Appendix E: Patient perspective and expectations on the use of real-world outcomes

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Aim and approach to the task:

The approach to this task was developed through discussions with the task partners and with the leads who developed this toolkit. The task was described in the DO->IT description of action as a briefing that summarises the patient perspective and expectations on the use of real world outcomes. The interpretation of this among task partners included both the importance of the real world setting and, in the context of developing a toolkit for the selection of outcomes, the importance of including patients in that process. Thus two broad aims were identified, to provide an overview of perspectives on the use of data for real world evidence and an overview of strategies for including patients in COS selection. Regarding the first section on data sharing, we discuss the views of the public more generally as well as patients.

This briefing is informed entirely by desk research. Literature review was used to inform both aims of the task. The strategy used searching the literature is described in more detail within each section.

Part I: Motivators and barriers for patients and the public in sharing their data

This section provides an overview of various factors identified in the literature which influence patient's and the public's decisions to share their data. This was considered pertinent for this task and the toolkit due the need for real world data (RWD) to be shared for projects using big data and for the provision of real world evidence (RWE). RWE in health research is largely dependent upon patients consenting to share their electronic health records (EHR) as well as insurance claims data, product and disease registries and health monitoring devices.

Methodology of this section:

This section summarises some important factors influencing patient's decisions to share their data based on a literature review of research in this area[1]. A review was conducted by searching PubMed using the search terms "patient" & "data" and "patient" and "EHR", titles and abstracts and the bibliographies of included articles were screened for relevant research. Articles reviewed had focused on public and patient perceptions of sharing patient data for research purposes. Studies reviewed included both qualitative and quantitative research, many of which had small, focused samples and most indicated that their findings were not generalizable or representative of broader patient or general populations.

Motivators and barriers

Factors influencing decisions to share data varied both within and across the studies reviewed. Patient concerns regarding the use of their data for research purposes varies across populations depending on their socio-demographic characteristics. Across the studies reviewed, it was also apparent that there were differences on the basis of the patient population and the geographic area. Within studies, it was evident that there was a diverse range of views about the acceptability of data sharing. However, common themes relating to concerns about data sharing did emerge from the studies reviewed. These related to what the data was being used for and who requested their data; anonymity; privacy; data security; their knowledge of RWE; and preferences regarding consent. Common across several studies was that patients felt a conflict between sharing their data for a common good and protecting their personal privacy.

Some factors that may influence patients' willingness to share their data are summarised below.

1

What is the data being used for?

The purpose of the research, whether it was for epidemiological or commercial purposes, was an important factor for many. Contributing to better understanding of the causes of disease, development of effective treatments and resource allocation influenced willingness to share data in one study reviewed (1). However, the commercial exploitation of health information was viewed as a negative consequence of data sharing and pharmaceutical organisations were not viewed in the same light as other parts of the healthcare system or users of healthcare data (1). Similarly, participants were supportive of data sharing but were concerned about corporate involvement in distributed research networks findings in another qualitative study, (2). They indicated that openness about who would use the data helped build their trust (2).

In one study reviewed, the greater participants perceived the benefit to public from the research, the less restrictive they were in their sharing preferences (3). Concerns about insurance and pharmaceutical companies was a theme in many of the studies reviewed (1, 2, 4, 5). Though in one study, participants reflected that motivation to improve profits was a strong incentive to improve health technologies and which would ultimately benefit patients (2). While in another, no differentiation was made between different types of researchers indicating that some may not differentiate between commercial and non-commercial uses of data (5).

Who requests the data

The institutions involved in the research or requesting consent was also an influential factor for patients. Patients felt more positive about sharing their data if encouraged to do so by the NHS or their GP as this was seen as lending credibility to research (6). Patients indicated a high level of trust in their GPs and suggested that if their doctor encouraged them to share their data or participate in a study, they would be likely to do (2). The authors suggested patients and the public may have greater trust in individuals rather than institutions. Patient advocacy groups were highlighted as having potential to enhance understanding of and trust in the use of RWE in a roundtable on RWE hosted by the National Health Council (NHC) (NHC, 2017).

Privacy

Risks to the loss of privacy was a factor requiring consideration for many in the studies reviewed. The risk that individuals could be identified from EHR was deemed to be small by one group of respondents, however the consequences of such a breach were considered substantial (1). In one study, female respondents were more concerned about breaches of confidentiality on a local level while men were more concerned about the potential impact of a breach on employment and insurance in a survey on attitudes to data sharing (4). Patients in another study had the perception that sharing their EHR would introduce risks to loss of privacy via hacking or lax security and that these increased with large scale sharing (e.g. distributed research networks) (2). Participants were concerned about unauthorised access to their data when shared for research but did not perceive the same risks to exist when EHR were being used for delivery of care (7). One study which focused on patients' concerns about EHR more generally included respondents who had formerly worked for the NHS and they indicated a lack of trust in the organisation's competence and ability to protect their data due to their experience of it as well as due to the increasing privatisation of the NHS (1). An issue which emerged in several of the studies reviewed was that patients and the public were often unaware of practices and safeguards regarding data security and confidentiality (7).

