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Face-to-face compared to online collected accounts of health and illness experiences: a scoping review

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Face-to-face compared to online collected accounts of health and illness experiences: a scoping review

Abstract

Advocates of online alternatives to face-to-face interviewing suggest online approaches save money and time, while others have raised concerns about the quality and content of the resulting data. These issues affect researchers designing and costing their studies and application reviewers and research funders. We conducted a scoping review of English language articles describing the range of online alternative approaches. Further, we systematically identified studies directly comparing online alternatives to face-to-face approaches. Synthesis of these 11 articles (565 participants) suggests that online alternatives should not be viewed as a straightforward replacement for face-to-face, a particularly important finding given the rapid communication changes occurring in the COVID-19 pandemic. When applied with consideration of the evolving evidence on their strengths and weaknesses, online methods may increase the likelihood of obtaining the desired sample, but responses are shorter, less contextual information is obtained, and relational satisfaction and consensus development is lower.

Keywords: *communication; field methods; focus groups; health; internet; interview; research, design; research, online; technology, use in research*

1 Narrative interviews, semi-structured interviews and focus groups are widely used in
2
3 qualitative research on experiences of health and illness. Over the past 20 years, the use of the
4
5 internet as a supplement to, or even replacement for, in-person interaction has grown rapidly,
6
7 including within the realm of research interviews, a term we use here to encompass both one on
8
9 one and focus group methods. Many of these new approaches appear to hold promise as efficient
10
11 and cost-effective alternatives, but evidence about their accuracy and effectiveness as a
12
13 replacement for in-person interviews is still emerging. Understanding the applicability of these
14
15 different methods will be beneficial. Researchers, designing studies based on theoretical
16
17 paradigms or perspectives which shape their strategy of inquiry need to select the most
18
19 appropriate methods for their studies. Grant reviewers and potential funders, in turn, need to be
20
21 able to assess the pros and cons of these approaches when making funding decisions. For
22
23 example, online alternatives to the in-person interview have been noted to expand opportunities
24
25 for inclusion (Ayling & Mewse, 2009), and analysis of existing blogs or discussion forums could
26
27 provide useful insights into a phenomenon without the effort and expense of arranging face-to-
28
29 face meetings (Lee, 2017; Owen et al., 2017). But concerns have also arisen, including the notion
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31 that web-based data reflects a specific on-line persona which may differ from the more intimate
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33 and sometimes contradictory self that may emerge during an interview conducted face-to-face
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35 (Hallett & Barber, 2014) All of these questions have taken on new importance as the COVID-19
36
37 pandemic has changed our ability to interact in-person.
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44 The earliest articles and books on this topic appeared in the second half of the 1990s,
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46 shortly after Netscape came online in 1995 as the first easy-to-use web browser incorporating
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48 images and text (Berners-Lee, 1999), and Hotmail emerged in 1996 as the first free public email
49
50 service. Marketing researchers appear to have been the first to use the internet for research
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52 purposes, writing about the pros and cons of the internet as a medium through which to obtain
53
54 information about people's opinions and experiences (Curasi, 2001; Jones, 1999; Solomon,
55
56 1996). By the mid 2000's, social media emerged as part of the landscape of the web, with
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1 Facebook, YouTube and Twitter becoming available in 2004, 2005 and 2006 respectively
2
3 (Snelson, 2016). These interactive media, and the many others now available, have supported the
4
5 rise of the internet as a key place for interaction and exchange on multiple aspects of daily life,
6
7 including experiences of health and illness. A 2016 review describing trends in social media
8
9 research identified 229 articles, concluding that the most common online research approaches
10
11 were the use of interviews, focus groups, or surveys on social media platforms, with the second
12
13 most common being content analysis of existing online data sources. These publications have
14
15 mostly appeared recently (Snelson, 2016), and used a mixed methods approach, as per Creswell
16
17 and Plano Clark's mixed methods typology (2011). Specifically, the studies used either a
18
19 convergent design, in which quantitative and qualitative data are directly combined; an
20
21 explanatory sequential design, in which qualitative data are collected to explain quantitative
22
23 findings, or vice versa; or an exploratory sequential design, in which qualitative data are
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25 collected to explore quantitative findings, or vice versa.
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30 The objective for this project was to evaluate the current range of online approaches used
31
32 as alternatives to face-to-face interviews for qualitative health research, and to synthesize the
33
34 evidence regarding the quality and content of these online alternatives compared to face-to-face
35
36 formats. Because this is still a young field we used a scoping review approach, as described by
37
38 Arksey and O'Malley (2005) and refined by Levac (2010). Scoping reviews are particularly
39
40 helpful in emerging fields and provide a framework for describing the range and nature of the
41
42 evidence, as well as summarizing and disseminating research findings (Levac et al., 2010).
43
44 Here, we first identify the range of online approaches that have been used as alternatives to a
45
46 face-to-face format for qualitative health research. Following this, we systematically analyze and
47
48 synthesize the findings from articles directly comparing data generated when using a face-to-face
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50 compared to an online approach for focus groups or interviews on experiences of health and
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52 illness.
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Methods

