM, Shepherd SC, Belkora J. Navigating healthcare: a qualitative study exploring prostate cancer patients' and doctors' experience of consultations using a decision-support intervention. *Psycho-Oncology*. 2014;23(6):665-71. doi: 10.1002/pon.3466
41. Jackson M, Skinner J. Improving consultations in general practice for Somali patients: a qualitative study. *Diversity in Health & Social Care*. 2007;4:61-67.
42. Leahy M, Douglass J, Barley V, Jarman M, Cooper G. Audiotaping the heart surgery consultation: qualitative study of patients' experiences. *Heart*. 2005;91(11):1469-1470. doi: 10.1136/hrt.2004.048769
43. Belkora JK, Loth MK, Chen DF, Chen JY, Volz S, Esserman LJ. Monitoring the implementation of consultation planning, recording, and summarizing in a breast care center. *Patient Educ Couns*. 2008;73(3):536-543. doi: 10.1016/j.pec.2008.07.037

44. Pass M, Volz S, Teng A, Esserman L, Belkora J. Physician behaviors surrounding the implementation of decision and communication AIDS in a breast cancer clinic: a qualitative analysis of staff intern perceptions. *J Cancer Educ.* 2012;27(4):764-769. doi: 10.1007/s13187-012-0402-8.
45. Hack TF, Carlson L, Butler L, Degner LF, Jakulj F, Pickles T, et al. Facilitating the implementation of empirically valid interventions in psychosocial oncology and supportive care. *Support Care Cancer.* 2011;19(8):1097-1105. doi: 10.1007/s00520-011-1159-z
46. Santo A, Laizner AM, Shohet L. Exploring the value of audiotapes for health literacy: a systematic review. *Patient Educ Couns.* 2005;58(3):235-243. doi: 10.1016/j.pec.2004.07.001
47. Polit DF, Beck CT. *Nursing research: generating and assessing evidence for nursing practice.* 10th ed. Philadelphia: Lippincott Williams & Wilkins; 2017.
48. Elwyn G, Barr P, Castaldo, M. Can patients make recordings of medical encounters? What does the law say? *JAMA.* 2017;318(6):513-514.
49. Tsulukidze M, Grande SW, Thompson R, Rudd K, Elwyn, G. Patients covertly recording clinical encounters: Threat or opportunity? A qualitative analysis of online texts. *PLoS ONE.* 2015; 10(5):1-10.
50. Adams M. Covert recording by patients of encounters with gastroenterology providers: Path to empowerment or breach of trust? *Clin Gastroenterol Hepatol* 2017;15(1):13-16.
51. Grande SW, Castaldo MG, Carpenter-Song E, Griesemer I, Elwyn G. A digital advocate? Reactions of rural people who experience homelessness to the idea of recording clinical encounters. *Health Expect.* 2017; 20(4):618-625.

Table 1. Implementation Tips for Initiating and Establishing a Consultation Recording Service

- Provide high quality and accessible evidence, such as systematic reviews, to ensure staff members are adequately informed and to promote practice change.
- Ensure administrative commitment of financial resources and staff to facilitate the management of recordings.
- Develop standardized procedures for consultation recordings including which consultations to record, what parts of the consultation to record, and whether the clinic will retain a copy of the recording.
- Select the most appropriate recording device for the target patient population, and ensure that technology is functioning and accessible for all consultations.
- Educate all staff, including physicians, on the procedures for recordings.
- Delegate the responsibility for recording the consultation to a specific staff member.
- Identify a respected champion with administrative or social power to promote consultation recordings.
- Inform all patients regarding the opportunity to have their consultation recorded.
- Offer patients a choice of whether to receive the recording or other communication aids to address personal preferences.
- Create a disclaimer and an informed consent form to address medico-legal concerns.
- Pilot consultation recordings so that staff can experience how it works and its impact on patients to promote buy-in.
- Establish policies and procedures for patients who desire to record consultations on their own to avoid covert recordings.