Sensitive data

Another factor was the sensitivity of data being shared; the stigma associated with certain medical conditions influenced people's willingness to share data. Patients viewed their data hierarchically ranging from demographics to sensitive histories and became increasingly reluctant to share in one study (5). Socio-economic data can also be perceived as sensitive, in

one study, respondents were less willing to share income, occupation and education data than biological samples (3). Anxiety about protection of privacy also varied with the medical condition, in one study respondents were concerned about whether mental health records would be treated sensitively (7). In another study, participants did not change their data sharing preferences on the basis of whether their illness stigmatized or not (3).

Anonymity

Anonymization was another issue affecting patient's preferences in sharing their data, in studies which used hypothetical consent scenarios, patients and the public were happier to share data, more sensitive information and with broader networks if it were anonymised. However, it also emerged in some studies that patients did not always have a clear understanding of anonymization or risks to identification (1). Respondents had mixed views on secondary sharing of de-identified data, some felt secondary use of de-identified data was reasonable while others felt it may be contrary to the wishes of those participating in the study (7).

Understanding RWE

A common theme in studies reviewed was a lack of awareness about the use of RWE. One study undertook qualitative research with patients who had opted out and patients who participated in the Health Research Support Service (6). It found patients did not understand the process of selection into the study, that they were unaware that their data were not anonymised prior to leaving the practice and some were unaware that participation did not require an opt in or that they needed to have opted out in order not to participate (6). Research has also shown that patients with increased awareness about RWE was associated with greater acceptance of implicit consent in the case of sharing de-identified data (8) suggesting greater understanding of RWE may improve willingness to share data. A roundtable on patient perspectives on RWE found that patients had little understanding of RWE and they felt that a common definition would be helpful (9)

Consent

Research has indicated that factors influencing whether patients consent to data sharing are related to the sensitivity of the data, the nature of their inaction with and their trust in the recipient of the data and the extent to which they feel informed about how their data will be used (8). The use of opt-out as a proxy for consent and time limits on opting out were seen as a concern for many participants in one study (6). Different research studies have suggested varying levels of support for different forms of consent. One study found a large proportion of respondents objected to the use of their EHRs without explicit informed consent (10) other research found similar results but that this varied depending on whether records would be identifiable as well as on the basis of respondents socio-demographic characteristics (8). However, in a study which presented patients with a range of hypothetical options for opt in to the sharing of their records, most favoured a broad opt-in where they gave consent one time to having their information included in multiple future studies (2). Whereas in another piece of research, patients advocated providing consent at multiple times for multiple studies (4). Additionally, differences have been found between patients reported preferences for consent and data sharing and their actual behaviour.

Part II: The development of Core Outcome Sets – observations on involvement and/or participation of patients and carers

Methodology of this section:

This section is based on several publications judged as specifically meaningful for involving patients and carers in COS, these are referenced throughout and available in the bibliography. The publications informing this section are not exhaustive and a full systematic review was beyond the capacity of the task producing this section of the Toolkit. The IMI project Patient Preferences in Benefit-Risk Assessments during the Drug Life Cycle (PREFER) has developed evidence-based recommendations on the inclusion of patient perspectives in health care processes and the Outcome Measures in Rheumatology (OMERACT) Handbook on "Outcome Measures in Rheumatology" are excellent resources in this context.

The COMET initiative however played a specifically important role in the selection of reference publications and this report. A key resource for this summary is a commentary on three interactive workshops of 2014, 2015 and 2016 with patients, health care professionals and other stakeholders, led by COMET experts and resulting in the creation of the People and Patient Participation, Involvement and Engagement (PoPPIE) Working Group.

A list of further practical considerations on patient involvement and participation in COS development which have been adapted from experiences and recommendations made from a three COMET workshops in 2013 -2015. This section largely summarises the subsequent publication based on these produced by Young et al (11). The original publication can be found here: https://researchinvolvement.biomedcentral.com/articles/10.1186/s40900-016-0039-6.

Considerations before accessing and sampling patients:	• Patient partners, clinicians, researchers and other stakeholders **should be treated equally** concerning potential bias arising from conflicts of interest such as sources of funding. • COS developers should **clearly define** when the role for patient partners is to participate in the COS development consensus process or to be a research partner involved in designing and supervising it. • To obtain meaningful input, COS developers should provide patients or their representatives with sufficient **training or support** to enable them to correctly complete the COS development tools. This is particularly important with rigorous methods such as Delphi surveys conducted by post or online. • A diversity of perspectives should be obtained by consulting different patient partner groups. This will ensure as many important outcomes are identified as possible. The OMERACT and COMET handbooks provide more details about this (12, 13). • COS development research methods and access routes should be **fair and accessible** to patient participants. Specific attention needs to be paid to any potential limits caused by the condition of interest.