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3 The Levac framework (2010) guided the design and conduct of this scoping review. In
4
5 step 1, the development of the research question began with a librarian-assisted broad literature
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7 search and work among co-authors to identify the range of online approaches currently being
8
9 used which might represent alternatives to face-to-face interviews and focus groups. Recent
10
11 example articles using these approaches were then analyzed to identify the unique aspects of
12
13 each approach, and to create a general taxonomy.
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17 As part of this work, we used an iterative process to create boundaries around what we
18
19 considered to qualify as potential alternatives to face-to-face interviews or focus groups. The
20
21 included approaches are described in detail in the taxonomy section of the results. The excluded
22
23 approaches were photovoice, a specific approach in which images are the focus of the activity to
24
25 gather qualitative data, as well as the broad category of online ethnography – the ethnographic
26
27 study of online communities and groups that often crosses over into analyses of and comparisons
28
29 to ‘offline’ experience. This is a large and diverse area of research with different aims from those
30
31 typical in face-to-face interviews and focus group studies. This field has been recently reviewed
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33 by Costello et al (2017). We also excluded online approaches to ecologic momentary assessment,
34
35 a method developed in the 1980’s to capture periodic self-reported data (often quantitative) of
36
37 people’s experiences. Before the widespread availability of the internet and software
38
39 applications, studies using this approach were labor intensive. But research questions that require
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41 this technique can now be done through specifically designed applications or by using ‘big data’
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43 analytic techniques on existing data (Dodds et al., 2011; Dogan et al., 2017; Keedle et al., 2018;
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45 Larson, 1983; Moskowitz & Young, 2006; Stone, 1994).
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51 In step 2, we narrowed and refined the research question: what is the direct evidence
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53 regarding the quality and content of face-to-face interviews and focus groups when compared to
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55 online alternatives for qualitative research questions on the experience of health and illness? We
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57 identified relevant studies by working with research librarians to construct and perform a
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1 systematic search, using the eligibility criteria described below. In steps 3-5, also described in
2 detail below, studies were selected, charted, and critically reviewed to create a synthesis of the
3 findings. We performed the optional step 6 by presenting interim results of steps 1 and 2 for
4 feedback during the 2018 DIPEX (Database of Individual Patient Experiences) meeting in
5 Groningen, Netherlands. The PRISMA Extension for Scoping Reviews, PRISMA-ScR (Tricco et
6 al., 2018) was used for reporting the work.
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17 **Eligibility Criteria**

18 To be included in the synthesis, studies had to directly compare face-to-face interviews or
19 focus groups to an online alternative. The articles had to use the same research question for the
20 two modes in comparison, it could not be a reflection on an approach without an explicit
21 comparator. Additionally, the topic had to be the experience of health and illness. Participants of
22 all ages and sub-groups were included; articles were limited to English language only.
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30 **Information Sources, Search Criteria, and Search Process**

31 To identify candidate documents for the review, the following databases were searched
32 up through January 7, 2019: PubMed, PsycInfo (EBSCO), CINAHL (EBSCO), Web of Science
33 (Clarivate Analytics), and Embase (Ovid 1974-current). The search strategies were designed by
34 two experienced research librarians and using the results of step 1 of the scoping review, in
35 which we had identified the range of online alternatives to face-to-face interviews and focus
36 groups. (The **Supplementary File** contains detailed information regarding the search strategy).
37 Few directly applicable MESH terms were available to guide the search, necessitating a broad
38 approach. We used the following terms: Focus group OR Interview OR Qualitative, restricted to:
39 Digital OR On-line OR Internet OR Online OR Virtual OR Chat based OR Electronic OR Web-
40 based OR Web chat OR Web focus group OR Web forum OR Web group OR Web portal OR
41 Face to face OR In person OR On-site OR Personal OR Traditional OR Conventional, and
42 further restricted to article titles that included the terms Compar* OR Versus OR Vs OR
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1 Contrast* OR Difference*. The final search results included 947 articles and these were imported
2 into EndNote with duplicates removed by library staff. If an article was found to meet criteria,
3 we used the ‘Similar Articles linking’ tool on PubMed and Google Scholar as well as the ‘Cited
4 by’ function to expand our search from relevant articles. Additional studies and reports were
5 identified by searching bibliographies of identified articles and through hand searches of the
6 literature, including the Social Science Citation Index (Clarivate Analytics).
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14 **Selection of Sources of Evidence**

15 All articles captured by the search strategy were independently evaluated for potential
16 inclusion by two people. Each screened titles, abstracts, and when appropriate, full text of
17 publications. Rayyan software for systematic reviews (Qatar Computing Research Institute,
18 Doha, Qatar) was used to screen each article for inclusion or exclusion and to identify conflicts.
19 In the instance of disagreement, cases were resolved by consensus and discussion. See
20 **Supplementary Figure** for details.
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30 **Data Collection Process**

31 Through initial review of the identified articles, a data collection form was iteratively
32 designed to capture the relevant variables for extraction. This standardized form included fields
33 for all relevant study information (described below under ‘data items’), as well as necessary data
34 points to compare the two modes of collecting qualitative data (details below). This form was
35 then used by both to independently extract the information, with discussion to resolve any initial
36 differences of interpretation.
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46 **Data Items**

47 We extracted article information (year of publication, country of origin), study design
48 (modes of data collection compared, study population size), study question, population studied,
49 and principal findings.
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55 **Synthesis of Results**

1 Studies were first organized by whether the comparison of an online alternative was to a
2 face-to-face interview or focus group approach, and by year of publication, and then a coding
3 structure was developed. The included articles reported a variety of comparisons between online
4 and face-to-face approaches in their findings, and so as each article was reviewed, categories of
5 study findings were iteratively identified through inductive coding. This coding structure was
6 then applied to each reviewed article so that where possible, reporting of similar (or
7 contradictory) findings could be made across articles. Each major type of finding was tabulated
8 and ordered in the tables from most common (i.e., described by 5 separate studies) to least
9 common. When a study described one mode of data generation as having a particular
10 characteristic, it was noted whether this was supported by data from the study or was an
11 unsupported statement. Once coding was complete, the categories of findings were further
12 analyzed and we grouped them into three domains: Data and sampling, Group dynamics, and
13 Logistics.

30 Results

31 Focusing on the most recent and salient publications, we identified the range of types of online
32 data that we hypothesized might be alternatives to face-to-face interaction for qualitative
33 research on experiences of health and illness. We created from this a general taxonomy of online
34 alternatives to face-to-face formats for qualitative research questions on experiences of health
35 and illness. After developing the taxonomy, we next identified and summarized the direct
36 comparative evidence of online alternatives to face-to-face formats.

