

Public Health: Plymouth Priorities

Final Report

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Executive Summary

Research trained staff in Plymouth Public Health (PPH) and researchers in the University of Plymouth (UoP) have carried out public health research as individuals, but with little organisational coordination. This short study was carried out between November 2020 and May 2021. A realist informed analysis of interviews with local stakeholders and case studies of similar, and dissimilar areas, were used to generate understanding of the barriers and facilitators and come up with recommendations as to how to develop capacity. The study therefore needed first to gain an understanding of ‘what kind of place Plymouth is with respect to public health research?’ ‘What contextual factors are distinct?’ ‘What outputs and outcomes did people want?’ Implicit in this is the question ‘how different are we from other places?’ We also wondered if there were similar places to us for whom similar solutions may be helpful.

Most of all we wanted to understand what opportunities we, or others, could put in place to mobilise existing strengths and trigger development of a more productive system of public health research.

The analyses of the data examined the activities of, and interactions between, local, regional and national bodies which carried out and supported Public Health research. The overall priority for Public Health research was generally agreed to be to ensure that resources are invested to do the right things, at an appropriate time, in a way that local people find acceptable, or that generates local impact. The ability to deliver locally focused solutions, which reflected local priorities and resources, while also having the opportunity for regional and national networking and shared learning, was emphasized as important. The data collection and analysis processes produced learning in both directions, and new learning, between University and Local Authority staff. PPH and University staff both highlighted the need for further dedicated investment and infrastructure support if their Public Health research ambitions are to be achieved. Four dominant themes: place, inequality, time/funding and research methods, demonstrate the shared ideas and vision of local participants.

Recommendations include:

- Create shared meetings, joint posts, methodological approaches and dissemination approaches between the University and Local Authority Department
- Develop collaborative approach for supporting PhD and Masters applications and for Regional Public Health trainees
- Proactively identify areas for locally resourced joint projects based on shared motives and reciprocal strengths
- Further coordinate capacity building for public health research by CRN and PenARC
- RDS and PenARC to support Department and University staff to apply for NIHR grants through early alerts and bespoke support
- Develop Excess Treatment Cost (ETC) funding for public health interventions
- National Public Health bodies develop ways of sharing and showcasing learning for local evaluations of likely national relevance
- NIHR to increase warnings and lead times for funding opportunities, and provide feedback and allow resubmissions or redeveloped bids
- NIHR and other funders to prioritise research likely to generate local impact and generalizable knowledge

This study has provided the opportunity to develop clearer ideas about how University researchers and the PPH Department could work together to fulfil shared passions for addressing local challenges and inequalities through research, and help mobilise the many strengths of the population of Plymouth. It also shows how a range of achievable shifts in relationships between organisations could promote capacity building. It considers how national support could develop capacity for public health research in general and encourage links between areas with more limited public health research capacity. Lastly, it proposes promotion of research which is both generalizable and locally applicable through the development and bringing together of local strengths, in less traditional research methods and innovative approaches to public health practice. This would have the potential to result in a fusion of public health practice and research which takes account of local heterogeneity of causal influences and then creates and tests theory based solutions.

Introduction

Plymouth has many beautiful natural assets but experiences higher levels of social and economic deprivation and associated social problems (particularly substance dependency and mental health issues) than other cities. PPH is responsible for local, individual and community health, including health promotion, which can help address social and health inequalities. PPH and UoP researchers have previously worked together on public health based research in order to provide an evidence base of the best ways to protect and promote health. Against this background, the aim of this project was to identify the best ways for Public Health research in Plymouth to be developed, supported and coordinated. Our objectives were to:

- Map out local Public Health research that is already complete, or in progress, and identify local priorities for future research
- Work out what helps this research happen and what stops more research from being done
- See how any gaps in National Public Health research fit with the local research priorities
- Build a next steps plan together

In this report, we describe the research design and methods used to address this aim and summarise the results according to the broad themes captured in the objectives. We conclude by identifying next steps going forward.

