



Primary care healthcare professionals' research priorities in Scotland after the coronavirus pandemic

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TABLE OF CONTENTS



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.....	1
One page SUMMARY	4
INTRODUCTION	6
METHODS	8
Steps 1 and 2: Identification and invitation of potential partners and awareness raising	8
Step 3: Identifying research priorities.....	9
Step 4: Identifying research themes	10
Step 5: Reaching consensus	10
RESULTS	11
Respondent characteristics	11
Research themes	12
Theme 1: Disease and illness	14
Theme 2: Access.....	19
Theme 3: Workforce	22
Theme 4: Multi-disciplinary teams	23
Theme 5: Integration	23
Theme 6: Digital healthcare	24
Theme 7: Self-care	25
Theme 8: Primary / secondary care interface.....	25
Theme 9: Medications	26
Theme 10: Health inequalities	26
Theme 11: Carers	26
Theme 12: Patient Involvement.....	27
Ranking of priorities for research	28
DISCUSSION	30
Summary of results	30
Relationship to current policy and practice	30
Limitations	31
Conclusion.....	32
REFERENCES	34
Figure 1: Sector respondents work in	11
Figure 2: Respondents' main profession	11
Figure 3: Number of research suggestions categorised under each theme	12
Figure 4: Disease and illness sub-themes	14
Figure 5: Number of suggestions categorised under each access sub-theme	19
Figure 6: Number of suggestions categorised under each workforce sub-theme	22
Figure 7: Number of participants ranking a theme as their top priority for research	28
Figure 8: Number of respondents ranking a 'disease and illness' sub-theme as their top priority for research..	28
Figure 9: Number of respondents ranking a 'access' sub-theme as their top priority for research	29
Figure 10: Number of respondents ranking a 'workforce' sub-theme as their top priority for research	29
Box 1: key partners.....	10

Table 1: Themes, sub-themes and topics.....	14
Table 2: Disease and illness sub-themes	15
Table 3: Mental health topics.....	16
Table 4: Covid-19 topics.....	17
Table 5: Long-term conditions topics	17
Table 6: Obesity topics	18
Table 7: Diabetes topics	18
Table 8: Dementia topics	19
Table 9: Frailty topics	19
Table 10: Addiction topics	19
Table 11: Availability and preserve of service topics	20
Table 12: Utilisation and services barriers topics	21
Table 13: Relevance and effectiveness of services topics	22
Table 14: Equity topics	22
Table 15: Workforce sub-themes	23
Table 16: Multi-disciplinary team sub-themes	24
Table 17: Number of suggestions for MDT	24
Table 18: Integration sub-themes	25
Table 19: Digital healthcare sub-themes	25
Table 20: Self-care them and sub-theme	26
Table 21: Primary/secondary care interface sub-themes	26
Table 22: Medication theme	27
Table 23: Health inequalities theme and sub-themes	27
Table 24: Carers theme	27
Table 25: Patient Involvement sub-themes	28

ONE PAGE SUMMARY

Introduction

The Covid-19 pandemic has had a significant impact on primary care and so it is timely to set primary care research priorities to support recovery. The aim of the project was to reach a consensus for primary care research priorities in Scotland and set a research direction that will be relevant for patients, carers and primary healthcare professionals in the aftermath of the coronavirus pandemic.

Methods

Anyone living in Scotland and a healthcare professional in primary care in Scotland was eligible to participate in the survey. Participants recommended up to three suggestions for primary care research. These suggestions were grouped into themes and sub-themes by the research team. Respondents ranked these themes and sub-themes in order of priority.

Results

There were 512 respondents; 92.2% (n=470) worked in health and/or social care with most working in primary care. Thirty-three percent (n=157) of respondents were in nursing and midwifery professions 25% (n=120) in Allied Health Professions and 20% (n=95) in medical professions. The total number of research suggestions was 1,274. Research suggestions were categorised under 12 main themes and 30 sub-themes. Five themes had over 100 suggestions for research; these were 'disease and illness', 'access', 'workforce', 'multidisciplinary teams' and 'integration'.

One hundred and three (20%) respondents to the survey (profession unknown) participated in ranking the list of 12 themes in order of research priority. The five most highly ranked themes were as follows: 19.4% of respondents chose 'disease and illness', 17.4% chose 'health inequalities', 14.5% chose 'access', 12.6% chose 'workforce' and 12.6% chose 'multi-disciplinary team' as their number one top research priority. Hence, based on this ranking exercise, these are the top five priorities for research.

Box 1: Top five ranked research priorities

1. Disease and illness
2. Health inequalities
3. Access
4. Workforce
5. Multi-disciplinary teams

Discussion and conclusion

This is the first comprehensive project to assess research priorities in primary care since the 2020 coronavirus pandemic. The findings of this research prioritisation exercise can inform the future direction of research in primary care in Scotland. The themes and sub-themes identified in this project could be prioritised by research funders.

INTRODUCTION

Primary care is the foundation of equitable and affordable healthcare [1], especially in countries with universal coverage and a National Health Service (NHS) as in the United Kingdom (UK) [2]. Scotland, as a devolved nation, is responsible for the funding and planning of its healthcare system with high quality primary care at the heart of its vision [3]. High high-quality primary care needs to be underpinned by high-quality research and evaluation [4]. Primary care is usually a person's first point of contact with the NHS [5] and it is where most patient contacts occur [3]. Primary care is defined as follows:

“Primary care is provided by generalist health professionals, working together in multidisciplinary and multiagency networks across sectors, with access to the expertise of specialist colleagues. All primary care professionals work flexibly using local knowledge, clinical expertise and a continuously supportive and enabling relationship with the person to make shared decisions about their care and help them to manage their own health and wellbeing” [6].

Vertical (i.e. disease-specific) approaches to healthcare have been effective at reducing morbidity and mortality from specific conditions [7]. Research priorities set from a generalist and multi-professional perspective are also important and of value to patients and carers [8-11]. Hence, there is a need to set vertical and horizontal (i.e. generalist) research priorities in order to guide research investment and direct resource allocation that will ultimately provide a robust evidence-base to underpin the development and delivery of primary care.

The Covid-19 pandemic has had a significant impact on primary care [12-14] and so it is timely to set research priorities to support recovery. It is also timely because the Scottish General Medical Services (GMS) Contract re-focused the role of the GP as expert medical generalists and strengthened the need for a multi-disciplinary team model of care and service integration [15]. The primary care workforce includes the following four independent contractor professionals who are contracted to provide services on behalf of NHS Boards: General Practitioners, dentists, optometrists and community pharmacists [16]. The role of pharmacists in primary care in the UK [17] and other countries for instance, is expanding [18] and reflected in local Community Pharmacy Contract Agreements 2019-2020 in Scotland [19]. The wider primary care clinical team includes nursing and allied health professions (NMAHPs) either employed directly by a practice or by the NHS [16]. Non-clinical staff delivering primary care services are the practice managers, administration staff and community link workers. Hence, the pandemic and workforce transformations are likely to impact primary care thereby providing further stimulus to set research priorities anew.

A number of previously published studies have identified primary care research priorities involving patients, carers and primary care professionals. The reach of these studies has varied with some research priorities being applied internationally [20], in low and middle income countries [21], in the European Union [22], or in one specific country [23]. An argument for setting research priorities in one country, or a cluster of countries is because the challenges faced by primary care in different countries vary due to factors such as population characteristics (for example, an ageing population), diverse social cultures and norms, and different healthcare systems (for example, public and private

healthcare systems) [22]. Research priorities identified in several previous research prioritisation exercises include how primary care should be financed, organised and staffed [20-24], the importance of implementation and translation of knowledge and evidence into primary care [20, 23], addressing multimorbidity [20, 23, 24], promoting health equity [20, 23], promoting healthy behaviours in the population [20, 23], universal health coverage and health access [20, 21], digital delivery of primary care [20, 23] and the involvement of patients in the design and delivery of primary care [20, 23].