49 Taxonomy

50 Using an iterative approach, we divided the data sources into two broad categories –
51 ‘extant online data’, and ‘researcher obtained online data’. Extant data is the content of the
52 internet that exists without prompting from a researcher presence. Researcher directed online
53 data refers to qualitative online data created as a result of researcher action or mediation, and

1 these data are designed to answer a specific research question posed by the researcher – the
2
3 researcher is present as a participant in the process.
4

5 *Extant Online Data*

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7 Analysis of extant data parallels investigations of public or private records such as
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9 personal diaries to understand a culture or phenomena. Extant data are amenable to (at least)
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11 thematic analysis, content analysis (Snelson, 2016) and conversational analysis (Giles et al.,
12
13 2015), and have also been used as a source of triangulation of data obtained through face-to-face
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15 approaches.
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19 First of the extant data types is the ‘single voice’ source: blogs, vlogs, and personal web
20
21 sites. Because they represent a single voice, they can provide unique insight into coping
22
23 mechanisms and psychological support. It has been noted that this data source has the potential
24
25 drawback of self-censoring, or may employ a story telling approach , which may be seen as a
26
27 drawback (Kurtz et al., 2017; Owen et al., 2017). However, stories are the data form for many
28
29 kinds of qualitative data analysis, and so the larger drawback may be better described as the lack
30
31 of opportunity to clarify or explore ideas. We did not find any studies in our subsequent
32
33 systematic search in which extant data from single voice were directly compared to face-to-face
34
35 approaches using the same research question.
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40 A second type of extant data, which we call ‘co-created, topic focused’, has been tested
41
42 and used as an alternative to face-to-face interaction. Support group forums and discussion
43
44 boards with specific threads of discussion fall into this category. The data are the interactions
45
46 among participants, with topics focused around a specific experience or idea. Strengths of these
47
48 data sources include that the range of participants may be broad – caregivers and others with a
49
50 stake in the experience may also participate. Additionally, members may post over long periods
51
52 of time, allowing for longitudinal data analysis (Jamison et al., 2018). However, recent articles
53
54 also note that researchers should be aware that forums often have third party moderators, who
55
56 may influence the content of co-created, topic focused data (McKechnie et al., 2014). An
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1 additional concern notes the danger of only certain narrative threads being supported, those
2 which are considered acceptable to the assembled group (Lee, 2017). However, these drawbacks
3 can also be present in face-to-face formats.
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7 We term the last type of extant data ‘co-created, non-topic focused’. Included in this
8 category are data derived from: Facebook (Reich, 2015) and other social media platforms,
9 mobile messaging systems (Tagg et al., 2017), Wikipedia entries and their revision histories
10 (Pentzold, 2017), Yik Yak – a closed messaging systems for students, no longer in existence
11 (Byrne, 2017), Second Life – a web site which allows people to create and have online
12 interactions using created personas, and web sites from ‘the dark web’ (Ferguson et al., 2017) i.e.
13 sites on the internet accessible only to persons with specialized software, allowing users and site
14 operators to remain anonymous and untraceable. These studies focused primarily on how people
15 related to one another in online settings. We did not find any studies in our subsequent
16 systematic search in which data from these sources were directly compared to face-to-face
17 approaches using the same research question.
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32 *Researcher Directed Online Data*

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34 This is created when web-based approaches are used as the platform to generate data that
35 in a previous era would have been conducted using face-to-face approaches. Many creative
36 designs have been devised, as described below, and these were the most common data sources
37 we identified in our subsequent systematic search for studies directly comparing face-to-face to
38 online approaches addressing the same research question.
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46 We have divided researcher directed online data into talk and text based. Talk-based
47 approaches include video interviews using technologies such as Skype, as well as focus groups
48 using software to accommodate multiple participants who can all see each other on camera.
49 Video approaches allow people across a broad geography to participate but require robust
50 internet connections. Text based approaches include email interviews as well as synchronous and
51 asynchronous online focus groups (Gaiser, 2017). In email interviews, researchers pose questions
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1 by email, responding with follow up questions and probes based on participant responses. In
2
3 synchronous text based online focus groups, participants all log into a specific online platform at
4
5 the same time. They participate by text based ‘chat’ for a specific period, typically an hour or so,
6
7 answering questions posed by the moderator and responding to one another. In asynchronous
8
9 text-based online focus groups, participants log into a specific online platform at a time of their
10
11 choosing to answer the questions posed by the moderator, while also responding to others who
12
13 have already commented. Asynchronous text-based online focus groups may occur over a week
14
15 or longer, with questions posed every few hours, days or even weeks. A variation on this
16
17 approach is the creation of a researcher guided forum, which is a combination of an open forum
18
19 for invited participants to discuss questions of interest to them (e.g., the participants in a larger
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21 research project), combined with moderated questions by the researcher. Both observational data
22
23 of spontaneous concerns and researcher driven responses are captured using this method (Im &
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Chee, 2012)

Direct Comparative Evidence

A search was conducted to identify studies that evaluated the quality and content of face-to-face interviews and focus groups as compared to the online alternatives for qualitative research questions on experiences of health and illness. The search resulted in 947 references. After duplicates were removed, the titles and abstracts of the remaining 936 were reviewed. Of these, 916 were excluded, 16 were included, and 2 conflicted, leading to individual review. Full text review and hand searching ultimately resulted in inclusion of 11 articles (**Supplementary Figure**). We excluded book reviews, abstracts that did not link to completed works, “how-to” articles about conducting interviews and focus groups online without a critical evaluation component, thought pieces on a particular approach (such as the use of public forums as a source of data) without a methods section, articles on the process of doing ethnography in an ‘online space’, articles about what people do online that were not specifically about health-related issues,

1 machine learning of online data, articles not about health / illness, articles that advanced theories
2 of qualitative research (e.g. using grounded theory, discourse analysis, or conversation analysis
3 to analyze online data), articles that were solely reflections on the ethics of online qualitative
4 research methods, and articles that compared closed item survey results when administered face-
5 to-face vs. using a 'computer-assisted self-interview' approach (closed item survey completion
6 using a computer).
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17 *Results of Sources of Evidence*

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19 The 11 studies meeting inclusion criteria were published between 2001 and 2018 (**Table**
20 **1**). The articles covered a broad range of topics, from colon cancer to childhood disability and
21 chronic illness, to intimate partner violence. One study was conducted in children, while the
22 remainder included only adults. All the studies used the data from both approaches to answer the
23 research question of interest. The total sample size of the 11 studies altogether was 'at least' 565
24 participants, as one study provided no sample size information, and another used public forum
25 data as a comparator (reliable participant counts could not be captured). Thus conservatively,
26 243 (43%) of the at least 565 participants' data were from an online source, with the remainder
27 from face-to-face approaches.
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40 Seven of the 11 studies we included compared face-to-face focus groups to online focus
41 groups, in the form of synchronous online text-based focus groups, asynchronous online text-
42 based focus groups, or online video focus groups. These studies compared data from the online
43 alternative to as few as one face-to-face focus group, up to as many as four.
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49 The other four studies compared face-to-face interviews to email interviews, analysis of
50 extant co-created, topic focused data from public forums, or online video interviews. These
51 studies compared interviews (sample size range 7 to 140 participants) to one or two different
52 online alternatives (sample size range 23 to 49+ participants; reliable participant counts could not
53 be captured from the public forums).
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Synthesis of Results