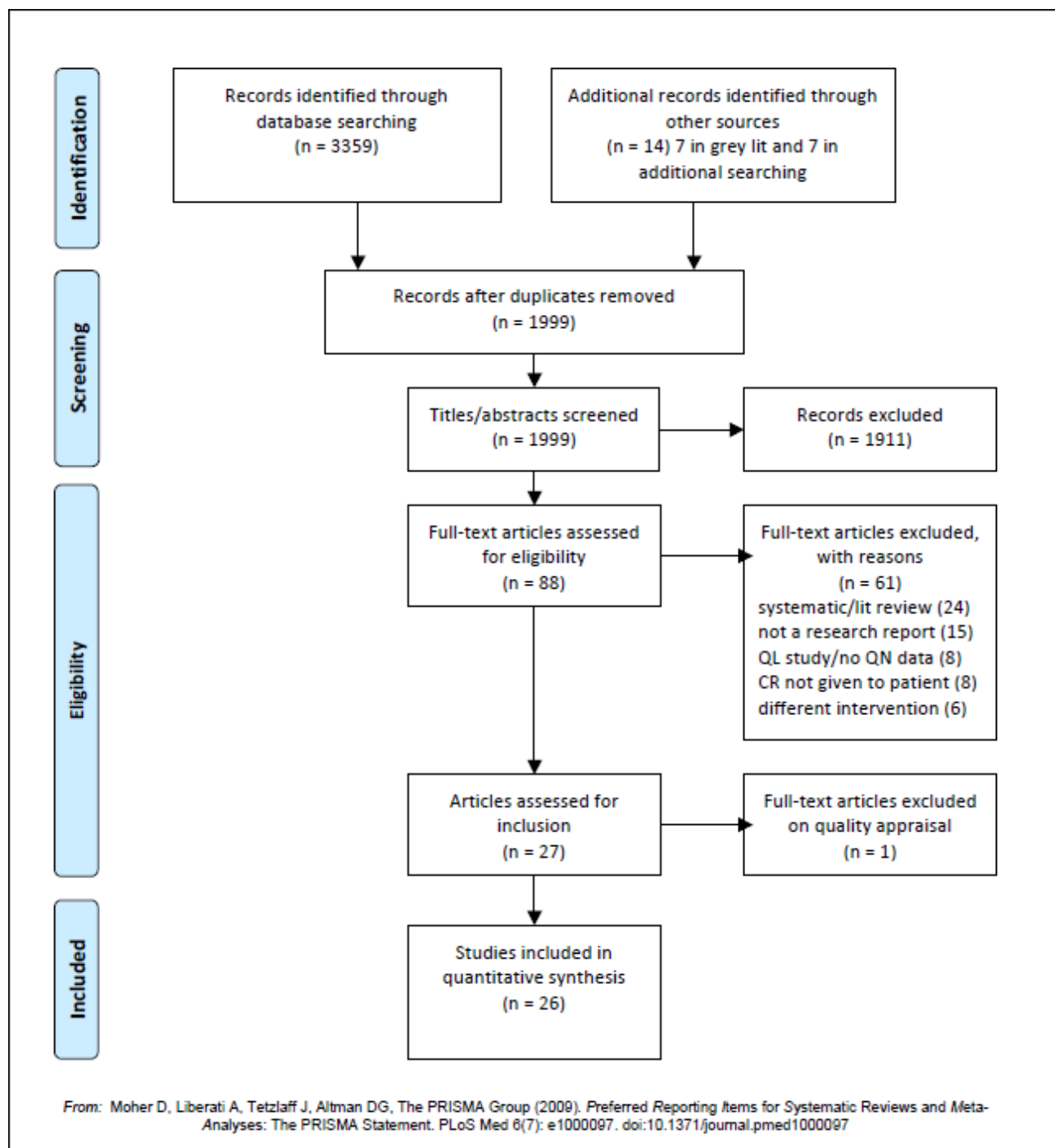


Fig 1