Health Services and Outcomes Research Methodology
https://doi.org/10.1007/s10742-026-00389-6

Developing a Core Outcome Set for oropharyngeal dysphagia screening services in hospitals: a modified Delphi study

Caroline Smith[1] · Lizelle Bernhardt[1,2] · Linda Birt[1] · Dharinee Hansjee[3] · Lynn MacDiarmid[2] · Joseph C. Manning[1] · Paresh Parmar[4] · David Smithard[5] · David Wright[1]

Received: 10 October 2025 / Revised: 13 April 2026 / Accepted: 30 April 2026

Abstract
Core Outcome Sets (COS) are used by researchers to enable synthesis and comparison of results from trials in similar patient groups and contexts. Around 50% of older adults on care of the older person wards may have Oropharyngeal Dysphagia (OD). Routine OD screening may reduce the risk of mortality and duration of hospital stay. Research is required to identify the effectiveness and cost-effectiveness of an OD screening service. Using a modified Delphi methodology, this study aimed to develop a COS for trials evaluating hospital-based OD screening services. A long list of outcomes, created from a systematic review and similar existing COS, was sent out to nurses, speech and language therapists (SLT), pharmacists, senior hospital staff, researchers, people with OD and carers who rated each outcome's importance using a Likert scale to help refine this list. A 90-minute online consensus workshop then finalised the COS. 54 outcomes were sent to 34 stakeholders at round one. 25 outcomes were sent to 28 stakeholders at round two.13 stakeholders finalised the COS in the consensus workshop. The final COS consists of; mortality, aspiration pneumonia, choking, medication intake, patients' experience with the intervention, swallowing-related quality of life, hospitalisation & proportion of patients referred to SLT. This study developed the first COS for evaluating OD screening services in care of the older person hospital wards. Adoption of this COS will facilitate consistency in outcome measurement, evidence synthesis and translation of OD research into clinical practice.

Keywords Swallowing difficulties · Secondary care · Older adults · Core Outcome Set

Extended author information available on the last page of the article

Published online: 13 June 2026

1 Introduction

Oropharyngeal dysphagia (OD) is estimated to be prevalent in a third of adults aged≥65 years (Doan et al. 2022). This prevalence may increase to almost half of older adults in hospital (Doan et al. 2022) and over 80% in hospitalised older adults with dementia (Espinosa-Val et al. 2020). As such, it is considered a geriatric syndrome, along with other conditions such as incontinence, frailty, functional decline and delirium (Baijens et al. 2016; Carlson et al. 2015). However, it is currently not routinely screened for in 'care of the older person' hospital wards (Smithard et al. 2019). This is in contrast to stroke wards, where routine screening for OD has been demonstrated to reduce risk of aspiration pneumonia, mortality, people with OD's dependency and length of hospital stay (Sherman et al. 2021).

If left unidentified, OD can lead to aspiration pneumonia. A meta-analysis of 6 studies found frail older adults with OD are 9 times more likely to develop aspiration pneumonia compared to older adults without OD (Van Der Maarel-Wierink et al. 2011). Oropharyngeal dysphagia also increases individuals' risk of weight loss and malnutrition (Banda et al. 2022) as well as dehydration in hospitalised older adults (Viñas et al. 2024). Furthermore, people with OD and their carers report significant psychological burden as a result of OD, which impacts on family dynamics, social life and independence (Li et al. 2022; Yi et al. 2024). Oropharyngeal dysphagia not only results in increased risk to patient health but also increased health service resource utilisation. A 2018 systematic review of 23 studies reported the length of hospital stay for people with OD in Europe is up to 8 days longer than people of similar demographics without OD, and increases healthcare costs by 40% (Attrill et al. 2018). The mean attributable cost of OD across the studies included in this review was calculated at £9,417 (Attrill et al. 2018).

Screening can facilitate early identification of OD by identifying people *"at risk for swallowing problems" (pg. 334–336)* (Speyer et al. 2022). This subsequently enables referral for further assessment(s) by an OD specialist (e.g., speech and language therapists [SLTs]) and medication review to ensure formulation suitability and safety. In other settings and clinical populations, screening is typically conducted by nurses (Heaton et al. 2020). Nurse-led OD screening not only prevents avoidable harm, but also optimises care pathways, enabling SLTs to prioritise assessments based on screening outcomes (Benfield et al. 2022).

To facilitate the early identification of OD, a wide range of simple OD screening tools and protocols have been developed and extensively reviewed (Boaden et al. 2021). However, having these tools available does not mean the most appropriate one for the context and population are used, or if any screening tool/process is used at all. Introducing a new behaviour (e.g., OD screening), and changing healthcare professional practice to include this new behaviour, is a complex process (Bauchner et al. 2001). There are numerous determinants which may influence and/or prevent an individual from undertaking a behaviour e.g., their knowledge, confidence, skill, external influence etc. (Bauchner et al. 2001). We not only need to determine the best tool and pathway by which nurses can screen for OD, but also understand how best to support nurses to change their practice to routinely screen for OD and consider how best to manage care thereafter.

We, therefore, plan to develop an OD screening service for implementation on 'care of the older person' hospital wards. This will comprise; (a) a behaviour change intervention to address the main barriers and enablers to nurses routinely screening for OD on care of the older person wards and (b) a screening and referral pathway. This will provide a systematic

and effective process by which nurses can screen for OD, refer on to SLT as appropriate and initiate other care processes, such as medication reviews.

To design a definitive trial which will evaluate this screening service, key outcomes that are feasible to collect, relevant and of value to healthcare services and people with OD need to be established. Core Outcome Sets (COS) are an agreed standard set of outcomes which should be measured and reported, as a minimum, in clinical trials for a specific health condition or area of healthcare. Development and use of a COS by researchers enable comparison across similar trials and increases the relevance of results from trials and future research which references this work (Kirkham et al. 2017). Some Core Outcome Sets could also be suitable for use in routine care, clinical audits and quality/service improvement projects. Currently, there is no COS for dysphagia screening in older adult hospital wards. A 2022 white paper by the European Society for Swallowing Disorders identified the development of a Core Outcome Set as an urgent need in the field of OD research in order to improve healthcare pathways for people with OD (Speyer et al. 2022). Another key characteristic across OD research, is the variation in term definitions. At a superficial level, researchers may well look at the 'same' outcome, but use different definitions or criteria by which to determine the presence, severity, number of etc., that outcome (Speyer et al. 2022). For example, a systematic review exploring the prevalence of OD across different settings reported heterogeneity in OD definitions, screening tools, screening cut-offs and thresholds, screening timing, and use of reference standards, with studies often conflating screening, assessment and diagnosis (Rivelsrud et al. 2023). Developing a Core Outcome Set will not only identify the outcomes all researchers should measure, but also provides the definition, and thus scope, of these outcomes.