The 11 included articles tested theories about online and face-to-face approaches that we categorized into three domains: sampling, data quantity/quality and topical coverage (Jenner, 2019; McCoyd, 2006; Seale et al., 2010; Synnot et al., 2014; Woodyatt et al., 2016), interpersonal dynamics of online compared to face-to-face approaches (Graffigna, 2006; Schneider et al., 2002), and feasibility and logistics (Kramish Campbell et al., 2001; Nicholas et al., 2010; Rupert et al., 2017). While each article focused on one research question in their primary domain of interest, most also reported findings on the other domains, allowing synthesis of data across the articles.

Demographics

Data such as age, sex, educational levels and racial/ethnic makeup of the participants were inconsistently reported in the included articles, limiting interpretation of these characteristics. Some of the earlier articles documented that online participants were younger, or more affluent. For example, Kramish-Campbell (2001) reported that the online population was wealthier, and more educated. By 2017, however, Rupert (2017) reported in their study that the online sample was more diverse in terms of race/ethnicity, education, and household income than the face-to-face sample. Jamison (2018) reported that their online cohort was significantly younger than their face-to-face cohort. The adoption of online technology across time and within patient groups is a likely influence on the participant demographics. These findings suggest that the use of online methods can have a varied effect on participant demographics and inclusion depending on setting and topic.

Broad findings reported across the included articles are organized by domain: sampling and data, logistics, and interpersonal dynamics (**Table 2**).

Sampling and data

1 Seven of the 11 articles reported that sensitive topics seemed to be more easily discussed
2 in the online alternatives. Overall, responses in the online alternatives were generally shorter and
3 more on topic, with one article describing responses as more 'concrete' (Synnot et al., 2014).
4 Some articles noted that there was less contextual information provided in the answers, with
5 three articles (on focus group alternatives) noting that there was less chance for probe/follow up
6 questions than in-person. The email interview (McCoyd, 2006) was a notable exception –
7 providing better opportunities for probe/follow-up. However, the study noted their self-selected
8 population for the online group, which was accustomed to text-based support group interaction.
9 They further noted that the email interview allowed for less capture of emotional reactions than a
10 face-to-face approach. Last, one article noted that online contributions were more often written
11 in the present tense, compared to face-to-face approaches that were in the past tense. This
12 suggests that data from an online forum was more likely to describe a recent event, perhaps with
13 less interpretation and self-reflection than face-to-face approaches (Seale et al., 2010).
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33 *Interpersonal dynamics*

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35 Face-to-face formats were reported to result in greater relational satisfaction for
36 participants (Nicholas et al., 2010). This finding was also reported qualitatively by the
37 participants and captured in closed item survey results (Synnot et al., 2014) and discussed
38 without the inclusion of supporting data in other articles (Kramish Campbell, 2000; Jamison,
39 2018; Schneider, 2002). Schneider noted that fewer alliances in opinion were formed in online
40 than face-to-face focus group approaches, suggesting differences in relational interaction
41 between the approaches. However, Graffigna in 2006, reported that an asynchronous text-based
42 focus group followed by a synchronous text-based focus group provided an improved sense of
43 group belonging, an articulate discourse, and fewer conflicts/miscommunications. It is unclear
44 whether simply having two interactions or having the two different types of interaction was the
45 reason for improvement.
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Logistics

Online alternatives were reported to be more convenient, to allow greater geographical diversity of participants, and to support participation of people who could not easily travel, such as those with illness or physical disability. Depending on the platform and approach used, the cost and time required to recruit and complete online interviews or focus groups were not necessarily less than using a face-to-face approach. One article reported that online study participants had higher cancellation and no-show rates than face-to-face formats (Rupert et al., 2017) while another article reported the opposite (Jenner, 2019). One article reported analysis as more challenging for online data which precluded “placing a face to a name” (Synnot et al., 2014).

Discussion

This scoping review creates a taxonomy of online alternatives to face-to-face formats for qualitative research questions on experiences of health and illness, and is the first to systematically analyze studies that have made a direct comparison (i.e., using the same research question) of online alternatives to face-to-face approaches for these types of research questions. This review demonstrates the areas of methodological consideration that might influence decisions about how and when to use each approach singly or in combination, and provides particular value given evolving changes in communication being brought about as a result of the COVID-19 pandemic. We identified three domains of particular concern from qualitative researchers working in health and illness: sampling, interpersonal dynamics, and feasibility and logistics.

Eleven studies with a total sample size of 565+ participants (43% online) conducted direct comparisons of the data obtained using online alternatives to face-to-face interviews or focus groups for qualitative research on experiences of health and illness. The approaches included both talk-based platforms such as Skype, Web-ex, or Adobe Connect, and text-based media, such as online chats or forums. In the case of text-based formats, both synchronous and asynchronous designs have been used, with some data collection periods extending over days to weeks. Online participant responses were typically shorter and more to the point, without contextual detail. Further, online approaches were reported to result in lower levels of relationship building and relational satisfaction. While a broader range of participants was reached using online approaches the cost and efficiency were not always considered better. Coverage of sensitive topics has in the past been noted to be more extensive in online than in face-to-face approaches (Seale et al., 2006). Notably, this may be evolving: in the most recently published article included in this review, participant's *perceived* level of privacy was