Methodology

The scoping project was funded by the NIHR Public Health Research programme as part of a call to determine how best to increase public health research capacity. While the brief could have been fulfilled by employing an external consultancy, we chose to bring together resources from within the city, and also to employ rigorous research methods, so that this way of working will be an exemplar for how future local authority research can be carried out in Plymouth. In order to develop a robust and adaptable plan, which is based around, and sensitive to, local context and capacity, the project was under-pinned by a Realist informed approach. Alongside this realist informed approach, the principles of co-production and collaborative decision making as well as multi-professional and inter-disciplinary working were prioritised.

Realist methods, along with theories of change and logic models, are seen as particularly effective in informing Public Sector evaluations, as they constructively bring together a variety of types of knowledge (academic, Public Health, and lay) and experiences.^{1,2} Realist methods prioritise being explicit about the underlying presumptions behind programmes of work and specify ‘what works for whom, where, why, how and when’ to produce a ‘middle range theory’ which takes into account the influence of context.³ Context is a particularly important consideration for this study which seeks to understand how three different organisational structures (Local Authority Public Health, University and NIHR infrastructure organisations) do, and could, work together within a particular geographic setting (Plymouth). Realist evaluation’s emphasis on mechanisms, the way in which a, or a series of, input(s) are hypothesised to produce (an) outcome(s) is also particularly useful when assessing barriers and facilitators to current, and future, joint working and making recommendations as to how improvements could be achieved. Such mechanisms can be

identified both from extant literature and also through interviews with individuals generating change locally or in sites which have succeeded with similar challenges.

Research questions

A series of knowledge gathering and generating activities took place across five months to answer the research questions (see below). Nominally, each set of questions had a focus (see Table 1); in practice learning takes place iteratively.

Table 1: Key questions for stakeholders

Question
1A) What Public Health research has been carried out in Plymouth in the last 5 years?
1B) What are the Public Health research priorities in Plymouth
2) What are the barriers, and facilitators to conducting Public Health research in Plymouth?
3A) What are the key knowledge gaps in current Public Health research nationally?
3B) How do Plymouth's research priorities relate to these knowledge gaps?
4A) What research activities will the Local Authority and University undertake together in the future?
4B) What University, Local Authority and NIHR infrastructure organisations resource could be repurposed to support Public Health research? How should they work together?
4C) What additional national resource would be required to further PPH research?

Methods

A Realist Evaluation informed approach was employed to develop a co-created plan, between Plymouth Local Authority and the UoP, which meets local priorities and informs national research development. Table 2 describes the methods. Analysis focused on understanding likely or possible causal patterns, and relevance of particular context, through identification of proposed causal attributes in the data.⁴ A more detailed construction of realist context-mechanism-outcome configurations (C-M-Os), as often carried out in realist approach, was not planned or undertaken.

Table 2. Research methods proposed and deployed in the study

Twelve Realist style interviews ⁵ with key purposively sampled (13) local, regional and national Public Health research and training, and University research, stakeholders (months one-three).
Two Rapid Realist literature reviews ⁶ including: National and international models for locally focussed public health research; Research on topics identified (in workshop/consensus meetings) to be a priority for Plymouth; Public Health research designs likely to be suitable for use in future research in Plymouth; and identification of gaps in current Public Health research which future Plymouth based research may be able to address (months one-three).

Four focused case studies, incorporating two-four interviews with key stakeholders and documentary analysis of relevant publications and grey literature.⁷ Two purposively sampled case studies based on partnerships between University/Local Authority Public Health alliances supported by a NIHR National School for Public Health Research centre. They were examined to substantiate how strong infrastructure and processes can facilitate Public Health research, and any challenges associated with this. The other two purposively selected case studies were based on Local Authority Public Health research which has achieved positive outputs, including academic publications, without strong NIHR infrastructure support or proximity to a University with international recognition in Public Health research.

Theory building based on synthesis of data derived from the above three sources.

Two 90-minute participatory ‘motivational’ workshop events with an open invitation to all those with an interest in public health evaluation, research and analysis in the city (first workshop scheduled June 2021).