	• **Diverse sampling** can be achieved by recruiting patients from a mix of health clinics, patient organisations and social media. Involving a patient organisation in this process may increase the willingness of gatekeepers to recruit patients and of patients to participate. • COS development may constitute a research activity and therefore **ethical approval** needs to be acquired for all participants.
Find the appropriate patient input method:	• COS developers need to ensure the research methods **suit both the needs and preferences of the particular patient group(s)** whose input is being sought. • **Qualitative interviews** can be used at the beginning and end of the process to accurately capture all patients' points of view, the existing literature or previously conducted research may also provide insights into this. • **Delphi surveys** can be used to ensure a wide, transparent and anonymous patient participation. • Qualitative methods can be used to gain patient perspectives on: o The limiting aspects of their condition o Their hopes for new treatments o The factors affecting whether or not to try a new treatment o The signs that a treatment is working
What is a COS (core outcomes set)? ***Explain this concept to patient partners in lay language:***	• **Qualitative interviews** or focus groups do not require patient participants to understand COS concepts. Patients are free to describe their experiences using their own language. • **Delphi or other consensus methods** require patient participants to understand COS concepts terminology such as outcomes and research methods. Patient research partners can help COS developers to explain these concepts and terminology to patient participants. • The need for a cure may be a highly important outcome that patient participants may prioritise. COS developers should

	recognise this need but also support patient participants to explore other outcomes that might also matter to them. • **Patient research partners** can assist developing postal and online questionnaires to ensure the questions are meaningful to the target patient population and written in appropriate language.
Maintain input of patients over time	• COS development methods often require patient participants to provide their input on one or more occasions. To reduce the likelihood that participants will drop out during the process, build a rapport with them, give them a sense of ownership and manage their expectations from the start. During the process, maintain their interest, take into account their effort and time constraints and recognise their contribution. At the end of the process, ensure that costs are appropriately reimbursed and provide feedback in accessible language.
Stakeholder groups in a COS consensus process	• Joined stakeholder meetings allow integration of stakeholder views. To ensure that each participant provides their input and a true consensus is reached in joined stakeholder meetings, a constructive environment should be created with a skilled facilitator. These meetings require careful preparation to understand the objectives and agendas that each stakeholder brings to the table.
Choose the facilitator(s) wisely!	• The responsibility of a skilled facilitator is to reconcile conflicting perspectives between patient participants and other stakeholders. The facilitator need not be an expert in the medical field; in this case, it is possible to envisage that the researcher or a patient partner co-facilitates the meeting.

TIP: Make it clear to all participating stakeholders of a COS development process that they need to be genuinely open to challenge, are prepared to explain their reasoning and ready to reconsider their opinion in the light of a good argument!

A lay summary of core outcome sets (from COMET) which could be useful to share with patient participants can be found here.

1. Papoutsi C, Reed JE, Marston C, Lewis R, Majeed A, Bell D. Patient and public views about the security and privacy of Electronic Health Records (EHRs) in the UK: results from a mixed methods study. BMC medical informatics and decision making. 2015;15:86.
2. Mamo LA, Browe DK, Logan HC, Kim KK. Patient Informed Governance of Distributed Research Networks: Results and Discussion from Six Patient Focus Groups. AMIA Annual Symposium Proceedings. 2013;2013:920-9.
3. Willison DJ, Steeves V, Charles C, Schwartz L, Ranford J, Agarwal G, et al. Consent for use of personal information for health research: Do people with potentially stigmatizing health conditions and the general public differ in their opinions? BMC Medical Ethics. 2009;10:10-.
4. Buckley BS, Murphy AW, MacFarlane AE. Public attitudes to the use in research of personal health information from general practitioners' records: a survey of the Irish general public. Journal of medical ethics. 2011;37(1):50-5.
5. Whiddett R, Hunter I, Engelbrecht J, Handy J. Patients' attitudes towards sharing their health information. International journal of medical informatics. 2006;75(7):530-41.
6. Stevenson F. The use of electronic patient records for medical research: conflicts and contradictions. BMC Health Services Research. 2015;15:124.
7. Robling MR, Hood K, Houston H, Pill R, Fay J, Evans HM. Public attitudes towards the use of primary care patient record data in medical research without consent: a qualitative study. Journal of medical ethics. 2004;30(1):104-9.
8. Riordan F, Papoutsi C, Reed JE, Marston C, Bell D, Majeed A. Patient and public attitudes towards informed consent models and levels of awareness of Electronic Health Records in the UK. International journal of medical informatics. 2015;84(4):237-47.
9. NHC. Patient Perspectives on Real-World Evidence: A Roundtable to Gather Views, Needs, and Recommendations. 2017.
10. Toccaceli V, Fagnani C, Stazi MA. Medical Records Confidentiality and Public Health Research: Two Values at Stake? An Italian Survey Focus on Individual Preferences. Journal of Public Health Research. 2015;4(1):401.
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12. Williamson PR, Altman DG, Bagley H, Barnes KL, Blazeby JM, Brookes ST, et al. The COMET handbook: version 1.0. Trials. 2017;18(3):280.
13. Boers M, Kirwan JR, Tugwell P, Beaton D, Bingham C, Conaghan PG. The OMERACT handbook. Ottowa, ON, Canada: OMERACT. 2014.