1 hypothesized to be more important than whether the approach was face-to-face or online (Jenner,
2
3 2019).
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5 Focusing on the last five years, which more closely reflects current internet function and
6
7 usage, several articles have been written describing the unique considerations that must be
8
9 incorporated into decisions about using online approaches compared to face-to-face. For
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11 example, researchers now have to choose the best technology from an array of choices for a
12
13 particular research question and population, different skills may be needed for online
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15 interactions, as well as sufficient knowledge of the population under study to anticipate their
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17 online usage patterns and norms (Lo Iacono et al., 2016; Tuttas, 2015; Vicsek, 2016; Williams et
18
19 al., 2012). Together with the findings of our systematic review, this suggests to us that online
20
21 approaches should not be viewed as a direct replacement for face-to-face approaches. Different
22
23 researcher skill sets are needed and may affect results. Further, the contradictory findings from
24
25 our systematic analysis regarding response length and quality, range of participant ages,
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27 education and socioeconomic status suggests that variance might also be due to factors such as
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29 technology development over time, the research question, the population under study, and
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31 secular events. We note especially the COVID-19 pandemic as a secular event which has caused
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33 a great increase in the use of online approaches to communication and based on these
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35 observations is likely to affect study results in the future.
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42 There are additional issues for researchers to consider when weighing the merit of online
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44 approaches. Wilkerson et al (Wilkerson et al., 2014) note the significance of administrative
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46 considerations, including skills of the overall research team and budget. Online approaches
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48 require reading and technological literacy of participants, as well as access to technology;
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50 however, they may be beneficial in reducing threats to sampling such as barriers of geography,
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52 time and research costs that would otherwise exclude some participants. In the case of
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54 asynchronous online text-based groups, for example, participants who work irregular hours or
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56 who tire easily and need to participate in short bursts can be easily accommodated. A final
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1 important consideration is the need for personal connection. While online formats can increase
2
3 the perception of privacy, they limit relationship building between participants and between
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5 participant and researcher, which may be an undesirable side effect that ultimately makes an
6
7 online format unappealing (Reisner et al., 2018).
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10 Our search found only one study (Seale et al., 2010) which directly compared extant, co-
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12 created, topic focused data (a support group forum) with face-to-face interaction. The use of
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14 extant material means that the researcher is, by definition, not present to guide or influence the
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16 topics discussed. This can be both a strength and a weakness. While showing how topics are
17
18 shaped and meanings are created in online discussions, it may not be able to answer directly the
19
20 research question of interest. However, identifying the range and content of topics discussed in
21
22 online settings may help researchers to frame subsequent research. A caution in using extant data
23
24 from the internet was described in recent work by Germain et al (2017). They found that it was
25
26 possible to re-identify people by performing Google searches of specific quotes. The risk of re-
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28 identification in their study required special consideration because even though the speech they
29
30 were using for their research was public – posted to an open forum – to use it for research might
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32 be seen as eavesdropping on a private conversation in a public place, which is ethically
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34 problematic. In addition, online settings are increasingly recognized as less anonymous or
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36 private, as internet behaviors are tracked (Manjoo, 2019) and personal data are used and sold by
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38 hosting companies for other purposes, as covered in extensive news reporting.
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44 Little-discussed in social science literature but commonly described by qualitative
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46 researchers is the risk of losing data ‘richness’ when people are not physically co-present. Data
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48 ‘richness’ is hard to define but Charmaz holds that rich data “reveal participants’ thoughts,
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50 feelings, intentions, and actions as well as context and structure . . . [and] afford views of human
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52 experience that etiquette, social conventions, and inaccessibility hide or minimize in ordinary
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54 discourse” (Charmaz, 2003). Researchers also point to the personal connections that can be made
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56 when interviewing in person, which may result in better / richer data through more candid or
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1 elaborate answers. They also describe the importance of being able to provide comfort when
2 covering a sensitive or difficult topic, as well as the more nuanced understanding and subsequent
3 questioning that can come from the ability to fully observe non-verbal cues, further enriching
4 data quality (Ogden & Cornwell, 2010). These concerns are valid. Depending on how the video
5 is done and how the feed is smoothed (often to optimize bandwidth usage), the loss of eye
6 contact and altered angle at which visual cues are received can adversely affect interpretations of
7 interactions and relationship building (Murphy, 2020; Nguyen, 2007). Observation of the
8 interview setting is also described by researchers as valuable information if it was chosen by the
9 participant, which may be relevant to the research question or the qualities of the participant.
10 However, all of this presupposes that relationship building, nuanced communication, and direct
11 observation are necessary precursors to rich data. While for particular settings and topics,
12 research relationships may be compromised by online data collection, some people with mental
13 illness or learning and communication disabilities may prefer to, or may only be able to, interact
14 comfortably when they are not face-to-face (Ryan, 2013). In these cases, online approaches may
15 allow one to collect data that previously was not accessible.

16 Looking to other fields, there is some evidence that a lack of co-presence does not always
17 have to compromise interaction quality. For example, the field of psychiatry has incorporated
18 telemedicine, performing trials to compare the effect of in-person and remote visits on
19 relationship building and creating a therapeutic alliance. Findings show that relationship
20 development for therapeutic work is possible but success is neither certain nor easily predicted
21 (Backhaus et al., 2012; Godleski et al., 2012; Greene et al., 2010). It is not clear how far these
22 observations from clinical practice may relate to research endeavors, but it seems likely that a
23 population habituated to online interactions may be comfortable being interviewed in this
24 manner. Lo Iaconno, who gathered data on the participant experience of using Skype for research
25 questions related to health and illness, noted that participants were aware of the differences but
26 wanted to be part of the project and so were willing to accept the limitation, saying for example

1 that “you are not getting my energy, you see, there are details you are not catching...but...you
2 wouldn’t be able to interview me right now if it wasn’t for Skype...”(2016). A comparison from
3 the marketing field, which has also tested the use of alternatives to face-to-face interaction (for
4 non-sensitive topics unrelated to health and illness) found that self-disclosure appeared similar,
5 and noted that a larger number of ideas were generated in the online format (Reid, 2005).
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11 In-person interaction is not the only quality that affects data richness. The particular
12 qualities inherent to the topic, interviewer, and interviewee are also relevant (Ogden & Cornwell,
13 2010). In an empiric study to define data richness, Ogden and Cornwell (2010) found that
14 questions regarding a topic that was personal, less specific, and positive tended to yield richer
15 data than those which were not. Professionals who were interviewed about their own field tended
16 to give ‘richer’ answers than lay people giving answers about personal topics. Questions that
17 were open-ended, contained more than one question, and that were asked later in the interview
18 were all associated with richer data (Ogden & Cornwell, 2010). We note, however, that an in-
19 person interaction is no guarantee. If the relationship is not effectively established during the
20 interview, or if important non-verbal communications are missed, the data may be less rich than
21 if a different approach had been used. Also, for people who prefer to communicate without face-
22 to-face interaction, assumptions about the need for in-person communication will not hold.
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42 Limitations