The aim of this project was to reach a consensus for primary care research priorities in Scotland and set a research direction that will be relevant for patients, carers and generalist healthcare professionals in the aftermath of the coronavirus pandemic. This is the first comprehensive, generalist health professional project of primary care research priorities since the 2020 coronavirus pandemic. It is designed to strengthen future evidence for primary care to improve health outcomes.

METHODS

This project draws on and adapts the James Lind Alliance (JLA) methodology [25].

The Steering Group for the project was the Scottish School of Primary Care (SSPC) Executive (<http://www.sspc.ac.uk>), which included a patient representative, clinical academics and primary care researchers from Scottish universities [26]. Independent advice was sought from NHS Grampian research and ethical committee and University of Highlands and Islands research and ethical committee who believed that the project did not require research and ethical approval.

The following steps were taken to deliver the project:

Steps 1 and 2: Identification and invitation of potential partners and awareness raising

Potential partner organisations were identified through a process of peer knowledge and consultation, through the Steering Group members' networks. Organisations and individuals involved in the project as partners agreed to support and promote the project by encouraging their members to participate in the survey. A letter from the Steering Group was used to elicit engagement by partners. Fifty-four 'key Partners' agreed to take part in the survey (Box 1).

Box 1: Key partners

Academy of Medical Royal Colleges and Faculties in Scotland (the Scottish Academy)
Advanced Practice Physiotherapy Network
Autism Network Scotland
Association of Advanced Practice Educators UK
BMA General Practitioners Committee Scotland
Chair of Directors of Pharmacy, NHS Boards
Chartered Society of Physiotherapy
Chest Heart & Stroke
Chief Nursing Officer
COSLA - Convention of Scottish Local Authorities
The Scottish Deep End Project
Defence Primary Health Care Scotland
Director of Postgraduate GP Education East
Edinburgh Community Health Forum
General Practice Nursing NHS Education Scotland
Healthcare Improvement Scotland
Health and Social Care Scotland (including Chief Officer Group and IJB Chairs & Vice Chairs Network)
International Foundation for Integrated Care (IFIC)
Mental Health Foundation
National Academy for Social Prescribing
NHS Board Chief Executives
NHS 24 Stakeholder Engagement and Insight
NHS National Services Scotland (NSS)
NRS Primary Care PPI
Penumbra -supporting mental health and wellbeing
PHC Lead Nurse at SG/Primary Care General Practice Nursing
Postgraduate Dean for Pharmacy NES
Programme Director Nursing NES

Public Health Scotland Primary Care Co-Cell Lead
 Public Health Scotland
 QNIS / Queen's Nursing Institute Scotland
 RCGP Scotland
 The Richmond Group of Charities, on behalf of the Taskforce on Multiple Conditions
 RNIB Scotland
 Royal College of General Practitioners
 Royal College of Occupational Therapists
 Royal College of Nursing Scotland
 Royal Pharmaceutical Society (Scotland)
 Scottish Ambulance Service, Medical Director
 Scottish Community Development Centre/Community Health Exchange
 Scottish Government - Division of Primary Care
 Scotland's House of Care Programme
 Scottish Physiotherapy Amputee Research Group (SPARG)
 Scottish Practice Pharmacist and Prescribing Advisors group
 Scottish Rural Health Partnership
 Scottish Rural Medicine Collaborative
 SIGN Scottish Intercollegiate Guidelines Network
 Sight Action
 SPIRE clinical lead
 The Association of Chartered Physiotherapists in Sports and Exercise Medicine
 The Health and Social Care Alliance
 The Society and College of Radiographers
 Voluntary Health Scotland

The project was then publicised through the Steering Group and key partners members' networks in order to elicit individual responses to the survey in Step 3.

Step 3: Identifying research priorities

The Steering Group administered an online survey to identify an initial set of research priorities. Anyone living in Scotland and a healthcare professional in primary care in Scotland was eligible to participate in the identification and prioritisation of research for primary care. Volunteers of primary care Patient and Public Involvement (PPI) groups were also invited including members of the National Research Scotland Primary Care PPI group. A period of 3 months was given to complete the survey (4th December 2020 – 1st March 2021).

Responses were solicited with the following open-ended query that was used in a previous international JLA primary care research priorities project: 'Please suggest up to three important primary care research questions' [20]. Respondents were asked to confirm that they were living in Scotland and identify if they are a 'primary care professional'. Respondents were requested to indicate that they understood the purpose of the project and give their consent and could not access the survey unless they checked the box. Responses were anonymous; no names were requested during the survey. Respondents were asked to provide an email if they were willing to participate in subsequent steps of the project, but these emails were stored separately from the submitted priorities. Results were downloaded from Online Survey to an Excel spreadsheet for the purposes of analysis in Step 4.

Step 4: Identifying research themes

Suggestions for research by respondents were grouped into themes, sub-themes and topics by two members of the Steering Group (GH, FG) and checked by a third member (SM) of the group. Several meetings were held to ensure that the raw data was being interpreted appropriately.

If a group of suggestions on the same issue totalled <1 percent (i.e. ≤ 12 suggestions) of the total number of research suggestions then a theme was not created. Sub-themes were identified within a theme when approximately $\geq 10\%$ of suggestions were on a similar issue. Topics were identified within a sub-theme to provide readers with a sense of the breadth of key research suggestions within a sub-theme and to illustrate common suggestions that are evident across themes and sub-themes.

Theme, sub-theme and topic names were chosen from current policy and literature so that they would be familiar to readers of this report for example, sub-themes for the theme 'access' were drawn from a published definition of 'access' [27].

Step 5: Reaching consensus

The aim of the final stage of the priority setting process was to prioritise through consensus the primary care research priorities.

The respondents in Step 3 who wished to participate in this step were invited by email to rank the list of the research themes and sub-themes in order of priority. This exercise was done using an online survey, which was open for 1 month. The ranking of themes and sub-themes was then reviewed by two members of the steering group (GH, FG).

RESULTS

Respondent characteristics

There were 512 respondents. It is not possible to report a response rate because key partners advertised the survey were using their own network and membership lists to advertise the survey. Nonetheless, to give some indication, the estimated headcount of GPs in post in Scottish General Practices in 2020 was 5,134 [28]. The number of registered nurses employed by general practice in 2017 was 2,297 [29]. These two regulated professions represent the biggest proportion of healthcare staff in primary care.

Ninety-nine percent (n=502) of respondents lived in Scotland, 92.2% (n=470) worked in health and/or social care and most worked in primary care (Figure 1). Thirty-three percent (n=157) of respondents were in nursing and midwifery professions regulated by the Nursing and Midwifery Council, 25% (n=120) were in Allied Health Professions regulated by the Health and Care Profession Council and 20% (n=95) were in medical professions regulated by the General Medical Council (Figure 2).

