Using a Delphi study approach to develop competencies for Allied Health Professionals working in Acute Medicine

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Abstract

A Delphi study approach was used to develop a national standard of competencies for Occupational Therapists and Physiotherapists working in acute medicine. Nineteen expert therapists participated in the Delphi study, which consisted of four rounds. A total of two hundred and seventy one competencies were developed and agreed for inclusion in a single document. This paper describes the methodology and challenges presented in developing such a diverse range of competencies.

Keywords

Acute medicine, Competencies, Occupational Therapist, Physiotherapist, Allied Health Professionals.

Key points

- Delphi study approach was effective in developing a national set of competencies for Allied Health Professionals working in acute medicine.
- A single document of core and enhanced competencies was developed.
- The document offers flexibility for Trusts to select and deselect competencies whilst offering therapists a framework for career development.
- There remains a divide amongst therapists regarding the relevance of wound care, pressure care and continence care competencies.

Introduction

The value of Occupational Therapists and Physiotherapist working in the Emergency Department [ED] and Acute Medical Unit [AMU] is now widely recognised.[1-3] To optimise the effectiveness of these services, many ED and AMU therapy services now aspire for Occupational Therapists and Physiotherapists to "upskill" beyond their traditional scope of practice. This is achieved by providing each professional group with the essential knowledge and skills traditionally possessed by the other professional group.

There are a number of strengths for this innovative model of practice within these time-limited clinical environments. For example, patients only generally need to see one therapist, whilst receiving a comprehensive therapy assessment. Furthermore this offers these allied health professionals [AHPs] the opportunity to develop within the growing specialism of acute medicine[4]. However, guidelines published by the Society for Acute Medicine (SAM)[3], currently lack a detailed list of knowledge and skills required by both professional groups. Consequently the extent to which Occupational Therapists and Physiotherapists "up-skill" varies across settings.

The SAM AHP group therefore identified the need to develop a set of national competencies as a key priority. These competencies were intended to support and structure the up-skilling of each professional group, support transference of knowledge and skills between Trusts and provide a framework for career development within acute medicine. To ensure success in developing these competencies, a formal research approach using a Delphi study was adopted. This paper will now describe the methodology undertaken and the challenges experienced in developing such a diverse range of competencies.

Methods

It was intended that the competencies document should be shaped equally by both professions and achieve a majority agreement. For this reason a Delphi study approach was selected to both provide a methodological approach and offer anonymity to participants. In line with relevant literature,[5] it was intended to recruit at least fifteen panel members for the Delphi study and complete the study over four rounds, achieving a majority agreement by at least 70% of participants.

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A working group of six "investigators" consisting of expert Occupational Therapists and Physiotherapists met on a monthly basis to lead the project. Initially a list of topics was created, with the investigators then developing a core set of competencies for each topic. This was undertaken using available example competencies and national guidelines. These competencies were then reviewed and refined by the investigators with further topics and competencies being added to develop a first draft.

At the same time the "panel members" consisting of Delphi study participants were recruited by the lead investigator. A convenience sample of the current SAM AHP email list was used to request participant volunteers. Priority was given to a geographical spread of participants and a balance between banding and professional group. To ensure participation from all the United Kingdom nations, a further snowballing approach was taken. Those on the email list were asked to forward the request to colleagues in Wales, Northern Ireland and Scotland. Furthermore, those on the email list from these nations were sent a further personalised email asking for them or a colleague to participate in the study.

The inclusion criteria for participation were that panel members must have practised as an Occupational Therapist or Physiotherapist in the ED or AMU environment for at least two years. Furthermore, only one participant from each Trust was accepted and no participants were included from sites where investigators were based, to avoid unintentional influence. Where multiple requests were received from one Trust, the chosen panel member was selected, based on experience and professional group. Participants did not need to be members of SAM.

Selected panel members were then formally invited to participate in the Delphi study. Details of the panel members were only held by the Lead Investigator and participants remained anonymous to the other investigators. Panel members were also kept anonymous from one another through all emails being blind copied to panel members.

A total of four Delphi rounds were facilitated. Round three was split into two parts due to the size of the survey. Each round consisted of panel members being sent an email with an explanation of the purpose for that round and link to an online survey. Additionally, panel members were sent a summary of results from the previous round. Panel members were given two weeks to complete each survey, with a further week allowed for any late responses. Reminders were sent by email to all panel members after the first week then individual reminders sent after the second week to all those panel members who had not yet responded. During round four, one further reminder and a fourth week was allowed for responses to ensure at least fifteen responses were received.