As we intend to develop and test a new screening service, the aim of this study was to develop a COS for researchers conducting clinical trials which evaluate OD screening services in care of the older person hospital wards. The study objectives were:

a. To identify, from existing literature, previously reported outcomes relevant to oropharyngeal dysphagia screening in care of the older person hospital wards.
b. To prioritise outcomes based on their importance to relevant stakeholders including people with oropharyngeal dysphagia, carers, healthcare professionals, hospital managers and researchers.
c. To achieve consensus on a minimum set of relevant outcomes (i.e., a Core Outcome Set) for oropharyngeal dysphagia screening services in care of the older person hospital wards. This current study focused on agreeing which outcomes should comprise the COS (outcome measurement instruments and timepoints for measurements were outside this current study's scope).

2 Methods and materials

We followed accepted processes and procedures for the COS including registration on the COMET (Core Outcome Measures in Effectiveness Trials) database (https://www.comet-initiative.org/Studies/Details/3438). Ethical approval was obtained from the University of Leicester General Research Ethics Committee (Project ID: 3236). This manuscript also follows the COS-STAR reporting guidelines (Kirkham et al. 2016) (see supplementary file 1).

2.1 The study steering group

Study decisions and progress was overseen by the project's steering group (SG). The SG comprised academics (a trialist, statistician, health economist and qualitative researcher) and clinical academics (three nurses, two pharmacists, two SLTs and a geriatrician) with significant topic and methodological expertise. The project also formed and worked alongside a group of six patient and public involvement (PPI) advisors who have lived experience of OD or have cared for a family member with OD. The PPI team were involved at all stages of the study; including reviewing study documents, reviewing outcome definitions and participating in the consensus workshop.

2.2 Phase 1: Identifying and reviewing potentially relevant outcomes

In phase 1, a long list of outcomes which could comprise the final COS, was developed. All reported outcomes from three previously developed OD COS from other clinical populations and/or settings were collated:

- Dysphagia interventions in critical care (Duncan 2020; Sallyanne Duncan et al. 2020; Sallyanne Duncan 2023).
- Dysphagia interventions in Parkinson's disease (Julia Hirschwald et al. 2023, 2024a, b)*.
- Patient-reported dysphagia in head and neck cancer (Manduchi et al. 2024).

**Please note*, *at the time of developing the COS*, *the 2025 Hirschwald results manuscript had not yet been published. Therefore*, *the 2023 scoping review* (Julia Hirschwald et al. 2023, 2024a, b *mixed methods study* (Hirschwald et al. 2024a, b) *were used to inform the development of the long list of outcomes.*

A systematic review of trials evaluating OD screening interventions in stroke wards was also reviewed to identify any additional relevant outcomes (Sherman et al. 2021).

See supplementary file 2 for the step-by-step process followed to develop the long list of outcomes.

All outcomes listed in the COS and systematic review were entered into separate sheets in an Excel spreadsheet. For each of the COS, outcomes were grouped under the domains developed by the study authors e.g., General swallowing related outcomes, Respiratory outcomes, Global quality of life, Delivery of care etc. (Julia Hirschwald et al. 2023), and listed in alphabetical order within these domains. Figure 1 provides an example extract from the Excel file for one of the existing COS.

All outcomes were then merged into one spreadsheet. As the domains used by the COS authors all mapped onto the Dodd et al., taxonomy (Mortality, Physiological, Life impact and Resource use), this was initially used to broadly group outcomes (Dodd et al. 2018). With the project steering and PPI groups, these domains were then refined to; Mortality, OD related clinical outcomes, Other clinical outcomes, Patient reported outcomes and Process outcomes. See Fig. 2 for an example extract from the Excel file.

Organising outcomes in alphabetical order within these domains facilitated the research team to merge similar/overlapping outcomes and identify other relevant outcomes that were missing. At this stage, outcomes were included in the list regardless of feasibility or mea-

Outcome name	Definition provided by authors
Physiological/ clinical	
General swallowing realted outcomes	
Cortical reorganisation	
Drooling	Changes in frequency and severity of saliva leaking out of the mouth
Initiation of pharyngeal swallow	Changes in overall speed of swallowing
Laryngeal elevation	
Laryngeal sensation	Changes in feeling of food or liquids being stuck in the throat
Motor evoked potential	
Oral bolus transport	Changes in speed of food or liquids passing through the mouth
Orolingual bolus control	Changes in control over food or liquids in the mouth
Oropharyngeal dysphagia severity	Changes in overall swallowing serverity socres
Penetration/ aspiration	Food, fluids or saliva enters the voice box or airway
Piecemeal deglutition	Changes in need to break down food or liquids in the mouth in order to swallow
Post swallow oral residue	Changes in food or liquids left in the mouth after swallowing

Fig. 1 Example of initial outcome grouping completed for the outcomes in the Hirschwald et al. Core Outcome Set. Outcome names were extracted from the associated scoping review (Julia Hirschwald et al. 2023) and definitions from the associated Delphi study (Hirschwald et al. 2024a, b)

Outcome name	Definition provided by authors	Author
Physiological outcomes		
Dysphagia related clinical outcomes		
Aspiration rates	Number of participants aspirating (Entry of material i.e., saliva, food, fluids or gastric contents) into the airway below the level of the true vocal folds.)	Duncan
Aspiration pneumonia	An acute airway infection likely caused by food, fluids or saliva getting into the airway	Hirschwald
Choking	Changes in frequency of chopking episodes (when a person feels an obstruction of the air way by food, fluids or saliva and breathing is perceived to be impeded)	Hirschwald
Cough production	Changes in cough strength so the airway/windpipe can be cleared easier	Hirschwald
Cough sensitivity	Changes in coughing as a response of feeling food or liquids going down the wrong way	Hirschwald
Drooling	Changes in frequency and severity of saliva leaking out of the mouth	Hirschwald
Efficiency of cough reflex	The strength of the cough reflex for clearing saliva / food or fluids out of the voice box or lungs	Duncan
Functional oral intake scores		Duncan
Increased salivary flow		Duncan
Increase in substance P concentration in saliva		Duncan

Fig. 2 Example extract of the un-edited merged outcome grouping

surement issues that might be identified during the process of developing the list (e.g., no validated measure exists). However, outcomes were removed if deemed not relevant to our target behaviour (OD screening), patient population (older adults), healthcare professional population (nurses) and/or setting (care of the older person hospital wards).

Where no definitions of the outcomes were provided, we referred to the relevant literature and expertise of the SG team to develop definitions. Figure 3 provides an example of the synthesis process; providing the outcome name, the author(s) associated with that outcome, the definition for that outcome and SG generated outcomes in red. The author's name is provided in brackets for a definition where more than one author is linked to an outcome.

All outcome definitions were then reviewed by the PPI group before sending out to study participants in Phase 2 to ensure all definitions were easy to understand.

2.3 Phase 2: Two round Delphi questionnaires

Having developed the long list of outcomes, in phase two a Delphi method was used to achieve consensus about which outcomes are the most important to include in the COS. A Delphi approach using multiple rounds of questionnaires allows stakeholders from across the country to independently rate outcomes and then consider the views of others in the subsequent round(s) (Williamson et al. 2017).