Figure 1: Sector respondents work in

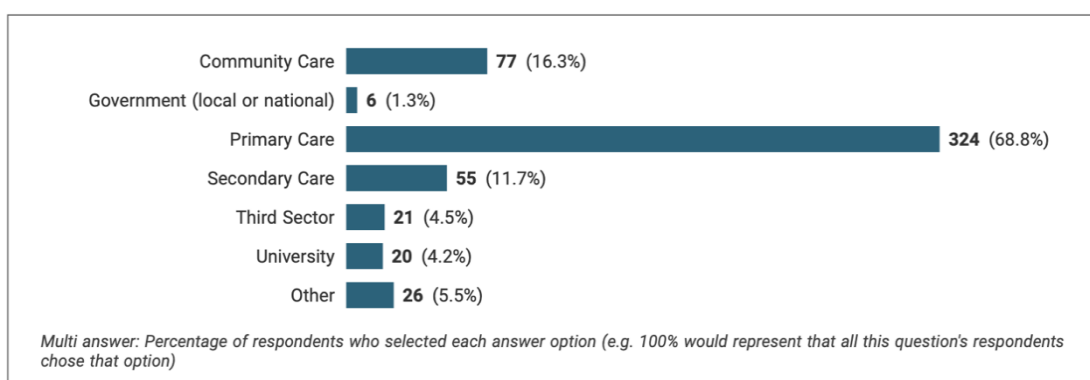
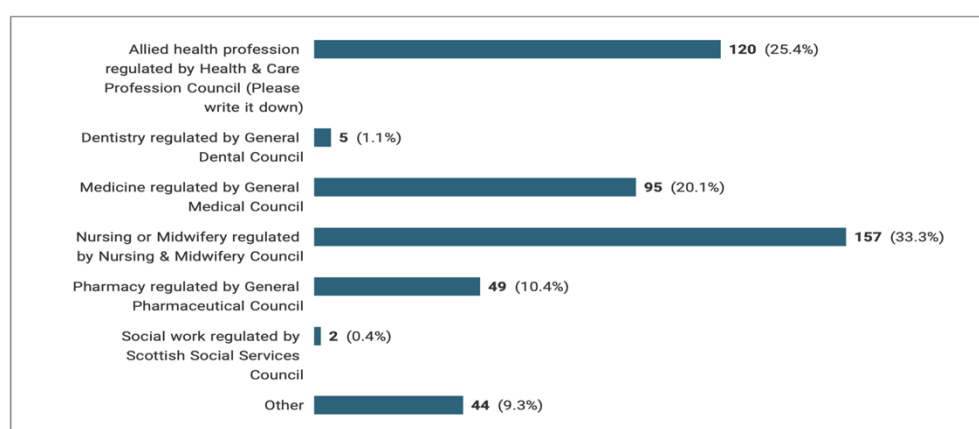


Figure 2: Respondents' main profession



Research themes

The total number of research suggestions was 1,274.

Three hundred and sixty-nine (73%) respondents gave the maximum number of three research suggestions, 83 (16%) respondents gave two suggestions, 30 (0.6%) gave one suggestion, and 26 (0.5%) did not provide any research suggestion.

Research suggestions were categorised under 12 themes (some were categorised under more than one theme). The total number of themes, sub-themes and topics gives an indication of the breadth of research being suggested in primary care. Figure 3, shows the total number of suggestions categorised under each theme.

Figure 3: Number of research suggestions categorised under each theme

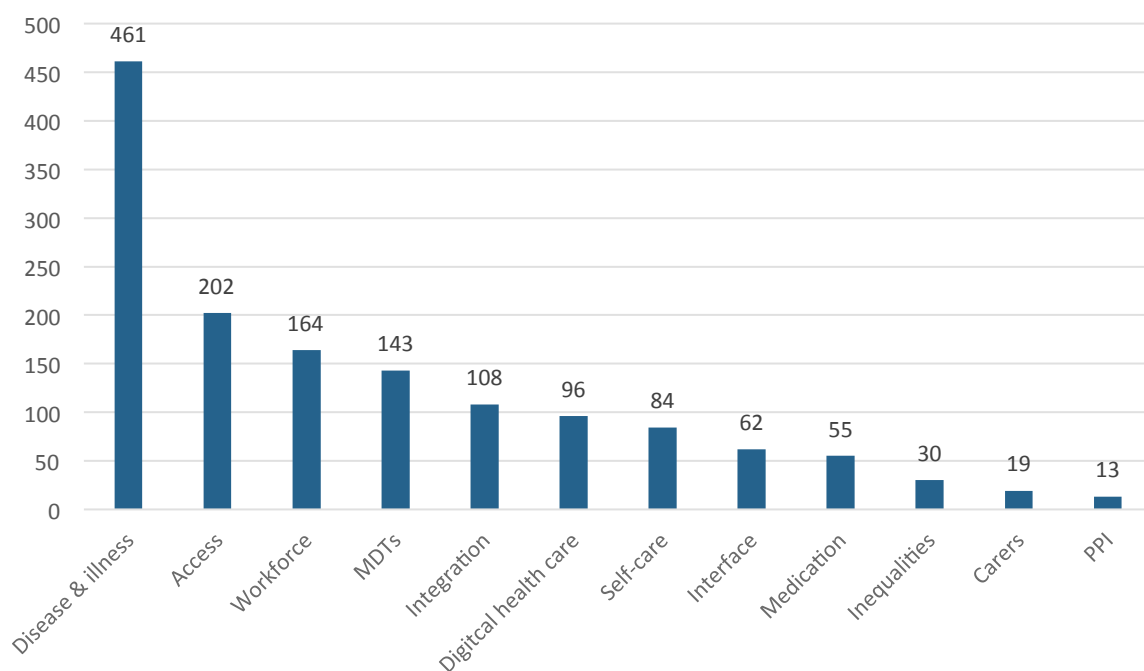


Table 1 shows the 12 themes and associated 30 sub-themes and 29 topics. As shown, the two themes with a greatest number of research suggestions had topics.

Table 1: Themes, sub-themes and topics

Theme	Sub-themes	Topics
Disease and illness	Mental health Covid-19 Long-term conditions Obesity Diabetes Dementia Frailty Addiction	Children and young people Management Access Covid-19 MDT Remote consultations Self-care Early intervention Medications Carers Lived experience Mental health Vaccination Prevention Equity
Access	Availability and presence of services Utilisation of services and barriers Relevance and effectiveness of services Equity	Care closer to home Provision Accessing healthcare professionals Waiting times Patient understanding and expectations Out of hours Access during the pandemic Health literacy Right service Right time Access for all Rurality Deprivation Organisational barriers
Workforce	Recruitment and retention Training and development Mental health Workload GMS contract	
Multi-disciplinary teams (MDT)	-	
Integration	Multi-agency working and collaboration Continuity of care Social prescribing	
Digital healthcare	Remote care IT systems Remote consultations Telephone triage	
Self-care	Lifestyle	
Medications	-	
Primary / secondary care interface	Communication Continuity of care	
Health inequalities	Deprivation	
Carers	-	
Patient involvement	Research Care	

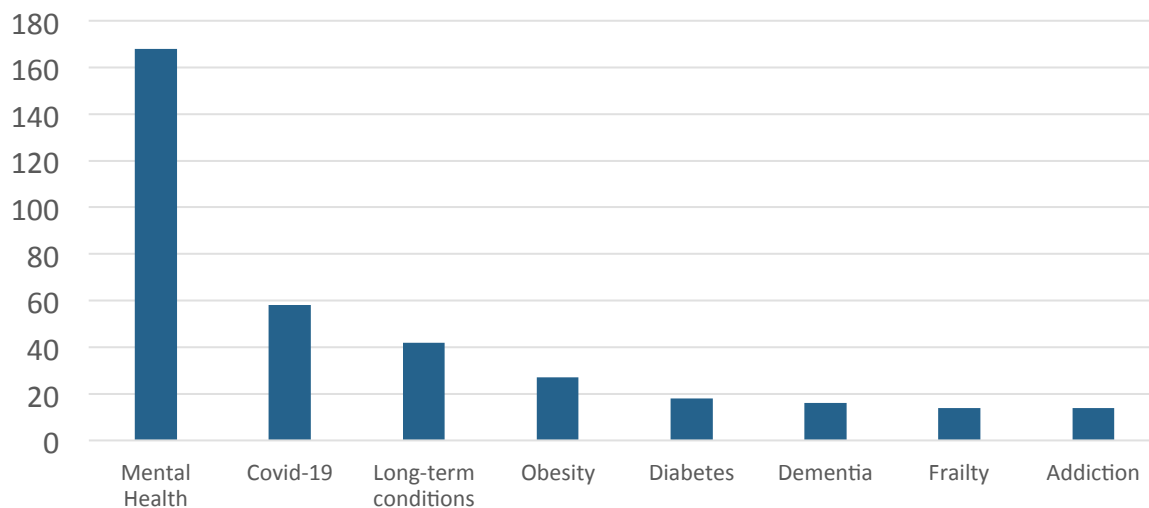
Theme 1: Disease and illness

Four hundred and sixty-one suggestions for research were categorised under the theme ‘disease and illness.’ Some suggestions about particular conditions did not make this list because they represented <1% (≤ 12 suggestions) of the total number of research suggestions for example, sensory impairment, cancer. Table 2 shows the number of suggestions by sub-theme; Figure 4 presents sub-themes graphically. ‘Long-term conditions’ is an independent sub-theme because some respondents referred explicitly to ‘long-term conditions.’ Yet, the other sub-themes are also long-term conditions and multimorbidity/comorbidity is common in all of these diseases and illnesses [30].