Four combined workshop/consensus meetings were due to take place with appropriate key stakeholders, one each month. Key stakeholders will include Local Authority and NHS staff, Council officers and members, Public Health practitioners, health practitioners from Primary Care Networks, University researchers, local NIHR infrastructure organisations [South West Research Design Service (SW RDS), Peninsula Clinical Trials Unit (PenCTU), Clinical Research Network, South West Peninsula (CRN SWP) and Peninsula Applied Research Collaboration (PenARC)], VCSE organisations and a broad group of local population representatives. Due to Covid-19 these workshops have not yet taken place and during study period key individuals were engaged instead. As a key means to progressing Public Health research development meetings will be scheduled once workload constraints on Public Health staff are lessened.

Findings

The analyses of the data examined the activities of, and interactions between, local, regional and national bodies which carried out and supported Public Health research. The overall priority for Public Health research was generally agreed to be to ensure that money and resources are invested to do the right things, at an appropriate time, in a way that local people find acceptable or that generates local impact. The ability to deliver locally focused solutions, which reflected local priorities and resources, while also having the opportunity for regional and national networking and shared learning, was emphasized as important. The data collection and analysis processes produced learning in both directions, and new learning, between University and Local Authority staff. PPH and University staff both highlighted the need for further dedicated investment and infrastructure support if their Public Health research ambitions are to be achieved. We describe four dominant themes (place, inequality, time and funding and research methods), summarise our Realist informed interpretation and then have given further details in the responses to Research Questions 1-3. The answers to Research Question 4 are presented after this as ‘Recommendations’; which is what this research question was designed to produce.

Place

The discussions as to what defined 'Public Health', and its research foci, overlapped with deliberations as to the characteristics of Plymouth as a city and which other places it could be considered to be similar to. Distinguishing characteristics included Plymouth: promoting itself as a 'trauma informed city' and a 'compassionate city'; being a coastal community; being a peripheral community with high levels of poverty, a lack of aspirations and high rates of self-harm and drug and alcohol misuse; having under-resourced education with poor educational outcomes. The main Public Health issues faced by the city were reported, across respondents, as poverty and inequality, including poor housing and increased food bank use. Aligning national education and healthcare policies was proposed - for example bringing together the local delivery of working towards school readiness for transition to school, and helping parents to overcome trauma related anxiety. Plymouth has advantages such as opportunities to participate in leisure in 'green' and 'blue' environments making it distinct from many other large urban areas, however, these are not always taken advantage of and national funding formulae, including education, were reported as favouring London and larger cities, to Plymouth's detriment.

There were also discussions about what kind of place Plymouth is with respect to Public Health research. The type of research carried out is detailed in response to RQ1a below. A related issue, and perhaps the main motivator for the research was the desire to increase research activity. The research conducted has often been led by individual, UoP researchers who have identified funding in their field of interest, rather than through a joint systematic approach within a Public Health research department. PPH staff have led a range of initiatives which tend not to be externally funded. Due to their innovative methods and activities, such initiatives could be considered as research, but are not usually published in peer reviewed journals. As such Plymouth could be characterised as a place where public health research is valued but not highly prioritised or co-ordinated. This idea led to discussions about whether there were other similar places with similar challenges of peripherality and motivations to address inequalities through research.

Inequality

Respondents who had previously submitted Public Health research funding bids expressed frustration as to what they perceived as a lack of understanding by the (London focused) 'centre', as to what 'marginalised and under-represented' groups look like in Plymouth. In particular it was thought that the emphasis on Black and Ethnic Minority (BAME) groups was less relevant for Plymouth, and there was a lack of appreciation of the challenges faced by other immigrant communities, such as the Polish community who form a significant sub-population in Plymouth.

They also asserted a lack of understanding by those in the centre of the health, and related socioeconomic issues, faced by the local population in 'coastal poverty' who experience both seasonal insecure employment, and an artificially inflated high cost of living and housing driven by second homeowners. The more recent focus on coastal communities, in research funding calls, has made some steps towards addressing these issues. However, locally, there remains a perception that it is unclear how NIHR funding bodies would like to see these Public Health needs expressed in a way that effectively communicates their importance, and wider significance, to those who are assessing these funding bids.