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44 Our analysis only includes the direct, comparative findings reported by the authors. There
45 may be other factors that the authors chose not to report, and response bias should be considered.
46 All the data are observational, rather than randomized. This is inevitable since neither sequential
47 comparison (with each participant taking part in two different approaches) nor a randomized
48 design (in which each participant would be allocated to a different approach) could yield robust
49 data for the desired comparison. Participants in the eleven studies were either invited to
50 participate in the offered approach, or in some studies, were invited to select their method of
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1 choice. This may introduce an aspect of selection bias, as those opting for online approaches may
2 already have greater comfort with this mode of communication. None of the studies reported
3 characteristics of those who chose the different approaches.
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7 It is worthwhile to recall that at one time, telephone interviews were ‘new’ and therefore
8 subject to similar concerns and comparative research to test their utility (Carr, 2001; Sturges,
9 2004). It was only in the 1990’s that they became widely accepted, and while still not a preferred
10 method for many qualitative studies, they have been recognized for their efficiency, utility and
11 affordances of privacy and security for both parties. For telephone interactions, we have now
12 accumulated a generation of experience and the recognition that the approach has a place in
13 some qualitative research. Loss of voice fidelity and delays in response time are typically low for
14 telephone, an advantage over video. However, it is possible that as video use increases with the
15 COVID-19 pandemic, these limitations may lessen as the issues are recognized and demands for
16 improvements of video fidelity to in-person interaction increase.
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32 Conclusions

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34 We identified three domains of methodological concern about online compared to face-
35 to-face approaches on questions of health and illness: sampling, interpersonal dynamics, and
36 feasibility and logistics. Key findings are that in online methods, participant responses were
37 typically shorter and often lacked contextual information. Additionally, online approaches were
38 reported to result in lower levels of relational satisfaction and consensus development. A broader
39 range of participants was reported with online approaches, but the cost and efficiency were not
40 necessarily better. Thus online approaches to the collection of qualitative data on health and
41 illness can expand the ability to reach certain populations, but with less relationship and (in focus
42 groups) consensus-building potential. Online approaches are not necessarily less expensive,
43 faster, nor less prone to cancellation than face-to-face approaches. They require knowledge of
44 the study population’s use of the medium, as well as technical skills by both parties. The growing
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1 comparative literature on online approaches, as summarized here, as well as the increasing
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3 access to technology, provides opportunity to make purposeful and evidence-based decisions
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5 about when online and face-to-face approaches will each be preferred for answering specific
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7 questions or overcoming particular methodologic challenges. Continued studies comparing
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9 online and face-to-face formats should test the consequences for inclusion, recruitment, logistics,
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11 topics/content and indicators of data richness, trust and engagement, particularly in light of
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13 recent secular trends in online usage for interactions of all kinds during the COVID-19
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15 pandemic. Meanwhile, while online formats have opened up new spaces and opportunities that
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17 didn't exist before, these spaces will themselves be woven with different levels of accessibility,
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19 engagement, and opportunity that should contribute to the tools and techniques available to
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21 qualitative researchers. This discussion around online and face-to-face methods will likely
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23 continue within the broader framework of critical discussion regarding qualitative research
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25 methods and the role of the interview in data generation.
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- 49 Woodyatt, C. R., Finneran, C. A., & Stephenson, R. (2016, May). In-Person Versus Online
50 Focus Group Discussions: A Comparative Analysis of Data Quality. *Qualitative Health*
51 *Research*, 26(6), 741-749. <https://doi.org/10.1177/1049732316631510>
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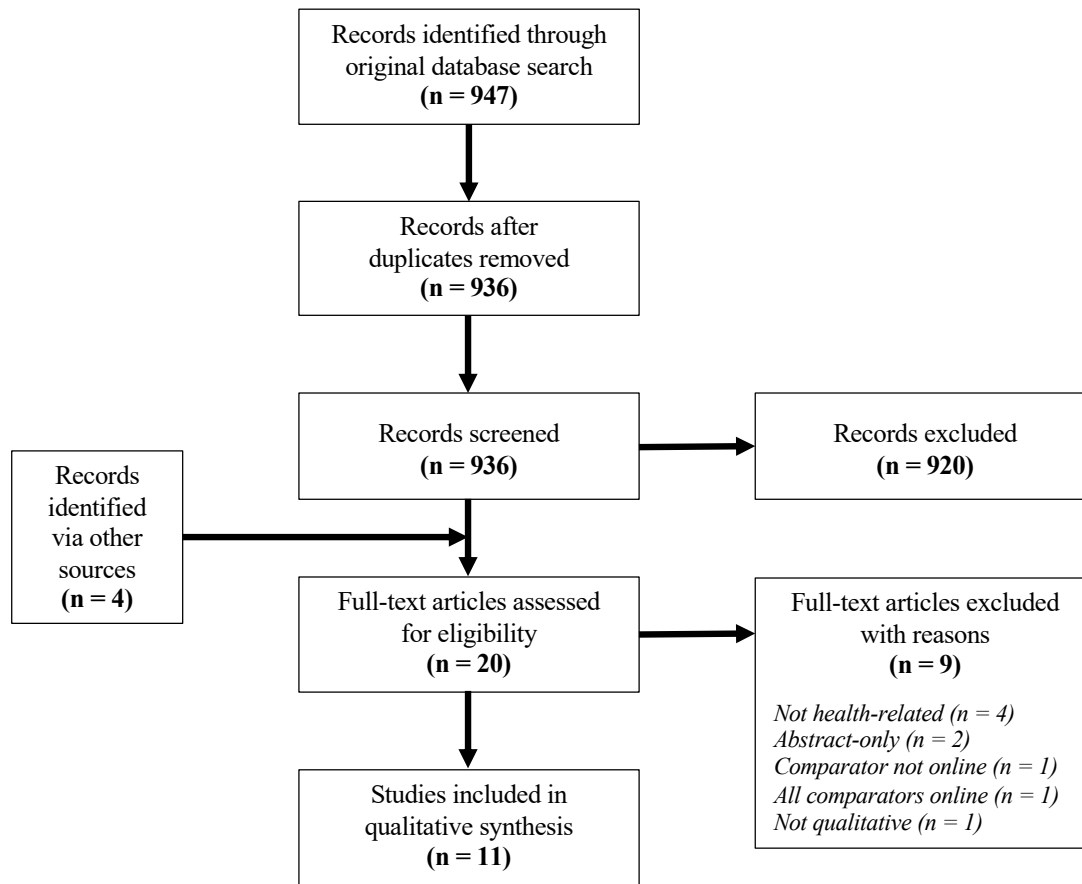
Table 1. Scoping Review Included Studies. Studies are ordered by year of publication.