Table 2: Disease and illness sub-themes

Sub-theme	N	%
Mental health	168	36
Covid-19	58	35
Long-term conditions	42	25
Obesity	27	16
Diabetes	18	11
Dementia	16	10
Frailty	14	8
Addiction	14	8

Figure 4: Disease and illness sub-themes



Mental health

This was by far the largest sub-theme with 168 research suggestions relating to mental health. Twenty-five suggestions simply suggested research of 'mental health' and therefore were not categorised under a topic about mental health. Thirty-one suggestions were categorised under the topic 'children and young people', 27 under the topic 'management', 24 under the topic 'access', 12 under the topic 'Covid-19', 12 under the topic 'MDT', 3 under the topic 'self-care', 3 under the topic 'remote consultations', 2 under the topic 'medication' and 'early intervention' respectively, and 1 under the topic 'carers', and 'equity' respectively. Examples of suggestions for research are presented in Table 3.

Table 3: Mental health sub-theme topics

Topics	Suggestion examples
Children and young people	<ul style="list-style-type: none">• Mental health services in children and adolescents• How can primary and secondary care better work together to care for children and young people with mental disorder, ranging from ADHD to anorexia nervosa.• Improving mental health services. There has been a huge increase in maternal mental health and child and adolescent mental health issues since the Covid 19 pandemic.
Management	<ul style="list-style-type: none">• Development of mental health support for those with mental wellbeing difficulties presenting to primary care and being managed in primary care- support worker for self-help and counselling etc• Proactive management of anxiety and mental health - aiming to audit and address this growing unmet need within primary care.• Management plans. Social, spiritual, mental health, where and how you would like to die.
Access	<ul style="list-style-type: none">• Improved access to mental well-being support• Mental health provision• Availability of mental health services for adults
Covid-19	<ul style="list-style-type: none">• The impact of isolation to people's mental wellbeing during Covid• Deterioration in the mental health of people with Autism and learning difficulties during Covid
MDT	<ul style="list-style-type: none">• Issue - lack of AHP particularly OT in primary care. Patients with mental health problems or complex comorbidity who do not meet the criteria for secondary care services cannot access OT services until they become very unwell. Goes against early intervention.• Why there are not more funded training places for people to deliver psychological interventions, i.e. psychologists, when demand greatly outweighs number of spaces currently available, and waiting lists are enormous.
Remote consultations	<ul style="list-style-type: none">• Mental health services, particularly remote access
Self-care	<ul style="list-style-type: none">• Eating well for your mental health
Early intervention	<ul style="list-style-type: none">• Early access to mental health services in the community
Medication	<ul style="list-style-type: none">• Inappropriately long durations of antidepressants

Carers	<ul style="list-style-type: none"> The impact on the mental health of unpaid carers. Who is caring for the carers? What percentage of carers die before the cared for?
Equity	<ul style="list-style-type: none"> The effect on the mental health of people who rely on charities to do their weekly shop

Covid-19

Thirteen out of the 58 suggestions about Covid-19 were non-specific and simply suggested research of 'Covid-19' or 'long Covid'. Fourteen suggestions were categorised under the topic 'management', six suggestions under the topic 'lived experience', six under the topic 'mental health' and four under the topic 'vaccination'. Examples of suggestions for research are presented in Table 4.

Table 4: Covid-19 sub-theme topics

Topics	Suggestion examples
Management	<ul style="list-style-type: none"> Post Covid what the primary care consulting model will look like and how patients will be triaged in the future with potential infections Long Covid and its issues for patients- what should services look like to support these patients? Interventions in the community for post-Covid care IT - suggested assessments or interventions especially managing risk etc.
Lived experience	<ul style="list-style-type: none"> Living with long Covid' Post Covid symptoms – long-term recovery and support
Mental health	<ul style="list-style-type: none"> Long term effects of Covid-19 on anxiety, depression, especially in young people Mental health - impact of Covid on patients
Vaccination	<ul style="list-style-type: none"> Long term side effects of Covid immunisation and the overall effect – how often will we need a vaccine and what's the longevity of the antibodies?

Long-term conditions

Nine suggestions simply stated 'long-term conditions' and therefore were not categorised under a topic. Sixteen out of the 42 suggestions on long-term conditions were categorised under the topic 'management', nine under the topic 'self-care', five under the topic 'remote consultations', and three under the topic 'prevention'. Examples of suggestions for research are presented in Table 5.

Table 5: Long-term conditions sub-theme topics

Topics	Suggestion examples
Management	<ul style="list-style-type: none"> Management of long-term conditions Disparity over how we deliver long term condition management and how that affects outcomes Long term condition monitoring, does it improve morbidity and mortality? If so, for which conditions and what is optimum review interval and requirements'
Self-care	<ul style="list-style-type: none"> Self-care of long-term conditions

	<ul style="list-style-type: none"> Supporting patients living with long term conditions to take control of them with support from health care professionals
Remote consultations	<ul style="list-style-type: none"> Remote consultant in long term condition management Use of remote consultation on management of long-term chronic conditions as this group have a high DNA rate for face to face appointments
Prevention	<ul style="list-style-type: none"> Primary prevention of long-term conditions. What would really work in the real world

Obesity

Eight out of the 27 suggestions on obesity simply suggested researching 'obesity'. Eight suggestions were categorised under the topic 'prevention' and eight under the topic 'management'. Examples of suggestions for research are presented in Table 6.

Table 6: Obesity sub-theme topics

Topics	Examples
Prevention	<ul style="list-style-type: none"> Better resources and treatments for prevention of obesity, once a patient has gained significant weight very difficult to remove and sustain.
Management	<ul style="list-style-type: none"> Weight management/exercise Obesity management strategies that are accessible for all

Diabetes

Nine out of the 18 suggestions simply suggested researching 'diabetes'. Five suggestions were categorised under the topic 'prevention', three under the topic 'medication' and one under the topic 'lived experience'. Examples of suggestions for research are presented in Table 7.

Table 7: Diabetes sub-theme topics

Topics	Examples
Prevention	<ul style="list-style-type: none"> Diabetes and Obesity at all ages. More needs to be done about healthy eating and life style Type 2 Diabetes - lifestyle management & prevention of disease or disease progression
Medication	<ul style="list-style-type: none"> Cost benefits of GLP-1 receptor activators Effects of lifestyle v drugs for Diabetes and CV disease and how to effectively deliver these
Lived experience	<ul style="list-style-type: none"> Pre-diabetes and progression to type 2 diabetes and the patients experience and what they feel could have been done differently

Dementia

Four out of the 16 suggestions relating to dementia research simply suggested research about 'dementia'. Four suggestions were categorised under the topic 'management', five under the topic 'early intervention', two under the topic 'lived experience' and two under the topic 'carers'. Examples of suggestions for research are presented in Table 8.

Table 8: Dementia sub-theme topics

Topics	Examples
Management	<ul style="list-style-type: none">• Dementia service / resource• Alternatives to 24hr large group residential settings vs group houses or entire dementia communities to allow safeguarding and independence
Lived experience	<ul style="list-style-type: none">• Experience of persons with Dementia / L Disability in Inpatient acute care
Early intervention	<ul style="list-style-type: none">• Implementation of OT services for early intervention for people with a dementia diagnosis• More timely diagnosis and access to dementia support. Dementia assessment and treatment to be separate from Mental Health services.
Carers	<ul style="list-style-type: none">• Support for carers

Frailty

Two out of the 14 suggestions simply suggested researching 'frailty.' Nine suggestions were categorised under the topic, 'management', one under the topic 'mental health', one under the topic 'early intervention' and one under the topic 'lived experience.' Examples of suggestions for research are presented in Table 9.