All respondents reported a strong commitment and motivation to undertaking research in order to understand the reasons for, and potential solutions to, current Public Health inequalities such as: Why those in greatest need are least likely to access services, And why there is a difference of 10 years in life expectancy between two wards in the same city. Public Health was identified as having the advantage of being able to connect with people in their communities, rather than trying to do so through the health services that, they do not attend or whose lifestyle change advice they may be inclined to ignore. Improved links between Public Health and Primary Care were thought to be likely to help.

Time and Funding

Prioritising time, finding appropriate funding sources and aligning timelines between the Local Authority and the University were identified as being challenging by both Public Health staff and University researchers. Public Health colleagues reported a desire and commitment to incorporate research within their practice and, in particular, how they commission and evaluate the services that they provide and fund. PPH staffs' ability to contribute to research is facilitated by the research and delivery skills, which they have accrued throughout their training, and yet limited by their opportunities to prioritise and protect their time for research above and beyond the daily priorities of their primary role. Creating time to network to find appropriate people to work with, and to understand lengthy and complex research funding application systems, particularly the finance sections, were cited as problematic. Several of PPH's staff have succeeded in prioritising time for research. They have achieved this by incorporating it into their annual Professional Development Priorities. However, they report that they have been limited by primarily being assigned to facilitating academic researchers, through access to populations of interest and relevant service staff, rather than leading and delivering the research themselves.

Public Health staff reported having contributed considerable amounts of time to previous Public Health research funding bids, which were then unsuccessful. This resulted in challenges in justifying spending time in this way in the future, and in promoting being involved in research activities to their colleagues. Local Authority research activities cannot always be protected when they are facing periods of severe financial constraints and internal funding opportunities are unlikely when they would need to be created at the cost of cutting service delivery. In the past year service time and resource has been particularly challenged by the COVID-19 pandemic.

University researchers have also spent considerable amounts of time, and effort, on submitting Public Health research funding bids, which have not often been successful. Although this is more accepted as by university staff, frustration was expressed that, repeatedly, the reasons for rejection were not clearly communicated, NIHR funding bodies were unwilling to engage in further discussion, and opportunities for future learning were lost, a particular frustration for individuals outside of a large public health research group.

Timelines and topics of NIHR research funding calls were also reported to be problematic. While University staff were accustomed to the ongoing development of research topics and responding to funding calls when announced, Public Health staff did not have the time capacity to do so. Both groups reported finding difficulties in aligning local Public Health research needs with the funding calls. During this project funding for Local Authority based PhDs was announced. The scheme was welcomed, particularly as the SW RDS had previously struggled to have an application accepted for a PhD for a member of the Public

Health team, who then focused their energies in other directions. As this call was announced with a relatively short-term time frame, when the Public Health team were each focusing 4 out of their 5 work days on COVID-19 activities, no one was in a position to submit an application for this round. Knowing that this, and pre and post-doctoral funding, should be available next year will allow Public Health staff to work with RDS SW, and other, support to develop people and applications for future rounds.

Public Health staff are required to both commission and evaluate locally focused services and public health needs within short-term timeframes; this is challenging as evidence is needed to prove cost-effectiveness, but there is often no within service money available for evaluation. University based researchers are assessed in terms of research funding secured and articles published in high impact factor peer reviewed journals, which are medium to long term activities. Both groups acknowledged the very different timeframes that their colleagues were working to, and expressed a desire to work together to develop research project designs which delivered both types of needs. The case studies demonstrated how infrastructure funding could lead to a clear and cohesive organisational structure facilitating joint working, and staff development, in Public Health research between Local Authorities and Universities. This type of funding would be particularly important in contributing to taking Plymouth from its current 'low base' in Public Health research to being able to address local priorities and contribute to health, services and methodological development regionally and nationally.