We conducted a two-round questionnaire, hosted on Microsoft® Forms, completed by stakeholders over 3 a month period. Participants were also given the option to have a physi-

Outcome name	Author(s)	Definition
Physiological outcomes		
Dysphagia related clinical outcomes		
Aspiration pneumonia	Hirschwald	An acute airway infection likely caused by food, fluids or saliva getting into the airway
Choking	Hirschwald and Manduchi	Changes in frequency of chopking episodes (when a person feels an obstruction of the air way by food, fluids or saliva and breathing is perceived to be impeded) ***(Hirschwald)***
Intervention related adverse	Duncan	Complications occurring during a clinical trial
Level of oral intake	Duncan and Hirschwald	Changes in how food and liquids are taken (e.g., via mouth, feeding tube, pureed diet, thickened liquids) ***(Hirschwald)***
Medication intake	Hirschwald	Changes in swallowing medication
Number of patients needing PEG feeding	Duncan	Number of patients needing a feeding tube to get nutrition through the stomach (also known as PEG feeding).
Aspiration rates	Duncan	Number of participants aspirating (Entry of material i.e., saliva, food, fluids or gastric contents) into the airway below the level of the true vocal folds.
Pneumonia rates	Duncan, Hirschwald and Sherman	Number of participants getting a chest infection while in hospital ***(Duncan)***
Severity of aspiration	Duncan and Hirschwald	How far into the upper airway food, fluid and/or saliva travels, how aware a patient is of this happening and whether they successfully clear or cough out this aspirated material from their airway ***(Duncan)***
Swallow function	Duncan and Hirschwald	Overall ability of swallowing which involves holding fluids and chewing food in the mouth, pushing and safely clearing food and fluids through the throat and into the top of the food pipe in a timely manner ***(Duncan)***
Time to feeding tube removal	Duncan	The length of time until a feeding tube is removed
Time to return to oral intake	Duncan	Length of time it takes a patient to get back to food or fluids by mouth
Total days of enteral feeding	Duncan	Total days a patient receives nutrition via a feeding tube (known as enteral feeding). This may be via their nose, stomach or small intestine.
Weight loss	Hirschwald	Changes in body weight related to swallowing difficulties

Fig. 3 Example of refined long list of outcomes to include in the Core Outcome Set. (Red font denotes a definition developed by the study team- colur figure online)

cal copy of the questionnaire posted out to them (and with the research associate over the telephone if requested).

2.4 Participants

We sought representation from up to 15 stakeholders from each of the following groups:

- Nurses working ≥ 50% full time equivalent on care of the older person wards (who will be the key healthcare professional delivering OD screening on older person wards).
- Hospital-based speech and language therapists (healthcare professionals involved in OD assessment and management).
- Hospital-based pharmacists (healthcare professionals involved in medication management for adults with OD).
- Senior hospital staff e.g., Ward matrons and managers (Professionals who will be involved in the implementation and delivery of the intervention).
- People with OD and carers (Recipients of the intervention).
- Academic researchers with an interest/expertise in OD (Those who may use the COS).

With 10–15 participants per stakeholder group and an anticipated six groups, this would provide a maximum of 90 participants. Estimating attrition at no more than 20% following each stage, the final number after the first two rounds would be just under 60, which is sufficient for rating purposes and for recruitment to our final workshop (Manyara et al. 2024).

To help characterise stakeholders and facilitate a diverse selection of participants, participants were asked to provide the following demographic information when expressing their interest to participate in the study:

- Name.
- Gender.
- Age range.
- Region where they live/work.
- For healthcare staff, their professional role, years in current profession and organisation name.
- For academic staff, their professional role, years in current profession and organisation name.

Participant demographics would have been referred to help stakeholder selection if we received a high number of expressions of interest (i.e., to help ensure the stakeholders we did contact to take part were varied in terms of geographic location, years of experience etc.).

2.5 Recruitment

PPI groups and networks were utilised to invite individuals who have either lived with OD or cared for someone living with OD to participate in the study.

Academic researchers and healthcare professionals were invited to participate using the research team's networks, including the Royal College of Nursing older people forum,

Council for Allied Health Professions Research, UK Clinical Pharmacy Association and UK Swallowing Research Group.

Study invites were sent out via email and included a Participant Information Sheet, privacy notice and link to an expression of interest form (hosted on Microsoft® Forms).

Upon completing the expression of interest form, the link to the online questionnaire was sent out to participants. For participants who requested a physical copy of the questionnaire in the expression of interest form, the research associate (CS) contacted them to arrange delivery.

2.6 Delphi questionnaire

Outcomes were presented in the questionnaires within the domains described in Phase 1. In round 1 of the questionnaire, participants rated each outcome's importance using a 5-point Likert scale ('Definitely important,' 'Important,' 'Unsure', 'Not important' or 'Definitely not important'). Participants could also provide a rationale for their ratings in an open text box after each outcome, and suggest additional outcomes they felt weren't currently represented in an open text box at the end of each outcome domain section. Each round was open for 3 weeks and one reminder was sent at the end of week 1. Responses from paper questionnaires were manually entered into the online platform by the research associate.

As selection of outcomes for COS are notoriously conservative, outcomes which reached the consensus threshold to include were removed from the questionnaire to be presented and discussed during the Phase 3 consensus workshop. This would then minimise participant burden in the second survey. This approach has been used in other published COS studies (Martin-Kerry et al. 2022, 2025). Outcomes which reached consensus to exclude would also be removed from the questionnaire and excluded from further deliberation. Outcomes which failed to reach consensus, and any new proposed outcomes from round 1, progressed to the round 2 questionnaire for re-rating/rating.

In round 2, participants were presented with the overall rating each outcome received from the stakeholder groups during round one. Participants were also sent a copy of their own scores from round one. Core Outcome Set studies often report challenges with conservative outcome rating, with participants indicating the majority of outcomes are 'important,' or 'critical' to include. Likert scales with fewer categories may reduce ambiguity and facilitate more decisive responses (De Meyer et al. 2019). Therefore, for the round 2 questionnaire, the Likert scale was reduced from 5 points, to three. Participants were asked to re-rate each remaining outcome using a 3-point scale: 'Important,' 'Unsure' or 'Not important.'

Outcomes reaching consensus in round 2, or those achieving partial consensus (i.e., endorsed by at least one stakeholder group), advanced to the Phase 3 consensus workshop to ensure representation of all key perspectives, including people with OD.

2.7 Data analysis

For the round 1 questionnaire, consensus to retain an outcome was set at $\geq$70% of participants in each stakeholder group rating an outcome as 'Definitely important' or 'Important'. Consensus to exclude would occur if the opposite was true. Partial consensus was met if an outcome was rated as 'Definitely important' or 'Important' by 70% or more of participants from at least one stakeholder group.