Table 9: Frailty sub-theme topics

Topics	Examples
Management	<ul style="list-style-type: none">• With an ageing population, a continued long-term strategy to address falls and fragility from cradle to grave• Approaches to frailty and last-years-of-life trajectories.
Mental health	<ul style="list-style-type: none">• Impact of COVID/Isolation on mental health within the frail elderly population
Early intervention	<ul style="list-style-type: none">• Early intervention for prevention in frailty
Lived experience	<ul style="list-style-type: none">• Frailty of people living in own homes

Addiction

Three suggestions simply stated researching 'addiction'. Four suggestions were categorised under the topic 'management', three under the topic 'medications', two under the topic 'lived experience' one under the topic 'early intervention' and one under the topic 'mental health.' Examples of suggestions for research are presented in Table 10.

Table 10: Addiction sub-theme topics

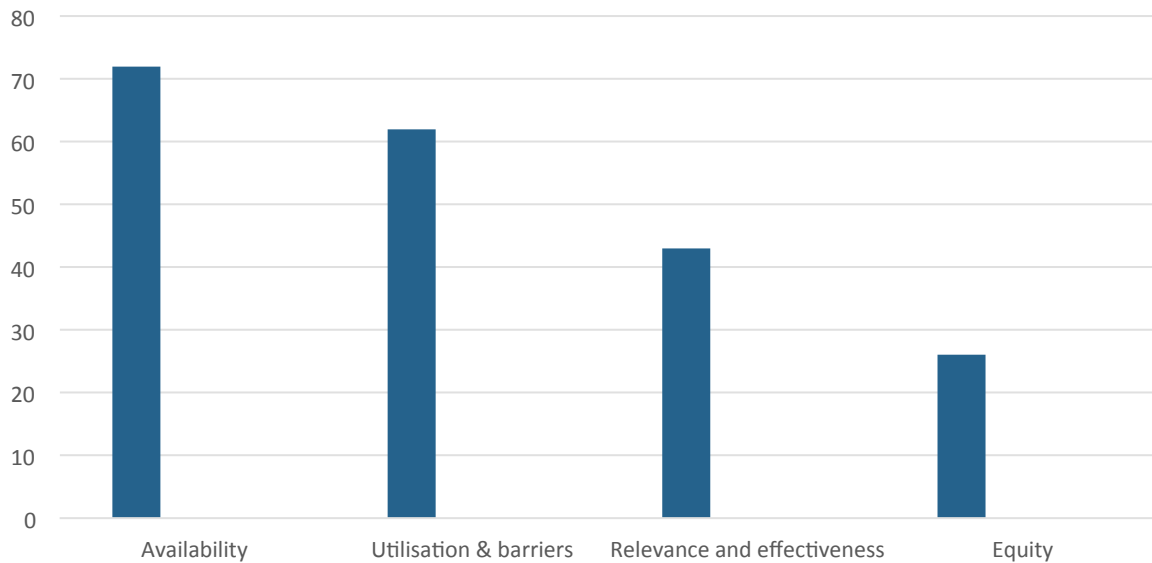
Topics	Examples
Management	<ul style="list-style-type: none">• The role of Occupational Therapy within addiction, recovery and treatment teams
Medication	<ul style="list-style-type: none">• Supporting people with alcohol and drug issues and polypharmacy
Lived experience	<ul style="list-style-type: none">• Recovery from Addictions
Mental health	<ul style="list-style-type: none">• Mental health services including drug and alcohol and children's services.
Early intervention	<ul style="list-style-type: none">• The effect of early intervention (beyond Brief Intervention) on

those identified with harmful drinking levels - preventing progress onto Hazardous drinking

Theme 2: Access

Two hundred and two (16%) suggestions for research were categorised under the theme ‘access.’ Figure 5 shows the number of suggestions under the four sub-themes, which are described below.

Figure 5: Number of suggestions categorised under each access sub-theme



Availability and presence of services

Seventy-two (36%) out of the 202 suggestions under the theme ‘access’, were categorised under the sub-theme ‘availability and presence of services.’ Two main topics were identified. Thirty-nine out of 72 suggestions were categorised under the topic ‘provision’ and 33 were categorised under the topic ‘care closer to home’. Examples of suggestions for research are presented in Table 11.

Table 11: Availability and presence of services sub-theme topics

Topics	Examples
Provision	<ul style="list-style-type: none"> • Primary care access to psychological therapies and counselling • Access to primary care services • How to build in sustainable service developments, particularly that can become community assets • Management of mental health and service availability
Care closer to home	<ul style="list-style-type: none"> • Access to services in the community/ more funding for community-based hubs • Transfer of services to primary care so that care can be delivered closer to patients’ homes, do centralised services such as care and treatment services improve patient care? • Impacts on rural communities in accessing healthcare with redesign to hub healthcare

Utilisation of services and barriers

Sixty-one (30%) suggestions were categorised under the sub-theme 'utilisation of services and barriers.' Twenty of these suggestions were categorised under the topic 'accessing healthcare professionals', 13 under the topic 'organisational barriers', 10 under the topic 'waiting times', nine under the topic 'Patient understanding and expectations', and three under the topics 'out of hours', 'access during the pandemic' and 'health literacy, respectively. Examples of suggestions for research are presented in Table 12.

Table 12: Utilisation and services barriers sub-theme topics

Topics	Examples
Accessing healthcare professionals	<ul style="list-style-type: none">• Access to nurse and GP appointments• Easy access for patients to GPs and other health professionals. Some may find it difficult to get appointments• Easier access to Medical Professionals' 'Patient access to the wider multidisciplinary team and breaking down barriers that are stopping this• Patient access to GP face to face appointments
Organisational barriers	<ul style="list-style-type: none">• How to improve harder to reach patients accessing health services• Far better transport access to hospitals, either public or NHS
Waiting times	<ul style="list-style-type: none">• Waiting times• Quicker access to primary care input to prevent escalation to secondary care services• What impact does a 2 year waiting list for psychological therapy have on mental health patients?• Impact of reduced time with the GP and longer waiting times on health outcomes
Patient understanding and expectations	<ul style="list-style-type: none">• 'First contact physio service- need to improve patient understanding• Access to services - how to reduce inappropriate demand to improve available provision
Out of hours	<ul style="list-style-type: none">• 7 day access to GP surgeries
Accessing during pandemic	<ul style="list-style-type: none">• Impact of access challenges in immediate phase 1 of Covid on diagnosis of chronic conditions e.g. depression
Health literacy	<ul style="list-style-type: none">• Addressing health literacy to improve outcomes

Relevance and effectiveness of services

Forty-three (21%) suggestions were categorised under the sub-theme 'relevance and effectiveness of services.' Suggestions fell into one of two topics; 31 suggestions were categorised under the topic 'right service', including, the effectiveness and impact of current services and the effectiveness and impact of the implementation of new models of care in primary care and 12 suggestions were categorised under the topic 'right time,' which were about the timeliness of care and included suggestions about early intervention. Examples of suggestions for research are presented in Table 13.

Table 13: Relevance and effectiveness of services sub-theme topics

Topics	Examples
Right service	<ul style="list-style-type: none"> • How mental health services are meeting the needs of patients within primary care • How Primary care become more responsive to the needs of the community • Effects of 'long Covid' on patients and access to effective treatment • Evaluation of impact of changes to patient engagement with GP practices (including different models, like care navigation, GP first triaging etc
Right time	<ul style="list-style-type: none"> • Access to early intervention on Mental Health concerns before they worsen • Triage to improve access to the right the person at the right time • How can we improve care for the housebound (who now often end up with reactive care from random professionals

Equity

Twenty-six (13%) suggestions were categorised under the sub-theme 'equity', which is concerned with fairness and social justice. Most suggestions were categorised under the topic 'access for all'. Six suggestions were categorised under the topic 'rurality' and two under the topic 'deprivation.' Examples of suggestions for research are presented in Table 14.