Research Methods

The use of appropriate research methods was one of the strongest strands of discussion across the interviews and discussions with those in Plymouth. It was one of the primary criteria in the selection of this project's case studies. While being seen to be reasonably methodologically diverse, UoP researchers have, in part due to the scope and remit of NIHR research funding calls, often produced Public Health related research which is primarily focused on individualised interventions, evaluated in the short to medium term, and focused on validated, individualised, measures of health outcomes. NIHR funding calls, and the subsequent evaluation of funding bids processes, were perceived and experienced to prioritise individually focused formalised methodological research designs, such as Randomised Controlled Trials (RCTs), and to emphasise national generalisability rather than allowing for a focus on locally salient issues. An over-emphasis on academic priorities and outputs, which progressed academic careers, rather than applying findings to real world issues, was also reported. These methodologies are unlikely to produce the evidence base which the PPH team said they would value: gaining a deep complex understanding of what generates health and illness in Plymouth; being able to evaluate which of the services they are currently delivering are effective and provide value for money, which are not; and working out how more appropriate and effective services might be identified or developed. Many of these services are delivered at a community, rather than an individual level, target a multiplicity of, rather than one, health need, are interwoven with addressing other socioeconomic needs, and are designed to produce outcomes in the longer term and those outcomes are not likely to be assessable by validated measures of health outcomes. The effectiveness and impact of these services is seen as being less likely to be assessable by current, dominant health services research methodologies.

The areas of greatest positive learning in this project, to inform future joint working, occurred in two different ways to increase our knowledge of research methods. The first were part of the bi-directional process where the University researchers also learnt from Public Health

staff and the second were new potential approaches and methods learnt from some of the case studies. The university researcher's NIHR funded research has a strong focus on Public and Patient Involvement (PPI). Public Health colleagues have developed a parallel approach, of Appreciative Enquiry, which is seen as more suitable for their purposes of service assessment and development, is quicker to arrange and deliver and can be delivered at a greater scale. There are challenges, however, in sharing the learning more widely, and it was acknowledged that working together in the future to share the best from both practices might be helpful. PPH staff pointed towards 'Human learning systems' approaches, which have informed some their practice, and which have been showcased as positive exemplars (Centre for Public Impact, 2021). This 'new paradigm for understanding' embraces complexity, draws on literature which applies lessons of complexity theory to social issues and seeks to understand people's complex lives within complex systems. It also recognises the importance of context, which has strong synergies with the University researchers' Realist approaches. Systems resilience approaches, embedded in community participatory research, were also identified as potential suitability for future Plymouth focused research. Natural experiments are another potential methodology identified as having had some success in addressing the needs and challenges of Public Health research, particularly how locally focused studies can be used to produced generalizable findings.

Realist informed interpretation

Figure 1. depicts an interpretation of how we have made sense of these themes in the following two analytic statements:

1. In the context of a coastal city with health inequalities and researchers and PH practitioners motivated to address these, and skills and experience often aligned with that challenge, it makes sense to support them to engage in locally relevant public health research likely to lead to improvements in health in the locality, while being of value to those in areas with similar profiles. (i.e. Not solely focusing on developing local investigators and receptive context fit for hosting large national studies).
2. In the context of a University with public health research distributed haphazardly across Schools and a Public Health team engaged in innovative practice but rarely being recognised for it, systematic attention to developing coherence and new relationships across teams locally, and to providing regional support for training, bid writing and dissemination, is likely to lead to research with local impact and national relevance.