New outcomes proposed by participants in round 1 were reviewed by the study research team to determine if they were appropriate to include in the round 2 questionnaire for participants to rate. Decisions to keep or discard were based around the following:

- Is the proposed outcome already captured by an outcome already in the long list? (i.e., is it discrete from the current outcomes, or is there significant overlap with an existing outcome?)
- How proximal/relevant is to the COS scope? (i.e., relevance to our target behaviour [OD screening], patient population [older adults], healthcare professional population [nurses] and/or setting [care of the older person hospital wards])

Consensus thresholds were the same for the round 2 questionnaire; consensus to retain an outcome was set at ≥70% of participants in each stakeholder group rating an outcome as 'Important'. Consensus to exclude would occur if the opposite was true (≥70% of participants in each stakeholder group rating an outcome as 'Not important'). Partial consensus was met if an outcome was rated as 'Important' by 70% or more of participants from at least one stakeholder group.

2.8 Phase 3: Consensus workshop

Following the completion of the round 2 questionnaire, we convened a 90-minute online consensus workshop. This workshop followed the principles of Nominal Group Technique. This allows stakeholders to collaboratively discuss rationales for including/excluding certain outcomes and come to a shared understanding of which outcomes should comprise the final COS (Harvey and Holmes 2012).

Up to 4 representatives of each stakeholder group could be invited to take part. This would ensure sufficient representation of our key stakeholders and facilitate all participants to input on group discussions and decisions (Harb et al. 2021). The aim of the workshop was to finalise which outcomes would be included in the COS.

The workshop was hosted on Microsoft® Teams and recorded and transcribed using the Microsoft® Teams functions.

Participants that consented to participate in the Phase 3 workshop were sent a link to the online workshop as well as the list of outcomes which reached consensus to include and partial consensus.

Outcomes which reached partial consensus were first presented to workshop participants. These were presented in order of the number of participants which voted them as 'important' in the Phase 2, round 2 questionnaire (from lowest to highest number of 'important' responses). Participants were then invited to discuss if any of the outcomes were critical to keep and discuss during the latter half of the workshop.

During a 5-minute break CS inputted any partial consensus outcomes identified as critical by workshop participants into an online Microsoft® Form. This form also included outcomes which achieved consensus to include after the Phase 2, round 1 and 2 questionnaires.

Participants were then asked to re-rate the remaining outcomes via the Microsoft® Forms activity, considering if:

- The outcome is important to patients and patient-centred care.

- The outcome will help commissioners, and other key stakeholders, decide if they should adopt the intervention (Kampstra et al. 2018).

Participants were presented with each outcome and asked to respond either 'Yes' the outcome meets the above criteria, or 'No', it does not. During a second break, all remaining outcomes which achieved consensus to include were identified. To identify the most critical outcomes for the Core Outcome Set, the consensus threshold to keep an outcome was increased to ≥80% of participants responding 'Yes'- the outcome meets both criteria (Zambrano et al. 2025).

Using a Nominal Group Technique (see Fig. 4), the results of the online form were presented and participants invited to discuss their thoughts, disagreements etc.

3 Results

Figure 5 provides the development process of the final COS for evaluating dysphagia screening services in care of the older person wards.

3.1 Phase 1: Identifying and reviewing potentially relevant outcomes

135 outcomes were identified from the three COS and systematic review. This was reduced to 39 after accounting for duplication and irrelevant outcomes. 15 outcomes were then added following discussion with the SG and PPI team, providing 54 outcomes to be includes in the Phase 2, round 1 questionnaire. See supplementary file 3 for the 54 outcomes and their definitions included in the Phase 2, round 1 questionnaire.

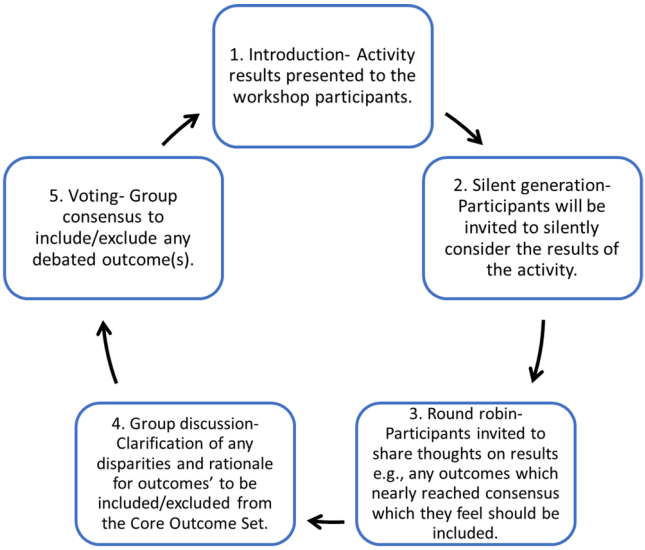

Fig. 4 Nominal Group Technique for consensus workshop. Adapted from Harvey and Holmes (2012)