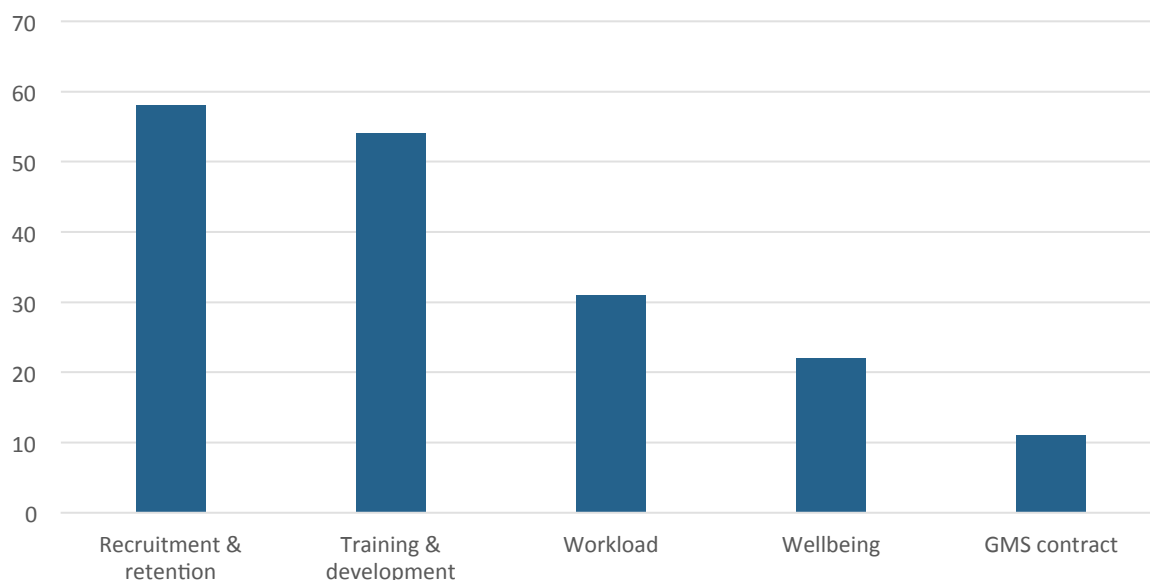
Table 14: Equity sub-theme topics

Topics	Examples
Access for all	<ul style="list-style-type: none"> • Ensuring that services are accessible, acceptable, available and high quality, in line with a rights-based approach to ensuring that services support our shared right to the highest attainable standard of health • Unwarranted variation in care and medicines use across Scotland
Rurality	<ul style="list-style-type: none"> • The numbers of people living rurally, with no access to a car and miles from the nearest GP practice and the effect on their mental and physical health
Deprivation	<ul style="list-style-type: none"> • Communication poverty to improve accessibility, participation and citizenship

Theme 3: Workforce

One hundred and sixty-four (13%) suggestions were categorised under the theme 'workforce'. Figure 6 shows the number of suggestions categorised under four sub-themes.

Figure 6: Number of suggestions categorised under each workforce sub-theme



Fifty-eight (33%) of the suggestions recommended research that addressed deficits in staffing and were categorised under the sub-theme 'recruitment and retention'; 54 (31%) of the suggestions were categorised under the sub-theme 'training and development' which either focussed on generic training and development issues or training and development relating to a specific condition; 31 (18%) of the suggestions were categorised under the sub-theme 'workload', with around a third of these focussing on pay and conditions and other suggestions focussing on amount of work; 22 (12%) suggestions were categorised under the sub-theme 'mental health'; 11 (6%) suggestions were categorised under the sub-theme 'GMS contract.' Examples of suggestions for research are presented in Table 15.

Table 15: Workforce sub-themes

Sub-theme	Examples
Recruitment and retention	<ul style="list-style-type: none"> Encourage GPs in primary care Staff shortages in district nursing
Training and development	<ul style="list-style-type: none"> Sharing of best practice and protocols for routine work Sensory awareness and communication training for all primary care service staff
Workload	<ul style="list-style-type: none"> Looking at pay/ employment rights/ annual leave of all practice nurses across Scotland and standardising it The patient contact workload of GPs and impact on GP workforce and safety
Mental health	<ul style="list-style-type: none"> Supporting staff's wellbeing when working from home Burnout in the primary care workforce

Theme 4: Multi-disciplinary teams

One hundred and forty-three (11%) suggestions were categorised under the theme 'multi-disciplinary teams' (MDT).

Table 16 shows the number of suggestions about MDTs in general (28%) and for each profession, with nurses being the most commonly recommended profession (23%) to research. 'Other' professions included social workers (n=1) and dentists (n=2).

Table 16: Number of suggestions for MDT research about each profession

General	Nurses	Occupational Therapists	AHPs	Pharmacists	Physiotherapists	Psychologists	Other
40 (28%)	33 (23%)	23 (17%)	18 (13%)	11 (8%)	6 (4%)	5 (3%)	6 (4%)

Examples of suggestions for research in this theme are presented in Table 17.

Table 17: Multi-disciplinary team theme

Theme	Examples
MDT	<ul style="list-style-type: none"> • Added value of MDT in primary care? • Primary care is becoming more of an MDT; patient perspectives on this? • Effectiveness of nurse-led clinics • Unique contribution of occupational therapy service provision in early intervention for prevention model of service delivery within MDT in primary care setting • What is the role of the General Practice Nurse in 2030?

Theme 5: Integration

One hundred and eight (8%) suggestions were categorised under the theme 'integration'. Seventy-four suggestions were categorised under the sub-theme 'multi-agency working', which included research suggestions about different services within primary care working together as well as primary care working with social care and other agencies; 20 suggestions were categorised under the sub-theme 'social prescribing', and 14 suggestions were categorised under the sub-theme 'continuity of care'. Examples of suggestions for research are presented in Table 18.

Table 18: Integration sub-themes

Sub-theme	Examples
Multi-agency working and collaboration	<ul style="list-style-type: none">• Links with primary care and community rehabilitation teams• Impact of care at home through multi- agencies versus controlled agency commitment• Prioritisation in the context of health and social care need (not just health need)• Inclusive Communication Strategy across all primary care services
Continuity of care	<ul style="list-style-type: none">• How Primary care can ensure continuity of care between themselves and the patient
Social prescribing	<ul style="list-style-type: none">• Tools to measure continuity of care reliably• How to ensure the majority GPs to actively promote and utilise social prescribing• The extent to which community link workers in primary care practices are making measurable differences to patients' wellbeing and to health inequalities

Theme 6: Digital healthcare

Ninety-six (8%) suggestions recommended researching 'digital healthcare.' Fifty-six were categorised under the sub-theme 'remote consultations', 23 under the sub-theme 'remote care', 12 under the sub-theme 'IT systems' and five under the sub-theme 'telephone triage.' Examples of suggestions for research are presented in Table 19.

Table 19: Digital healthcare sub-themes

Sub-theme	Examples
Remote consultations	<ul style="list-style-type: none">• Make physiotherapy consultations available on line as in the small isles practice, where people cannot go for a physio appointment without at least one overnight stay and invest in NUKA style systems• Use of digital technologies for rural communities i.e.vc consultation
Remote care	<ul style="list-style-type: none">• Problem solving apps for patients before phoning GP• Discuss alternative setting to deliver therapy as the main focus is on digital service deliver however, working rural this is not always suitable for staff or patient
IT systems	<ul style="list-style-type: none">• More online appointments. Far fewer waiting lists• Electronic/patient held records
Telephone triage	<ul style="list-style-type: none">• Would good phone triage help patients self-manage their acute symptoms i.e. not need a face to face or phone appointment.

Theme 7: Self-care

Eight-four (7%) suggestions were categorised under the theme 'self-care.' Around half of these suggestions referred to self-care in general. Forty-four suggestions were categorised under the sub-theme 'lifestyle' and included suggestions about physical activity and diet. Examples of suggestions for research are presented in Table 20.