It was intended for each round to take four weeks. However much thought provoking feedback was received during the rounds that required more time for the investigators to analyse, make changes and prepare for the next round. Additionally, rounds three and four were facilitated through the winter pressure period resulting in more time needed to receive responses and may explain the lower response rate for these rounds. Consequently, each round took six to eight weeks to complete.

Results

A total of 20 therapists were formally invited to be panel members. One panel member did not respond to the first round survey despite an email reminder and therefore was not included in the Delphi study. The remaining 19 panel members had a combined total of 151 years experience in acute medicine (average 8 years per panel member, range 2-38 years). See Table 1 for numbers of panel members by professional group, banding and geographical location.

All 19 remaining panel members responded to round one and two surveys. Only 15 responses were received to rounds three part A, three part B and four. However all panel members responded to at least two of these surveys. Following all rounds, overwhelmingly positive feedback was received about the competencies so far. Furthermore, panel members gave some useful feedback about language and grammar changes as well as suggestions of further topics and individual competencies throughout the process.

The investigators reviewed all comments following each round. Where these comments were supported, corrections were made to the competencies and were presented as tracked changes in the next round. Where comments were not fully supported by the investigators, the context of the comment was taken into consideration and either no change was made or

Table 1. Participating panel members by Professional Group, Banding and Geographical Location

	Occupational Therapist	Physiotherapist
Band 6	3	2
Band 7	6	6
Band 8	1	1
London	4	3
Rest of England	3	5
Wales	1	0
Scotland	1	0
Northern Ireland	1	1

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further opinion was sort in the next round. Results and challenges of each round that lead to the completion of the final competencies draft will now be discussed.

Round One

The aim of round one was to gain feedback regarding the overall general content of competencies. This included the range of topics and areas covered within each topic.

The initial list of competencies developed by the investigators was presented to the panel members. The panel members were then asked to give general comments about each topic. Each question had three parts related to the knowledge competencies, skills competencies and general comments about the overall competencies for that topic. Additional questions were asked regarding the overall range of topics, any further topics that should be included, and any final overall comments. Furthermore, panel members were asked for agreement regarding the number of levels for the competencies to be categorised into, and suggested names for each category,

The majority of the questions required comments rather than agreement. There was no requirement to answer each question. However, it was noticeable that less comments overall were received towards the end of the survey. For the questions regarding each topic, each question received an average of 9 responses (range 4-16). The three additional questions received an average of 12 responses (range 11-14).

The only question in round one that required agreement was regarding the number of levels for the competencies to be categorised. The panel members were offered an option of one, two or three levels. (Table 2).

General feedback about the competencies was positive with mostly suggestions regarding additional topics or competencies. However much constructive feedback was also received questioning the scope of the competencies. In particularly, there were concerns that some of the competences were too broad, that the document overall was too lengthy, and that some competencies were not relevant to both professional groups.

These comments led to the investigators reviewing and including more detail in the scope of the competencies. Other examples of competencies were also reviewed and advice gained to support the development of these statements. This included liaison with the Society for Acute Medicine nurse group whom had recently developed their own competencies.[6] This resulted in several explicit statements being developed in order to seek majority agreement in round two.

Round Two

Owing to a lack of majority agreement regarding the number of competency categories, the process of categorising each competency was deferred to round three. Round two therefore focused around the explicit statements that were presented to the panel members for agreement.

All statements required an answer, and therefore received a response from all panel members (Table 3). A majority agreement was reached for all statements. Following round two the investigators formally agreed to use two categories overall.

In additional to the statements, panel members were asked to comment more specifically on the language and content of each individual competency. Only topics that received a number of changes were reviewed (Information Gathering, Clinical Observations, Risk Identification and Management, Case management - changed to Care Co-ordination and MDT Working, and Respiratory Conditions). An average of 3 responses was received for each individual topic (range 2-5). A final question was asked for any further comments regarding the remainder of the competencies overall. A total of 6 responses were received for this final question.

The majority of the comments received confirmed their agreement with the changes. However, many of the comments also continued to demonstrate differences in expectations between Trusts and professional groups regarding the content of competencies and language being used. Once again this offered the investigators much consideration regarding how to ensure the competencies remain standardised whilst allowing flexibility to the needs of individual Trusts and professional groups. The investigators continued to agree that a single document was preferred, but that the final document should allow for individual competencies to be selected or deselected so that Trusts can opt to use or not use individual competencies.