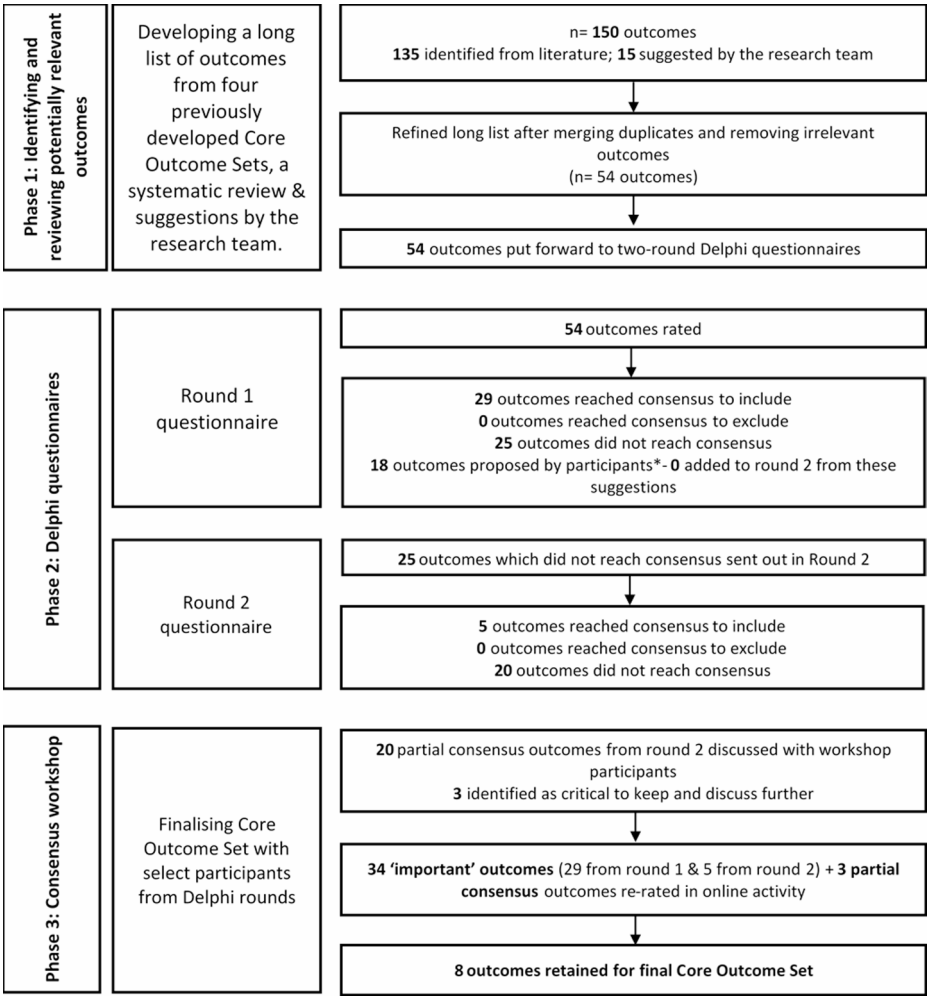

Fig. 5 Development process for the oropharyngeal dysphagia screening in care of the older person hospital wards Core Outcome Set. *Proposed outcomes and rationale for not taking forward provide in supplementary 4

3.2 Phase 2: Two round Delphi questionnaires

Table 1 provides the characteristics of questionnaire respondents for round 1 and 2.

3.2.1 Round one questionnaire

The round 1 questionnaire was sent out in May 2025. 29 of the 54 outcomes were rated as 'Definitely important' or 'Important' by ≥70% by all stakeholder groups and were thus removed for the round 2 questionnaire to be discussed during the Phase 3 consensus workshop. The remaining 25 outcomes did not achieve consensus to exclude or include in the COS.

Table 1 Breakdown of participant characteristics across Core Outcome Set study phases

Stakeholder group	Round 1 questionnaire (total = 34)	Round 2 questionnaire (total = 28)	Consensus workshop (total = 13)
Nurses	*n* = 5	*n* = 3	*n* = 3
Speech and language therapists	*n* = 14	*n* = 13	*n* = 3
Pharmacists	*n* = 7	*n* = 5	*n* = 3
Senior hospital staff	*n* = 1	*n* = 0	*n* = 0
Researchers	*n* = 1	*n* = 1	*n* = 1
People with OD and carers	*n* = 6	*n* = 6	*n* = 3

18 additional outcomes were proposed by participants. However, after discussion with the SG and PPI team, none were included in the round 2 questionnaire. See supplementary file 4 to view the proposed outcomes and rationale for not taking forward to round 2.

3.2.2 Round two questionnaire

The round 2 questionnaire was sent out to participants in June 2025. Of the 25 outcomes sent out to participants in the questionnaire, a further 5 reached consensus to discuss in the Phase 3 consensus workshop.

The remaining 20 outcomes did not achieve consensus, however, were rated as 'Important' by at least one stakeholder group and thus met the criteria to be discussed during the Phase 3 consensus workshop.

3.3 Phase 3: Consensus workshop

13 participants took part in the consensus workshop in July 2025: three nurses, three pharmacists, three speech and language therapists, three PPI members and one researcher with an interest/expertise in OD.

The 20 partial consensus outcomes (ordered from least to most number of participants rating them as 'Important') are provided in supplementary file 5. After discussion amongst the participants, the outcomes 'Adherence to pharmacists' recommendations,' 'Hospital level of care' and 'Hospital length of stay' were agreed by participants to take forward and re-rate in the online Forms activity.

37 outcomes were included in the online Forms activity for participants to re-rate based on our provided criteria. Due to technical difficulties experienced by two PPI members, eleven participants completed the Forms activity. Detailed results of the activity are provided in supplementary file 6. Five outcomes met the consensus threshold to include in the final COS (Mortality, Aspiration pneumonia, Choking, Medication intake and Patient's experience with the intervention).

During NGT discussion with participants eight outcomes which did not reach consensus were further discussed by participants.

Despite not reaching consensus to include, participants felt either 'Health-related quality of life' or 'Swallowing-related quality of life' would be important to capture in the COS. Following discussion, participants agreed 'Swallowing-related quality of life' should be included in the COS to capture condition specific impact to quality of life.

'Adherence to pharmacists' recommendations' was briefly discussed by some participants, however, this was agreed to be too distal to OD screening's effect to be included in a Core Outcome Set.

'Hospitalisation' nearly reached the consensus threshold to include in the COS and thus was identified as a key outcome for further discussion by participants. Ultimately this was agreed to be included in the COS as a key indicator for commissioners on patient safety and cost benefits of OD screening services. However, it was noted that the timing for outcome measurement i.e., 30 days, 90 days etc., would need to be carefully considered by researchers depending on their target healthcare system.

'Proportion of patients formally diagnosed with dysphagia', 'Proportion of patients provided with dysphagia management' and 'Proportion of patients referred to speech and language therapy' were also a key point of participants discussion. Ultimately, participants felt the latter was a key indicator for OD screening services and 'Proportion of patients formally diagnosed with dysphagia' and 'Proportion of patients provided with dysphagia management' were too distal from the intervention.

'Hospital length of stay' was also briefly discussed by participants, however, it was agreed that there were too many variables effecting the health of hospitalised older adults to make the outcome a meaningful measure of OD screening services' effect.

Table 2 provides the eight outcomes which comprise the final COS for evaluating dysphagia screening services in care of the older person hospital wards.

4 Discussion

This modified Delphi study has developed the first COS for trials evaluating OD screening services in care of the older person hospital wards. The eight outcomes which comprise our final COS consider the clinical, patient and resource/process implications of hospital-based OD screening services. These outcomes, considered most important by key stakeholder groups, are the minimum that should be measured in studies investigating OD screening services in 'care of the older person' hospital wards.

Whilst three previous COS have been developed in the field of OD, these have been specific to different clinical populations e.g., people with head and neck cancer (Manduchi et al. 2024), clinical settings e.g., critical care (Duncan 2020; Sallyanne Duncan 2023) and points of the care pathway e.g., effects of OD treatment (rather than screening) (Sallyanne Duncan 2023; Hirschwald et al. 2025). Therefore, the outcomes which comprise the final COS from these studies may not be applicable when evaluating the safety and effectiveness of OD screening services in care of the older person hospital wards. Core Outcome Sets should also be developed in collaboration with key stakeholder groups who will be impacted by it. For our study, nurses and pharmacists were two such stakeholder groups who will be key actors in the OD screening service (nurses delivering the OD screen and pharmacists conducting medication reviews), whereas other stakeholder groups, e.g., dentists and oncologists, took part in the three previously published COS (Sallyanne Duncan 2023; Manduchi et al. 2024; Hirschwald et al. 2025).