<i>First Author</i>	<i>Research Question and comparison type</i>	<i>Age</i>	<i>Sample</i>	<i>Methods Compared</i>	<i>Analysis</i>
<i>Kramish-Campbell, 2001, USA</i>	Colorectal cancer: What are the attitudes, practices, and about making changes for a healthier lifestyle Focus group comparison	Mean 62 (range 49-75)	1 F2F n=6 (4F, 2M)	Face-to-face (F2F) focus group	Thematic analysis
		Mean 52 (range 39-57)	2 online N=12 (8F, 2M)	Vs. synchronous online text focus group (SOT)	
<i>Schneider, 2002, USA</i>	Health information seeking: what is the range of patient use of internet for health information; opinions on federal websites for health information Focus group comparison	'Adults'	4 F2F N="6-8"	F2F focus group	Volume and nature of data; equality of participation
			4 online N="6-8"	Vs. SOT	
<i>Graffigna, 2006, Italy</i>	HIV AIDS: Understand attitudes and practices in young people age 18-25 Focus group comparison	Ages 18-27	2 F2F 2 SOT 2 AsOT 2 AsOT + SOT	F2F focus group vs. (SOT) vs. asynchronous online text focus group (AsOT) vs. AsOT followed by SOT	Psychosocial discourse analysis and conversational analysis
<i>McCoyd, 2006, USA</i>	Pregnancy termination for fetal anomaly: what is the decision-making and bereavement process for affected women Interview comparison	'women within 2 years of the event'	7 women 20 women 3 women	In-person interview vs. email interview vs. telephone interview	Volume and nature of data; logistic & participant characteristics
<i>Nicholas, 2010, Canada</i>	Children with chronic illness and /or communication disability: what are opinions of different data collection approaches Focus group comparison	Mean 11 (range 8.5-13)	F2F n=10 AsOT n=13 Overall: 10M, 13F	F2F focus group vs. AsOT	Volume and social-relational nature of data
<i>Seale, 2010, UK</i>	Breast cancer, Prostate Cancer, Sexual Health: what is the patient experience Interview comparison	NR	45F – breast 52M – prostate 11M, 32F – sexual unknown	In-person interview vs. public forum	Comparative keyword analysis of data

<p><i>Synnot, 2014, Australia</i></p>	<p>Multiple sclerosis: what is the experience of patients integrating evidence-based health information into their care management Focus group comparison</p>	<p>Mean 49 (range 27-66) Mean 51 (range 22-73)</p>	<p>4 F2F (n=6M, 21F) 1 AsOT (n=7M, 26F)</p>	<p>F2F focus group vs. AsOT</p>	<p>Thematic analysis with interpretivist framework</p>
<p><i>Woodyatt, 2016, USA</i></p>	<p>intimate partner violence amongst gay and bisexual males: what is the perspective of those who have experienced the phenomena Focus group comparison</p>	<p>Mean 34 (range 23-45) Mean 31 (range 18-43)</p>	<p>2 F2F (n=14) 2 SOT (n=12)</p>	<p>F2F focus group vs. SOT</p>	<p>Thematic analysis; quantitative features (e.g., word count)</p>
<p><i>Rupert, 2017, USA</i></p>	<p>Type 2 Diabetes: what are patient opinions of online communication with providers (e.g., health portals) Focus group comparison</p>	<p>Mean age 52 Mean age 49 Mean age 45</p>	<p>2 F2F 2 SOC 2 Video FG Overall n=39</p>	<p>F2F focus group vs. SOT vs. online video focus group</p>	<p>Cost-effectiveness; recruitment & participant characteristics</p>
<p><i>Jamison, 2018, UK</i></p>	<p>Stroke Survivors: what are barriers and facilitators of medication adherence Interview comparison</p>	<p>Median 72 (range 61-92) Median 50 (range 46-91)</p>	<p>N=42 (7M, 21F) N=49 (21M, 28F)</p>	<p>In-person interview vs. public forum</p>	<p>Thematic analysis</p>
<p><i>Jenner, 2018, USA</i></p>	<p>Women's intentional fertility choices/Veteran navigation of educational opportunities: Characterize experiences, attitudes Interview comparison</p>	<p>NR</p>	<p>N=52 N=38</p>	<p>In-person interview vs. online video interview</p>	<p>Thematic analysis; logistic & participant characteristics</p>

Table 2. Direct, Comparative Findings for Online compared to face-to-face Approaches. (+) = Findings supported by data (*) = Findings stated in discussion or results but no supporting data given	(FG) Kramish-C.,	(FG) Schneider, 2002	(FG) Graffigna, 2006	(D) McCoyd, 2006	(FG) Nicholas, 2010	(D) Seale, 2010	(FG) Synnott, 2014	(FG) Woodyatt, 2016	(FG) Rupert, 2017	(D) Jamison, 2018	(D) Jenner, 2019
Sampling & data											
In online formats compared to F2F:											
Sensitive topics discussed more	+		+	+		+		+		+	+
Similar themes emerged	+		+	*			+	+		+	+
Responses were shorter (1 article contradictory^)	+	+	+	^	+		+	+			
Wider geographic participation	*			+					+	+	
Demographics differed	+								+	+	
Responses more on-topic (1 article contradictory^)	+				+		+	^			
Responses contained less contextual information				*	+	*					
Lower opportunity for probe/ follow-up questions						*		*		*	
Interpersonal dynamics											
Intra-group support lower	*	*			+		+			*	
Moderator had to be more active		*	*	*	+			+			
Response contribution more equal among participants	*	+	+				+				
Expressed intra-group conflict was higher							+	+			
Logistics											
Participation higher among <u>hard-to-reach/convene</u>	*			*	+				+		*
Participants reported <u>lower levels of inconvenience</u>				*	*				+		+
<u>Transcription costs lower</u> (e.g. zero)				+			+			+	
Greater <u>technology related disruption</u>				*							*

Supplementary Figure. Search Strategy Flow Diagram for the systematic search portion of the scoping review. Eligible articles directly compared face to face interview or focus groups to an online alternative.