Round Three

The third round primarily focused on categorising each competency into core or enhanced categories. Due to the number of competencies, panel

Table 2. Percentage of agreement for each number of competency levels

Number of Levels	One	Two	Three	No Response
Percentage of Agreement from Panel Members	15.8%	31.6%	47.4%	5.2%

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Table 3. Percentage of Agreement for statements regarding Purpose and Content of Competencies

	Agree	Neither Agree or Disagree	Disagree
There were a number of comments received regarding the broad range of competencies offered: The document is for a broad range of services that have differing configurations and working practices. It would be difficult to ensure that the document meets the needs of all services. We also would prefer not to produce multiple documents but one that represents the group of AHPs. We have purposefully written the competencies in a broad and non-specific format in all areas to avoid lengthy detailed descriptions and unlimited examples as well as to allow transferrable use across differing acute medicine therapy services with varied specifications and resources.	94.7%	5.3%	0%
There were a number of comments made about the inclusion of core skills being included in the document: Core skills that may be found across other therapy domains/specialities have still been included in this set of competencies for multiple reasons. Firstly we would like to ensure that all skills are covered for those services who will use this a standalone document regardless of other policies, appraisals or documents that may differ across Trusts. Secondly, the additional elements of time pressure, lack of space, stressful environment, limited MDT involvement, acutely unwell patients and high risk scenarios which are present in the ED/AMU make the core skill set unique in this clinical setting. Where possible we have added additional information to make this clearer.	94.7%	0%	5.3%
There were a number of requests and comments regarding the extent that the competencies will cover specialist topics: Therapists in ED/AMU are exposed to a broad range of medical conditions and presentations. It is therefore essential for competencies to reflect the wide-ranging set of knowledge and skills required and incorporate all eventualities. Trusts have different expectations on teams working in this environment therefore in order for this document to be useful and appropriate for any acute therapist, a broad, comprehensive range of competencies have been drawn up to support best practice. It is therefore not possible to provide competencies for more specialist conditions.	100%	0%	0%
50% of respondents preferred three levels of competencies: We would like to propose two levels for the following reasons: • "middle" option of the three. • SAM Nurses recently went through this process and advised against three levels after reflection on their own work. • We believe that having competencies that represent banding may not support or encourage development of therapists who are capable of progressing beyond their banding or those that are struggling in their role. Again we would expect that local Trusts would specify which competencies for staff to complete. The two levels of competencies we are proposing are: • Core/standard: These are competencies that are essential for the service to operate during its core hours. Some competencies may only be acquired by one group of professionals but could reasonably be achieved by the other group of professionals with training and support from members of the immediate therapies team. They would primarily be for rotational staff to complete. • Enhanced: These are more specialist skills and knowledge that are beneficial to support Therapists in enhancing their role further within acute medicine once the core/standard competencies have been achieved. These competencies may require training and support from outside the immediate therapies team to achieve. They would primarily be for static therapists in the team. We have been advised against using "Advanced" because this indicates formal qualification. However, it is a longer term project that the SAM AHP committee to look at more formal "advanced" roles for Therapists. Ultimately it would be for each Trust and Therapies team to decide which competencies are appropriate for each staff group i.e. band /profession, but by providing a full set of competencies we believe this will offer therapists a structured framework to support their career development	94.7%	5.3%	0%

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	Agree	Neither Agree or Disagree	Disagree
Some comments received about Mental Capacity Assessments being Social Worker responsibility. In England the Mental Capacity Act requires every professional to assess mental capacity in regards to each decision needing to be made i.e. AHPs about equipment and referrals. Furthermore this can extend to our enhanced role in making decision regarding risks associated to discharge in absence of Social Worker i.e. when working out of hours.	100%	0%	0%
Some comments received about the relevance of the topic to these competencies. Communication and documentation can be particularly challenging in the ED / AMU environment due time pressures and human factors. Therefore advanced communication skills are considered essential and should be recognised as part of the competencies for AHPs working specifically in these environments.	89.4%	10.6%	0%
Some comments received about AHPs not completing comprehensive falls assessment in ED as would refer to community services We believe AHPs do complete appropriate parts of a falls assessment as part of their assessment process and therefore need to know components of a comprehensive falls assessment in order to select appropriate parts.	94.7%	5.3%	0%
Some comments were received about combining the Respiratory and Cardio-vascular topics. We would like to keep them separate as although similar they do offer different knowledge and skills that we believe should be kept separate.	89.4%	10.6%	0%
Some comments were received about whether the mental health topic was appropriate. Mental illness is an increasing concern amongst older people and recognised as an important part of frailty. Furthermore access to mental health services from the ED are limited and therefore AHPs may take on an enhanced role around mental health assessment in some settings. As such we believe this is an important topic to be included within the competencies.	89.4%	5.3%	5.3%