The project's focus on OD screening, rather than assessment and intervention, and work with different stakeholder groups is reflected in the novel outcomes which comprise this COS. Medication intake, patient's experience with the intervention, hospitalisation and pro-

Table 2 Final Core Outcome Set with definitions and domain area

Outcome name	Definition	% 'Yes' rating during workshop	
		Important to patients and patient-centred care?	Helpful for commissioners?
Mortality			
Mortality	The event of death for any reason.	100	91
Physiological			
Dysphagia related clinical outcomes			
Aspiration pneumonia	An acute airway infection likely caused by food, fluids, medication or saliva getting into the airway.	100	82
Choking	When a person feels an obstruction of the air by food, fluids, medication or saliva and breathing is perceived to be impeded.	100	82
Medication intake	Patient's ability to swallow their medication.	100	91
Life impact			
Patient-reported outcomes			
Patient's experiences with the intervention	Opportunity for patients to give feedback on their experience with the dysphagia screening service.	100	91
Swallowing-related quality of life *(included in COS following group discussion)*	The patient's quality of life related to their swallowing difficulties.	91	64
Process outcomes			
Hospitalisation *(included in COS following group discussion)*	Patients admitted or re-admitted to hospital.	91	73
Proportion of patients referred to speech and language therapy *(included in COS following group discussion)*	Proportion of patients referred to speech and language therapy for formal swallow assessment as a result of the dysphagia screening service.	73	82

portion of patients referred to speech and language therapy are all outcomes which have not been included in the previous OD COS. The novel inclusion of a medication-related clinical outcome is particularly important as this is a key factor for people with OD's safety which is often forgotten about, both in the care that people with OD receive, but also in OD research (Wright et al. 2020). Medication is a core component of medical care, particularly for hospitalised, older, and potentially frail, adults (Wright et al. 2020). Our proposed screening service will work with key stakeholders, such as pharmacists, to ensure the care pathway following an OD screening includes medication reviews. Including medication intake in this COS will not only contribute to the evidence on the effect of OD screening on medication intake safety but also ensure other researchers in the field of OD consider this element of OD care.

Our developed COS not only considers key clinical outcomes, but also the voice and experience of people with OD and their carers. During the consensus workshop, 'hospital level of care' was identified as a potential critical outcome to include in the COS from PPI members. Whilst this ultimately was not included, the outcome 'patients' experience with

the intervention', included in the COS, will enable people with OD's voices to be heard when evaluating OD screening services.

For clinicians, a key outcome highlighted during the consensus workshop was 'hospitalisation'. Participants stressed the importance of this outcome to not only demonstrate OD screening services impact on patient safety, but also the value screening services may provide to the healthcare system. For example, in the United Kingdom, the latest National Health Service long term plan emphasises a '*preventative principle'* (p.3) (National Health Service 2025), which aims to place greater investment in out-of-hospital care. Therefore, evaluating OD screening services based on number of hospital admissions aligns with key healthcare policy, to help inform commissioners decisions on whether to adopt and implement these services.

The COS developed in this study provides a foundation for evaluating OD screening services in hospitals, particularly in 'care of the older person' hospital wards. Further research is required to identify suitable tools to measure the outcomes which comprise this COS. For example, the SWAL-CARE, a 15-item tool which measures quality of care and patient satisfaction (McHorney et al. 2002), could be used to determine people with OD's experience with the screening service. Selection of measurement tools should be based on the quality of the tool e.g., validity, reliability etc., and feasibility of collecting data using the tool e.g., time, ease of comprehension if a patient-facing tool etc. (Prinsen et al. 2016). Using the most appropriate measurement tool will facilitate quality of data collection, comparability across research studies and transferability of findings into practice (Prinsen et al. 2016). Following this, these outcomes can be applied in feasibility and pilot studies to assess their practicality in real-world data collection and their sensitivity to change. This will allow refinement of measurement tools and clarify the most appropriate timing of outcome assessment (e.g., hospitalisation at 30 vs. 90 days). Embedding the COS within the evaluation of OD screening services will provide evidence on effectiveness, cost-effectiveness, and scalability of such services.

This study employed a modified Delphi process, collaborating with multiple stakeholder groups including nurses, pharmacists, SLTs, people with OD, carers, researchers and senior hospital staff, to capture pertinent OD expertise and experience. The inclusion of novel outcomes, such as medication intake and patients' experience with the intervention, highlights these diverse and unique perspectives compared to existing OD COS. Finally, the active involvement of our PPI group throughout all stages of the study strengthened the relevance and clarity of the outcomes, particularly for patient-centred measures.

However, some limitations must be acknowledged. Firstly, no outcomes were excluded during the questionnaire rounds. Difficulty achieving consensus to exclude outcomes is a challenge which has been frequently reported in other COS studies (Gargon et al. 2017; Biggane et al. 2019). Holding consensus workshops before conducting Delphi questionnaires may have mitigated this challenge and facilitated stakeholders to consider the most important outcomes to include (Martin-Kerry et al. 2025). The use of criteria by which to consider outcomes' importance (importance to people with OD and patient-centred care and helpfulness to commissioners when deciding to adopt an intervention) also facilitated participants in our consensus workshop to identify the most important outcomes to include in the COS. The overall number of participants was also smaller than in some comparable COS studies, which may limit generalisability. All participants were UK-based, which may also limit international applicability without further collaboration and consultation with additional

stakeholders. Finally, senior hospital staff, key stakeholders in service implementation and sustainability, were not represented in the consensus workshop.

5 Conclusion

This study presents the first systematic development of a COS for evaluating OD screening services in hospital settings, specifically within 'care of the older person' wards. Through a rigorous, multi-phase consensus process involving key stakeholder groups, including people with OD, clinicians, and researchers, eight core outcomes were identified that capture the multidimensional impact of OD screening. Standardised collection and reporting of these outcomes in future trials will enhance the quality and comparability of evidence, support meta-analyses, and facilitate the translation of research into clinical practice. This COS establishes a foundational framework for advancing OD research and improving care through consistent and meaningful outcome measurement. Future research should further develop the work started in this study by determining the measurement instruments required for the included outcomes as well as the timepoints for outcome measurement. Additional research should also ensure this COS is appropriate for an international healthcare context.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s10742-026-00389-6.

Acknowledgements Thank you to the members of the programme development grant steering group, Dr Allan Clark and David Turner, for their oversight and guidance during this project. Thank you also to our Patient and Public Involvement members for contributing to the development of the long list of outcomes, review of study materials and participation in the consensus workshop.