Table 20: Self-care theme and sub-theme

Theme and sub-theme	Examples
Self-care	<ul style="list-style-type: none">• How to engender responsibility and self-management• Self-management of chronic MSK problems e.g. back pain
Lifestyle	<ul style="list-style-type: none">• Comparing lifestyle measures against medication for conditions like hypertension, high cholesterol, type 2 diabetes and COPD exacerbations• How we shift the culture to ensure better self-management / health behaviours and lifestyle choices to generally improve health and wellbeing and long-term outcomes?

Theme 8: Primary / secondary care interface

Sixty-two (5%) suggestions recommended research about the 'primary / secondary care interface'. Some of these suggestions focussed on the sub-theme 'communication' and included suggestions about electronic records and pathways. Some suggestions were categorised under the sub-theme 'continuity of care' and as mentioned previously, these suggestions were also categorised under the theme of 'integration' because they apply equally to continuity of care across the primary / secondary care interface and health and social care organisations. Examples of suggestions for research are presented in Table 21.

Table 21: Primary / secondary care interface sub-themes

Sub-theme	Examples
Communication	<ul style="list-style-type: none">• Pathways into secondary care and communication between the two• seamless sharing of records between primary and secondary care
Continuity of care	<ul style="list-style-type: none">• Value of continuity of care• Continuity of care and how it improves outcomes

Theme 9: Medications

Fifty-five (4%) suggestions were categorised under the theme 'medication' and included suggestions about medication safety and overprescribing. Examples of suggestions for research are presented in Table 22.

Table 22: Medication theme

Theme	Examples
Medication	<ul style="list-style-type: none">• Adverse drug reactions, particularly those resulting in hospital admission• Antibiotic overprescribing and targeted research of different GP practices usage of antibiotic prescriptions

Theme 10: Health inequalities

Thirty (2%) suggestions recommended research about health inequalities. Around half of these suggestions referred to health inequalities in general with the other half focussing on 'deprivation.' Examples of suggestions for research are presented in Table 23.

Table 23: Health inequalities theme and sub-theme

Theme and sub-theme	Examples
Health inequalities	<ul style="list-style-type: none">• What measurable impact will primary care make on health inequalities across Scotland over the next 5 years?
Deprivation	<ul style="list-style-type: none">• Poverty and the impact this has on health and wellbeing

Theme 11: Carers

Nineteen (2%) suggestions were categorised under the theme 'carers', with all suggestions about supporting carers. Examples of suggestions for research are presented in Table 24.

Table 24: Carers theme

Theme	Examples
Carers	<ul style="list-style-type: none">• Dementia research for treatment and acceptability of support for carers• How primary care providers can better support informal carers

Theme 12: Patient Involvement

Thirteen (1%) suggestions were categorised under the theme 'Patient involvement.' Half of the suggestions were categorised under the sub-theme 'research' and half under the sub-theme 'care'. Examples of suggestions for research are presented in Table 25.

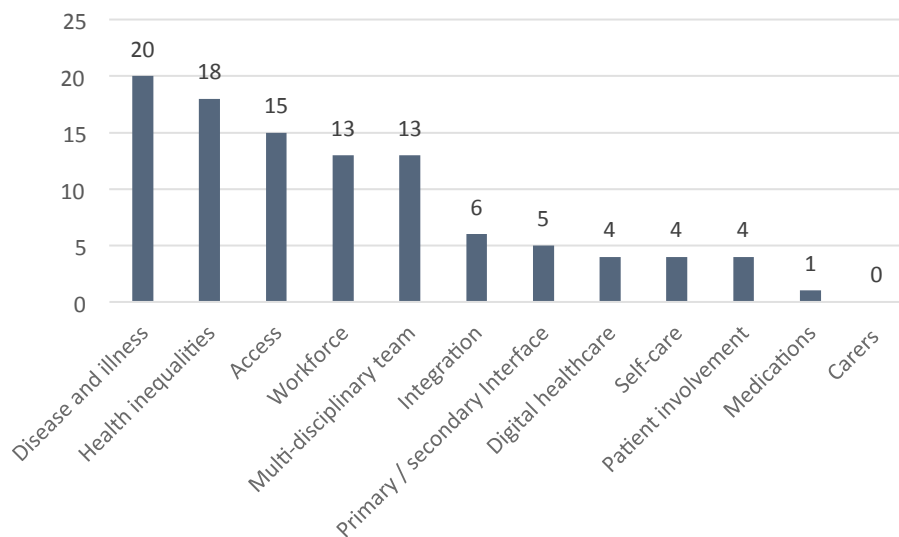
Table 25: Patient Involvement sub-themes

Theme	Examples
Research	<ul style="list-style-type: none">• Ensuring that all service development/improvement assures participation and engagement from the client group
Care	<ul style="list-style-type: none">• Shared decision-making in consultations

Ranking of priorities for research

One hundred and three (20%) respondents to the survey participated in ranking the list of 12 themes in order of research priority. 19.4% of respondents chose 'disease and illness', 17.4% chose 'health inequalities', 14.5% chose 'access', 12.6% chose 'workforce' and 12.6% chose 'multi-disciplinary team' as their number one top research priority. Figure 7 shows the number of respondents that ranked a theme as their top priority for research.

Figure 7: Number of participants ranking a theme as their top priority for research

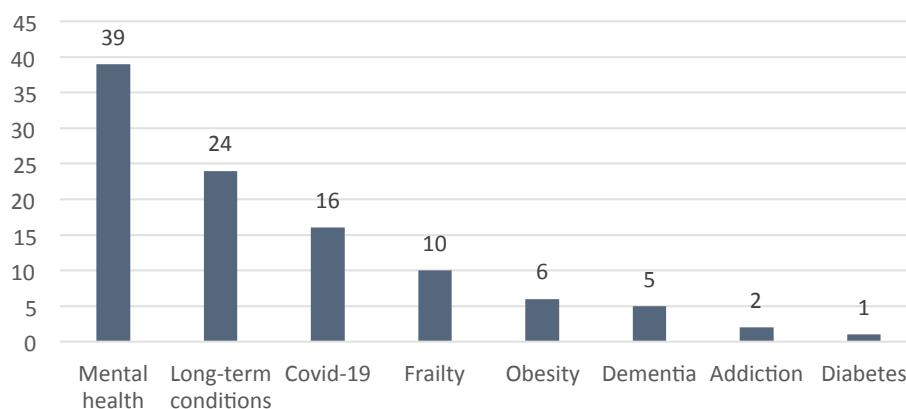


Below, we present the ranking of sub-themes for the five top- ranked priorities for research.

Disease and illness

There were eight sub-themes to rank as the most important research priority in the 'disease and illness' theme. Figure 8 shows the number of respondents that ranked a sub-theme as their number one research priority under this theme. 'Mental health' was selected as the top priority by 37.9% of respondents followed by 'long-term conditions' with 23% of respondents selecting this as their top priority for research under this theme.

Figure 8: Number of respondents ranking a 'disease and illness' sub-theme as their top priority for research



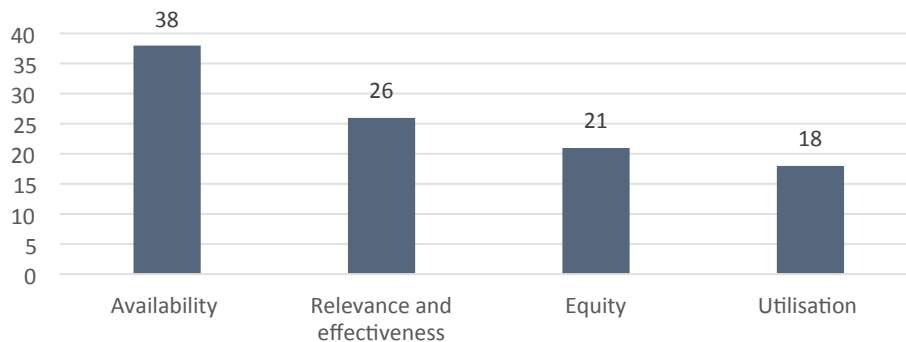
Health inequalities

There was only one sub-theme identified during the survey for the main theme ‘health inequalities’ and so we did not ask respondents to conduct any ranking of sub-themes.