members were also given the choice to remove any competency if it was not considered appropriate. Additionally panel members were asked to give any further general feedback regarding the latest version of competencies and changes made.

A total of 276 competencies were presented to the panel members for categorisation. Of these, 227 competencies reached a majority consensus of at least 70% agreement to be categorised as "core" by panel members. Furthermore there were only 45 requests from panel members for competencies to be removed, with most of these being individual requests. Whilst this was seen as encouraging, it also resulted in a potentially unachievable number of competencies for rotational therapists who may only undertake a six month rotation. This also meant there were few competencies categorised as "enhanced" potentially offering little career progression to permanent staff members. There was also concern that rater bias may have unintentionally influenced this result both because "core" was given as the first choice and also due to the expertise of the panel members completing the survey.

The percentage of agreement for majority consensus was therefore increased to 80% for this round. This was intended to both reduce the number of core competencies and increase number of enhanced competencies. All competencies with more than 80% agreement were therefore categorised as core, and those with less than 80% agreement were categorised as enhanced. Competencies that achieved equal to 80% agreement were reviewed by the investigators who made the final decision regarding competency category. Any competencies with two or more requests for removal were considered for removal. (Table 4)

The only changes that investigators were unable to fully agree with were regarding competencies related to pressure care. Competencies regarding pressure care, wound care, incontinence and catheter management were a contentious issue throughout the process. There is a clear divide in opinion, and provision of service, in regards to the role that Occupational Therapists and Physiotherapists undertake in relation to the assessment and treatment of these predominantly specialist nursing tasks. However national guidelines [7] do recommend that all professionals in contact with at risk patients should receive training. Furthermore the provision of advice, education, exercise programs and equipment to

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Table 4. Results of categorisation in round three

Category	Total number	>80% agreement for "core"	=80% agreement for "core"	<80% agreement for "core"	>2 requests to remove
1. Information Gathering	13	11	2	0	0
2. Screening and Prioritisation	8	6	1	1	0
3. Clinical Observations	17	7	2	8	0
4. Musculo-skeletal assessment	8	1	1	6	0
5. Functional assessment	17	13	1	3	0
6. Cognitive assessment	23	8	4	11	0
7. Analysis and Clinical Reasoning	11	11	0	0	0
8. Risk Identification and Management	22	9	4	9	0
9. Interventions	18	14	4	0	0
10. Care Co-ordination and MDT working	13	10	0	3	0
11. Communication and Documentation	23	21	1	1	0
12. Frailty	14	4	7	3	0
13. Falls	19	15	0	4	0
14. Respiratory Conditions	10	3	1	6	0
15. Cardio-vascular conditions	4	2	1	1	0
16. Orthopaedic Conditions	12	8	1	3	0
17. Neurological Assessment and Conditions	10	4	2	4	0
18. Pain Assessment and Management	9	4	1	3	1
19. Renal Condition	8	1	2	2	3
20. Mental Health and Learning Disabilities	17	6	4	6	1
21. End of Life Care	7	4	0	3	0

promote functional independence is an important prevention and treatment for pressure ulceration. It was therefore agreed by the investigators that competencies around pressure care should be kept and were subsequently modified to reflect national guidance and best practice.

Round Four

This round commenced with a further document being provided to the panel members including percentages of agreement for each competency categorisation. Panel members were asked to give specific feedback about each group of competencies including language, grammar and categorisation. In addition, specific questions were asked about those competencies that previously reached equal to 80%, those that were removed, and regarding changes made to pressure and continence care competencies. Where questions related to changes to the competency or its categorisation, the suggested change or categorisation was proposed and panel members asked for their agreement. Where competencies were removed, panel members were asked to agree to removal or state preference of categorisation, and any change to the competency.