Author contributions Caroline Smith (CS): Conceptualisation, Methodology, Investigation, Data curation, Formal analysis, Investigation, Writing- Original Draft, Visualisation. Lizelle Bernhardt (LB): Conceptualisation, Methodology, Investigation, Resources, Formal analysis, Writing- Review & Editing, Supervision. Linda Birt (LBi): Conceptualisation, Methodology, Writing- Review & Editing. Dharinee Hansjee (DH): Conceptualisation, Methodology, Resources, Writing- Review & Editing. Joseph C. Manning (JM): Conceptualisation, Methodology, Writing- Review & Editing. Lynn MacDiarmid (LM): Conceptualisation, Methodology, Resources, Writing- Review & Editing. Paresh Parmer (PP): Conceptualisation, Methodology, Resources, Writing- Review & Editing. David Smithard (DS): Conceptualisation, Resources, Writing- Review & Editing. David Wright (DW): Conceptualisation, Methodology, Investigation, Resources, Formal analysis, Writing- Review & Editing, Supervision.

Data availability All data supporting the findings of this review are available within the paper and the supplementary material.

Declarations

Conflict of interest The authors declare no competing interests.

References

Attrill, S., White, S., Murray, J., Hammond, S., Doeltgen, S.: Impact of oropharyngeal dysphagia on healthcare cost and length of stay in hospital: a systematic review. BMC Health Serv. Res. **18**(1), 594 (2018). https://doi.org/10.1186/s12913-018-3376-3

Baijens, L.W.J., Pere Clavé, P., et al.: European society for swallowing disorders – European union geriatric medicine society white paper: oropharyngeal dysphagia as a geriatric syndrome. Clin. Interv. Aging **11**(October), 1403–1428 (2016). https://doi.org/10.2147/CIA.S107750

Banda, K.J., Chu, H., Chen, R., et al.: Prevalence of oropharyngeal dysphagia and risk of pneumonia, malnutrition, and mortality in adults aged 60 years and older: a meta-analysis. Gerontology **68**(8), 841–53 (2022). https://doi.org/10.1159/000520326

Bauchner, H., Simpson, L., Chessare, J.: Changing physician behaviour. Arch. Dis. Child. **84**(6), 459–462 (2001). https://doi.org/10.1136/adc.84.6.459

Benfield, J.K., Hedstrom, A., Thomas, S.A., Bath, P.M., England, T.J.: Experiences of dysphagia trained nurses in the screening and early management of swallowing in acute stroke: a qualitative study. Adv. Commun. Swallow. **25**(2), 97–107 (2022). https://doi.org/10.3233/ACS-220005

Biggane, A.M., Williamson, P.R., Ravaud, P., Young, B.: Participating in Core Outcome Set development via Delphi surveys: qualitative interviews provide pointers to inform guidance. BMJ Open **9**(11), e032338 (2019). https://doi.org/10.1136/bmjopen-2019-032338

Boaden, E., Burnell, J., Hives, L., et al.: Screening for aspiration risk associated with dysphagia in acute stroke. Cochrane Database Syst. Rev. (2021). https://doi.org/10.1002/14651858.CD012679.pub2

Carlson, C., Merel, S.E., Yukawa, M.: Geriatric syndromes and geriatric assessment for the generalist. Med. Clin. North Am. **99**(2), 263–279 (2015). https://doi.org/10.1016/j.mcna.2014.11.003

De Meyer, D., Kottner, J., Beele, H., et al.: Delphi procedure in core outcome set development: rating scale and consensus criteria determined outcome selection. J. Clin. Epidemiol. **111**(July), 23–31 (2019). https://doi.org/10.1016/j.jclinepi.2019.03.011

Doan, T.-N., Ho, W.-C., Wang, L.-H., Chang, F.-C., Nhu, N.T., Chou, L.-W.: Prevalence and methods for assessment of oropharyngeal dysphagia in older adults: a systematic review and meta-analysis. J. Clin. Med. (2022). https://doi.org/10.3390/jcm11092605

Dodd, S., Clarke, M., Becker, L., Mavergames, C., Fish, R., Williamson, P.R.: A taxonomy has been developed for outcomes in medical research to help improve knowledge discovery. J. Clin. Epidemiol. **96**(April), 84–92 (2018). https://doi.org/10.1016/j.jclinepi.2017.12.020

Duncan, S.: Development of a Core Outcome Set for trials of dysphagia interventions in critical care. COMET Initiative. (2020). https://www.comet-initiative.org/Studies/Details/1565

Duncan, S.: Developing a Core Outcome Set and feasibility trial to test a dysphagia intervention in cardiac surgical intensive care patients. Queen's University Belfast. (2023). https://pure.qub.ac.uk/en/studentTheses/developing-a-core-outcome-set-and-feasibility-trial-to-test-a-dys/

Duncan, S., McAuley, D.F., et al.: Interventions for oropharyngeal dysphagia in acute and critical care: a systematic review and meta-analysis. Intens. Care Med. **46**(7), 1326–1338 (2020). https://doi.org/10.1007/s00134-020-06126-y

Espinosa-Val, M.C., Martín-Martínez, A., Graupera, M., et al.: Prevalence, risk factors, and complications of oropharyngeal dysphagia in older patients with dementia. Nutrients **12**(3), 863 (2020). https://doi.org/10.3390/nu12030863

Gargon, E., Williamson, P.R., Young, B.: Improving Core Outcome Set development: qualitative interviews with developers provided pointers to inform guidance. J. Clin. Epidemiol. **86**, 140–152 (2017). https://doi.org/10.1016/j.jclinepi.2017.04.024

Harb, S.I., Tao, L., Peláez, S., Boruff, J., Rice, D.B.: Methodological options of the nominal group technique for survey item elicitation in health research: a scoping review. J. Clin. Epidemiol. **139**(November), 140–148 (2021). https://doi.org/10.1016/j.jclinepi.2021.08.008

Harvey, N., Holmes, C.A.: Nominal group technique: an effective method for obtaining group consensus. Int. J. Nurs. Pract. **18**(2), 188–194 (2012). https://doi.org/10.1111/j.1440-172X.2012.02017.x

Heaton, S., Farrell, A., Bassett, L.: Implementation of hospital wide dysphagia screening in a large acute tertiary teaching hospital. Int. J. Speech-Lang. Pathol. **22**(1), 95–105 (2020). https://doi.org/10.1080/17549507.2019.1597922

Hirschwald, J., Hofacker, J., Duncan, S., Walshe, M.: Swallowing outcomes in dysphagia interventions in parkinson's disease: a scoping review. BMJ Evid.-Based Med. **28**(2), 93–100 (2023). https://doi.org/10.1136/bmjebm-2022-112082

Hirschwald, J., Mooney, L., Wolf, M., Boyle, G., Warnecke, T., Walshe, M.: "Without the data you're not going to know if it's important or not": a mixed methods study on what dysphagia intervention outcomes are important to people with Parkinson's disease and family members. Dysphagia **40**(4), 902–19 (2024a). https://doi.org/10.1007/s00455-024-10788-x

Hirschwald, J., Duncan, S., Warnecke, T., Boyle, G., Regan, J., Walshe, M.: Development of a Core Outcome Set for dysphagia interventions in Parkinson's disease (COS-DIP): study protocol. BMJ Open **14**(2), e076350 (2024b). https://doi.org/10.1136/bmjopen-2023-076350