Access

There were four sub-themes to rank as the most important research priority in the ‘access’ theme. Figure 9 shows the number of respondents that ranked a sub-theme as their number one research priority under this theme. Thirty-seven percent of respondents chose ‘availability and presence of primary care services’ as their top priority for research under this theme.

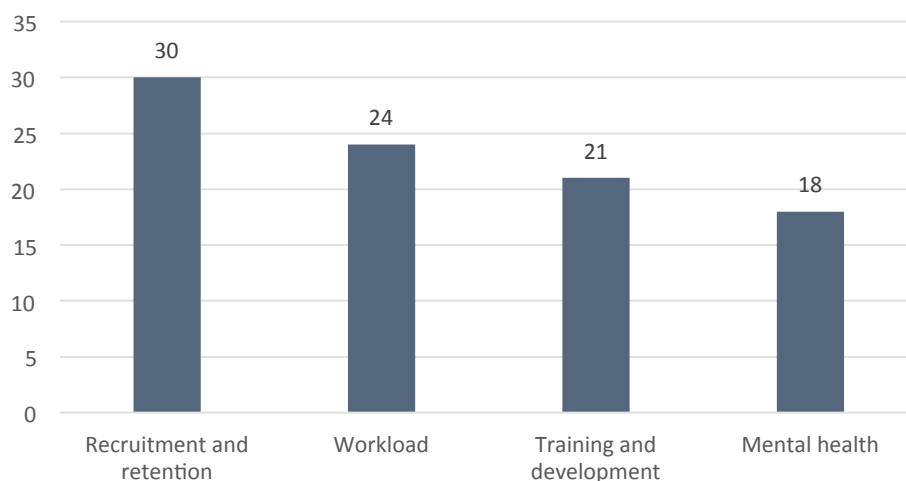
Figure 9: Number of respondents ranking a ‘access’ sub-theme as their top priority for research



Workforce

There were four sub-themes to rank as the most important research priority in the ‘workforce’ theme. Figure 10 shows the number of respondents that ranked a sub-theme as their number one research priority under this theme. Twenty-nine percent of respondents chose ‘recruitment and retention’ as their top priority for research under this theme.

Figure 10: Number of respondents ranking a ‘workforce’ sub-theme as their top priority for research



MDT

We did not ask respondents to conduct any ranking under this theme.

DISCUSSION

Summary of results

There were 512 respondents, which is a largest number of healthcare professionals engaging in a research prioritisation exercise about primary care research in Scotland to date. The project illustrates the quantity and breadth of research suggested by primary care healthcare professionals. There were 12 themes and 30 sub-themes, which reflect that primary care is part of a much larger care system, and has a workforce comprising a range of healthcare professions who are in the business of treating and supporting people with illness and disease.

The 12 themes in order of the quantity of suggestions were: 'disease and illness', 'access', 'workforce', 'multi-disciplinary teams', 'integration', 'digital healthcare', 'self-care', 'medications', 'primary / secondary interface', 'health inequalities', 'carers' and 'patient involvement'. Hence, the theme with the most suggestions for research was 'disease and illness'; its sub-theme with the most suggestions for research was 'mental health'.

A fifth of the respondents ranked these 12 themes in order of priority for research. The following five themes received the greatest number of votes as the top research priority: 'disease and illness', 'health inequalities', 'access', 'workforce' and 'multi-disciplinary team'. 'Mental health' was the sub-theme within the 'disease and illness' theme that scored the highest number of votes as the top priority for research. Hence, not only was there a high quantity of suggestions for research about mental health but it was also highly ranked as a priority for research. Similarly, there were a large number of suggestions about research on access, workforce and multi-disciplinary team which were also highly ranked.

Based on the quantity of suggestions for research and the ranking of themes exercise, this study shows that there are 6 primary care research priorities: 'disease and illness', 'access', 'workforce', 'multi-disciplinary teams', 'integration', 'health inequalities.'

Relationship to current policy and practice

The 'disease and illness' sub-themes illustrate the most common conditions treated in primary care, most of which are long-term conditions. Mental health is one of the top 10 most common conditions for seeking a GP or practice nurse consultation in primary care [5] and was the condition that received the most suggestions for research. Long-term conditions account for approximately 80 percent of all GP consultations and it is estimated that around a million people have at least one long-term condition in Scotland [31]. It is also important to note that multiple long-term conditions (multimorbidity) is common in Scotland (affecting 1 in 4 people) and is more prevalent in the elderly and in deprived areas (where it occurs some 10-15 years earlier than in affluent areas [30]. For all the conditions listed, including mental health problems, it is more common for people to have multimorbidity (two or more conditions) than the single condition alone [30]. What these suggestions for research represent therefore is recognition that the effective management in primary care of long-term conditions, chronic illness and multimorbidity is going to be crucial for the nation's health.

Not surprisingly, Covid-19 was one of the conditions recommended by respondents for research. Whether 'long-Covid' becomes classified as a new long-term condition is yet to be seen but research about the prevalence, persistence, management and long-term consequences of long-Covid in primary care will be important in the foreseeable future. Access to primary care was disrupted during the pandemic and so it is not surprising that many suggestions for research fell under this category. Yet, access has been highlighted in previous primary care research prioritisation exercises [20, 21], suggesting that problems around accessing primary care are persistent.

The Health and Care (Staffing) (Scotland) Act 2019 [32] provides a statutory basis for the provision of staffing, and highlights a duty to ensure that there are sufficient numbers of 'appropriate' staffing for the provision of safe and high-quality health care, appropriate training, and the wellbeing of staff. The 'Everyone Matters: 2020 workforce vision' published in June 2013 highlighted a number of workforce priority areas including a sustainable workforce, a capable workforce and a workforce that delivers integrated services across health and social care [33]. The Covid-19 pandemic has highlighted the problem of stress and burnout and its potential effects on recruitment and retention thereby bringing into focus again, questions about workforce. It is imperative therefore that future research should be conducted on the primary care workforce and the number of suggestions for research on this subject that were categorised under this theme gives an indication of the level of concern and interest in workforce issues.

The project highlights recommendations for research on the themes 'MDT' and 'integration'. Both themes were in the top 6 list of research priorities. The 'Health and Social Care integration: progress review' [34] published in 2019 stated that the main reason for integration was so that care 'feels seamless' for patients. The vision for primary care in Scotland is for an enhanced and expanded multi-disciplinary community [35], including general practitioners (GPs), alongside other health professionals such as, nurses, dentists, pharmacists, and Allied Health Professionals [36]. Vaccination services, pharmacotherapy services, community treatment and care services, urgent care services and additional professional services including acute musculoskeletal physiotherapy services, community mental health services and community link worker services were shifted from GP Contractors to the responsibility of other professions, albeit with GPs maintaining a professional role in these services in their capacity as expert medical generalists. Respondents suggestions reflect these policy shifts with recommendations for future research to include a focus on MDTs and integration.

There were relatively few suggestions for researching health inequalities, although it was ranked highly as a priority for research. Promoting health equity has been highlighted in previous primary care research prioritisation exercises [20, 23].

Limitations

The main strength of this project is that we used an established transparent and systematic approach to identifying research priorities. There are however a number of limitations. The project was reliant on 'key partners' advertising the survey and we do not know how many healthcare professionals received the survey which means that we are unable to report a response rate. Nevertheless, the survey was completed by a range of healthcare professions and this project is one of the biggest to date in Scotland. We did not conduct a literature review to assess if there were

gaps in evidence for each theme. The project was conducted during the Covid-19 pandemic when staff were already stretched to their limit and were having to make major changes to their patterns of work. The research priorities highlighted by respondents must therefore be interpreted in this context. It is reasonable to assume that a different set of priorities will emerge in the future as new challenges in relation to health and healthcare come to the fore in primary care.

Conclusion

There is a need to set research priorities in order to guide research investment and direct resource allocation that will ultimately provide a robust evidence-base to underpin the development and delivery of primary care. The findings of this research prioritisation exercise can inform the future direction of research in primary care in Scotland.

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