Supplementary File

Search Strategies:**Face-to-face compared to online collected accounts of health and illness experiences: a scoping review**

All searches performed on January 7, 2019

Medline (PubMed)

Search	Query	Items found
#5	Search (#1 AND #2 AND #3) Sort by: PublicationDate Filters: English	425
#4	Search (#1 AND #2 AND #3)	438
#3	Search (Compar*[ti] OR Versus[ti] OR Vs[ti] OR Contrast* [ti] OR Difference*[ti])	953456
#2	Search (Online[tiab] OR On-line[tiab] OR Internet[tiab] OR Digital[tiab] OR Virtual[tiab] OR Chat based[tiab] OR Electronic[tiab] OR Web-based[tiab] OR Web chat[tiab] OR Web focus group*[tiab] OR Web forum*[tiab] OR Web group*[tiab] OR Web portal[tiab] OR Face-to-face[tiab] OR In person[tiab] OR On-site[tiab] OR Personal[tiab] OR Traditional[tiab] OR Conventional[tiab])	1361148
#1	Search Focus group*[ti] OR Interview*[ti] OR Qualitative[ti] Sort by: PublicationDate	72446

PsycINFO (EBSCO)

#	Query	Limiters/Expanders	Results
S5	S1 AND S2 AND S3	Narrow by Language: - english Search modes - Find all my search terms	337

S 4	S1 AND S2 AND S3	Search modes - Find all my search terms	343
S 3	TI Compar* OR versus OR vs OR Contrast* OR Difference*	Search modes - Find all my search terms	201,769
S 2	TI (online OR on-line OR internet OR digital OR virtual OR "Chat based" OR Electronic OR Web-based OR "Web chat*" OR "Web focus group*" OR "Web forum*" OR "Web group*" OR "Web portal" OR "face to face" OR "in person" OR on-site OR personal OR traditional OR conventional) OR AB (online OR on-line OR internet OR digital OR virtual OR "Chat based" OR Electronic OR Web-based OR "Web chat*" OR "Web focus group*" OR "Web forum*" OR "Web group*" OR "Web portal" OR "face to face" OR "in person" OR on-site OR personal OR traditional OR conventional)	Search modes - Find all my search terms	688,716
S 1	TI "focus group*" OR interview* OR qualitative	Search modes - Find all my search terms	39,334

CINAHL (EBSCO)

#	Query	Limiters/Expanders	Results
S 5	S1 AND S2 AND S3	Limiters - English Language Search modes - Find all my search terms	230
S 4	S1 AND S2 AND S3	Search modes - Find all my search terms	233

S 3	TI Compar* OR versus OR vs OR Contrast* OR Difference*	Search modes - Find all my search terms	217,090
S 2	TI (online OR on-line OR internet OR digital OR virtual OR "Chat based" OR Electronic OR Web-based OR "Web chat*" OR "Web focus group*" OR "Web forum*" OR "Web group*" OR "Web portal" OR "face to face" OR "in person" OR on-site OR personal OR traditional OR conventional) OR AB (online OR on-line OR internet OR digital OR virtual OR "Chat based" OR Electronic OR Web-based OR "Web chat*" OR "Web focus group*" OR "Web forum*" OR "Web group*" OR "Web portal" OR "face to face" OR "in person" OR on-site OR personal OR traditional OR conventional)	Search modes - Find all my search terms	524,173
S 1	TI "focus group*" OR interview* OR qualitative	Search modes - Find all my search terms	38,319

Web of Science (Clarivate Analytics)

[635](#) #3 AND #2 AND #1
 5 Refined by: LANGUAGES: (ENGLISH)
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI
Timespan=All years

[650](#) #3 AND #2 AND #1
 4 *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI*
Timespan=All years

[1,865,67](#) TITLE: (Compar* OR versus OR vs OR Contrast* OR Difference*)
 3 [4](#) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI*
Timespan=All years

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2
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4 # [3,940,72](#) TOPIC: (online OR on-line OR internet OR digital OR virtual OR "Chat based"
5 2 [4](#) OR Electronic OR Web-based OR "Web chat*" OR "Web focus group*" OR
6 "Web forum*" OR "Web group*" OR "Web portal" OR "face to face" OR "in
7 person" OR on-site OR personal OR traditional OR conventional)
8 *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI*
9 *Timespan=All years*
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11
12
13 # [125,563](#) TITLE: ("focus group*" OR interview* OR qualitative)
14 1 *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI*
15 *Timespan=All years*
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Embase (Ovid, 1974- Current)

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24 1. (Focus group* or Interview* or Qualitative).ti.
25 2. Online.ti. or Online.ab. or On-line.ti. or On-line.ab. or Internet.ti. or Internet.ab. or
26 Digital.ti. or Digital.ab. or Virtual.ti. or Virtual.ab. or Chat based.ti. or Chat based.ab. or
27 Electronic.ti. or Electronic.ab. or Web-based.ti. or Web-based.ab. or Web chat.ti. or Web
28 chat.ab. or Web focus group.ti. or Web focus group.ab. or Web forum.ti. or Web
29 forum.ab. or Web group*.ti. or Web group*.ab. or Web portal.ti. or Web portal.ab. or
30 Face to face.ti. or Face to face.ab. or In person.ti. or In person.ab. or On- site.ti. or On-
31 site.ab. or Personal.ti. or Personal.ab. or Traditional.ti. or Traditional.ab. or
32 Conventional.ti. or Conventional.ab.
33 3. (Compar* or Versus or Vs or Contrast* or Difference*).ti.
34 4. 1 and 2 and 3
35 5. Limit 4 to English language
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For Peer Review