Hirschwald, J., Conroy, P., Boyle, G., Warnecke, T., Walshe, M.: Developing a core outcome set for dysphagia interventions in Parkinson's disease: an international delphi consensus study. BMJ Evid.-Based Med. (2025). https://doi.org/10.1136/bmjebm-2024-113543

Kampstra, N.A., Zipfel, N., Van Der Nat, P.B., Westert, G.P., Van Der Wees, P.J., Stef, A.: Groenewoud: Health outcomes measurement and organizational readiness support quality improvement: a systematic review. BMC Health Serv. Res. (2018). https://doi.org/10.1186/s12913-018-3828-9

Kirkham, J.J., Gorst, S., Altman, D.G., et al.: Core Outcome Set–STAndards for reporting: The COS-STAR statement. PLOS Med. **13**(10), e1002148 (2016). https://doi.org/10.1371/journal.pmed.1002148

Kirkham, J.J., Davis, K., Altman, D.G., et al.: Core Outcome Set-STAndards for development: The COS-STAD recommendations. PLoS Med. **14**(11), e1002447 (2017). https://doi.org/10.1371/journal.pmed.1002447

Li, C., Qiu, C., Shi, Y., Yang, T., Shao, X.: Experiences and perceptions of stroke patients living with dysphagia: a qualitative meta-synthesis. J. Clin. Nurs. **31**(7–8), 820–831 (2022). https://doi.org/10.1111/jocn.15995

Manduchi, B., Fitch, M.I., Ringash, J.G., Howell, D., Martino, R.: A Core Outcome Set for patient-reported dysphagia for use in head and neck cancer clinical trials: an international multistakeholder Delphi study. Head Neck **46**(4), hed.27626 (2024). https://doi.org/10.1002/hed.27626

Manyara, A.M., Purvis, A., Ciani, O., Collins, G.S., Taylor, R.S.: Sample size in multistakeholder delphi surveys: at what minimum sample size do replicability of results stabilize? J. Clin. Epidemiol. **174**, 111485 (2024). https://doi.org/10.1016/j.jclinepi.2024.111485

Martin-Kerry, J., Taylor, J., Scott, S., et al.: Developing a core outcome set for hospital deprescribing trials for older people under the care of a geriatrician. Age Ageing **1**, afac241 (2022). https://doi.org/10.1093/ageing/afac241

Martin-Kerry, J., Scott, S., Taylor, J., et al.: Supporting meaningful participation of older people in core outcome set development. J. Am. Geriatr. Soc. **73**(2), 661–665 (2025). https://doi.org/10.1111/jgs.19179

McHorney, C.A., Robbins, J., Lomax, K., et al.: The SWAL-QOL and SWAL-CARE outcomes tool for oropharyngeal dysphagia in adults: III. Documentation of reliability and validity. Dysphagia **17**(2), 97–114 (2002). https://doi.org/10.1007/s00455-001-0109-1

National Health Service: Fit for the Future: 10 Year Health Plan for England. (2025). https://assets.publishing.service.gov.uk/media/6888a0996478525675738f3a/fit-for-the-future-10-year-health-plan-for-england-executive-summary.pdf

Prinsen, C.A.C., Vohra, S., Rose, M.R., et al.: How to select outcome measurement instruments for outcomes included in a "Core Outcome Set" – a practical guideline. Trials **17**(1), 449 (2016). https://doi.org/10.1186/s13063-016-1555-2

Rivelsrud, M.C., Hartelius, L., Bergström, L., Løvstad, M., Speyer, R.: Prevalence of oropharyngeal dysphagia in adults in different healthcare settings: a systematic review and meta-analyses. Dysphagia **38**(1), 76–121 (2023). https://doi.org/10.1007/s00455-022-10465-x

Sherman, V., Greco, E., Martino, R.: The benefit of dysphagia screening in adult patients with stroke: a meta-analysis. J. Am. Heart Assoc. **10**(12), e018753 (2021). https://doi.org/10.1161/JAHA.120.018753

Smithard, D., Westmark, S., Melgaard, D.: Evaluation of the prevalence of screening for dysphagia among older people admitted to medical services – an international survey. OBM Geriat. **3**(4), 4 (2019). https://doi.org/10.21926/obm.geriatr.1904086

Speyer, R., Cordier, R., Farneti, D., et al.: White paper by the european society for swallowing disorders: screening and non-instrumental assessment for dysphagia in adults. Dysphagia **37**(2), 333–49 (2022). https://doi.org/10.1007/s00455-021-10283-7

Van Der Maarel-Wierink, C.D., Vanobbergen, J.N.O., Bronkhorst, E.M., Schols, J.M.G.A., De Baat, C.: Meta-analysis of dysphagia and aspiration pneumonia in frail elders. J. Dental Res. **90**(12), 1398–404 (2011). https://doi.org/10.1177/0022034511422909

Viñas, P., Clavé, P., Noemí, T.: Prevalence of dehydration in older hospitalized patients with oropharyngeal dysphagia. GeroScience **47**(2), 2495–2505 (2024). https://doi.org/10.1007/s11357-024-01448-x

Williamson, P.R., Altman, D.G., Bagley, H., et al.: The COMET handbook: version 1.0. Trials **18**(3), 280 (2017). https://doi.org/10.1186/s13063-017-1978-4

Wright, D.J., Smithard, D.G., Griffith, R.: Optimising medicines administration for patients with dysphagia in hospital: medical or nursing responsibility? Geriatrics **5**(1), 9 (2020). https://doi.org/10.3390/geriatrics5010009

Yi, Q., Mao, L., Li, W., et al.: The perceptions and experiences of caregivers of patients with dysphagia: a qualitative meta-synthesis. Nurs. Open **11**(9), e2223 (2024). https://doi.org/10.1002/nop2.2223

Zambrano, S.C., Egloff, M., Gonzalez-Jaramillo, V., et al.: A core outcome set for best care for the dying person: results of an international delphi study and consensus meeting. Palliat. Med. **39**(1), 163–75 (2025). https://doi.org/10.1177/02692163241300867

Authors and Affiliations

Caroline Smith[1] · Lizelle Bernhardt[1,2] · Linda Birt[1] · Dharinee Hansjee[3] · Lynn MacDiarmid[2] · Joseph C. Manning[1] · Paresh Parmar[4] · David Smithard[5] · David Wright[1]

✉ Caroline Smith
caroline.smith@leicester.ac.uk; caroline.smith@uea.ac.uk

[1] University of Leicester, University Road, Leicester LE1 7RH, UK

[2] Leicestershire Partnership NHS Trust, Leicester Road, Glenfield LE3 8RA, UK

[3] University of Greenwich, Old Royal Naval College, Park Row, Greenwich, London SE10 9LS, UK

[4] Northwick Park Hospital, Watford Rd, Harrow HA1 3UJ, UK

[5] Lewisham and Greenwich NHS Trust, Lewisham High Street, London SE13 6LH, UK