A total of 101 comments regarding the competency topics were received (average 5, range 1-10). The majority of the comments received were primarily stating or justifying their agreement, or commenting on language changes. Other comments received were regarding the relevance of certain competencies to a particular professional group.

All proposed changes except enhanced competencies received majority agreement (Table 5). Out of the 25 competencies that were proposed as enhanced, only 5 of these received majority agreement however a further 10 received majority agreement when those who voted "neither agree or disagree" were taken into consideration. In the absence of majority agreement, the investigators made the decision regarding final categorisation of each competency. In addition, the investigators agreed to not remove some of the competencies, despite majority agreement.

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Table 5. Results of responses to specific competencies

	Number of competencies proposed	Number receiving at least 70% agreement
Competencies proposed for removal	11	11
Competencies proposed for rewording	2	2
Competencies reached =80% agreement and proposed as "core" competency	5	5
Competencies reached =80% agreement and proposed as "enhanced"	25	15

A total of 271 competencies were included in the final draft. Of these, 173 competencies are core and 98 competencies are enhanced competencies. See Table 6 for the final number of core and enhanced competencies for each competency topic.

Following the completion of round four, the document template was also developed. This included changeable check boxes that can allow Trusts to select and deselect competencies without completely removing the competency from the document. The final document was subsequently sent to panel members for final feedback. All feedback received was positive with panel members generally feeling that the document would be usable within their Trust. The only concerns that were received continued to be regarding the overall size of the document, however many panel members now commented that this was valued to demonstrate the complexity and diversity of therapists working in the ED and AMU environment. Furthermore, most comments also acknowledged that the opportunity to select and deselect specific competencies has at least in part addressed this concern. The competencies have since been published on the SAM website [8].

Table 6. Final number of competencies in each topic an category.

Category	Total number	Knowledge		Skills	
		Core	Enhanced	Core	Enhanced
1. Information Gathering	12	6	5	0	1
2. Screening and Prioritisation	8	4	3	1	0
3. Clinical Observations	17	8	6	2	1
4. Musculo-skeletal assessment	8	2	3	3	0
5. Functional assessment	15	8	6	0	1
6. Cognitive assessment	23	10	2	6	5
7. Analysis and Clinical Reasoning	11	3	8	0	0
8. Risk Identification and Management	20	8	6	6	0
9. Interventions	18	11	7	0	0
10. Care Co-ordination and MDT working	13	4	6	0	3
11. Communication and Documentation	21	9	11	0	1
12. Frailty	14	6	2	5	1
13. Falls	19	7	9	3	0
14. Respiratory Conditions	10	5	0	2	3
15. Cardio-vascular conditions	4	3	0	1	0
16. Orthopaedic Conditions	12	6	2	3	1
17. Neurological Assessment and Conditions	10	6	0	1	3
18. Pain Assessment and Management	8	2	3	3	0
19. Renal Condition	5	0	1	4	0
20. Mental Health and Learning Disabilities	16	9	1	2	4
21. End of Life Care	7	1	3	3	0

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Conclusion

A Delphi study approach was effective in developing a national standard of competencies for Occupational Therapists and Physiotherapist working in acute medicine. The final document offers one set of competencies that have reached majority consensus amongst a group of expert therapists. Moreover, the document has been designed to offer individual Trusts flexibility in what competencies are selected whilst offering therapists a framework for professional and career development.

There were some limitations to the methodology. The overall number of competencies being reviewed made administration of the Delphi study challenging. Furthermore there may have been some rater bias due to the length of each round and extensive experience of those completing the surveys. A further Delphi round may have been beneficial to confirm results. However this was not pursued due to time but also the overwhelming support and agreement for the competencies indicated this was not necessary.

There remain some key issues that need addressing. The primary concern raised by those in the Delphi study was regarding the overall length of the document and number of competencies. Whilst this has been recognised to reflect the complexity of the role of AHPs in acute medicine, this will remain a barrier to fully implementing the document in practice. A further concern that was evident in the results of the Delphi study was the extent to which AHPs advance in their knowledge and skills. There was a clear divide in opinion, particularly regarding traditional nursing knowledge and skills around pressure care, wound care, and continence care. Further exploration of these issues is needed to ensure that the role AHPs remains relevant to contemporary practice whilst differentiated from other expert professional groups, and the evolving Advanced Care Practitioner role.

Conflict of Interest

Nothing to declare.

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