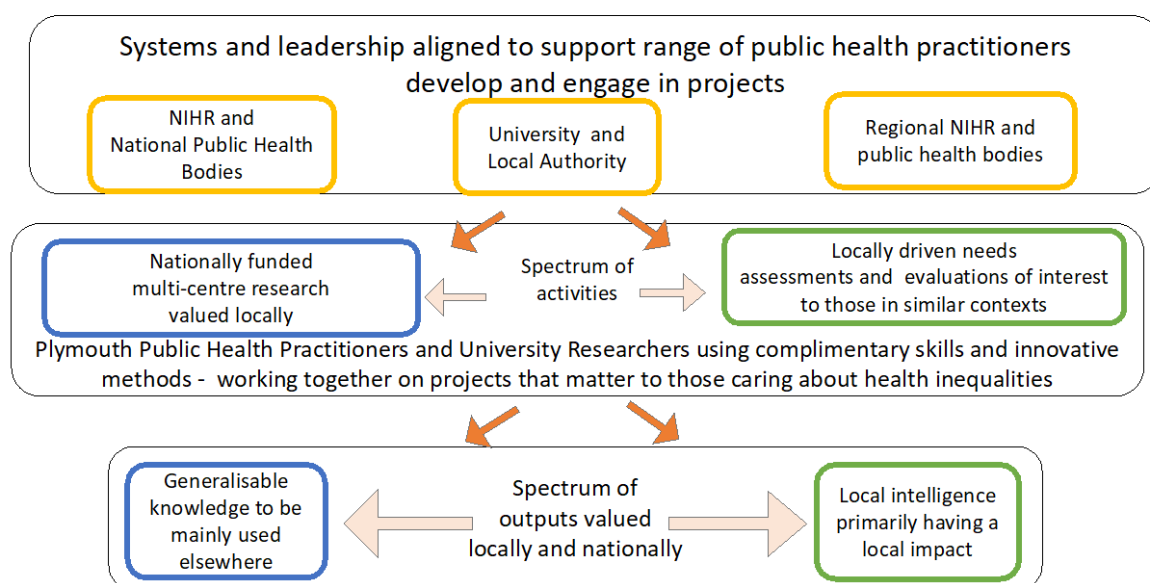


Figure 1. Programme Theory: Advancing Plymouth Public Health Research

Findings summarised according to research questions

1A) What Public Health research has been carried out in Plymouth in the last 5 years?

The Public Health research carried out by University staff has been conducted by individuals, and their research groups, with an interest in this area and has not been part of a co-ordinated Public Health research strategy. University researchers have been able to deliver Public Health focused research by securing, predominantly NIHR, research funding as shown in Figure 2, and have published in a variety of associated peer-reviewed journals as in Figure 3. Search terms are available on request.

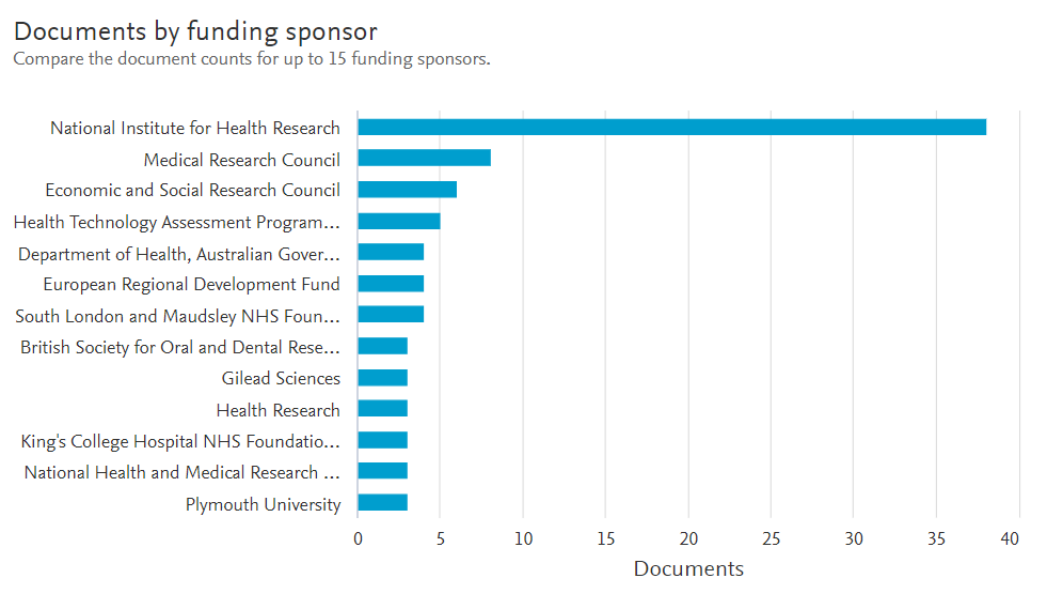


Figure 2. Public health related research at UoP by funder

Documents per year by source

Compare the document counts for up to 10 sources.

[Compare sources and view CiteScore, SJR, and SNIP data](#)

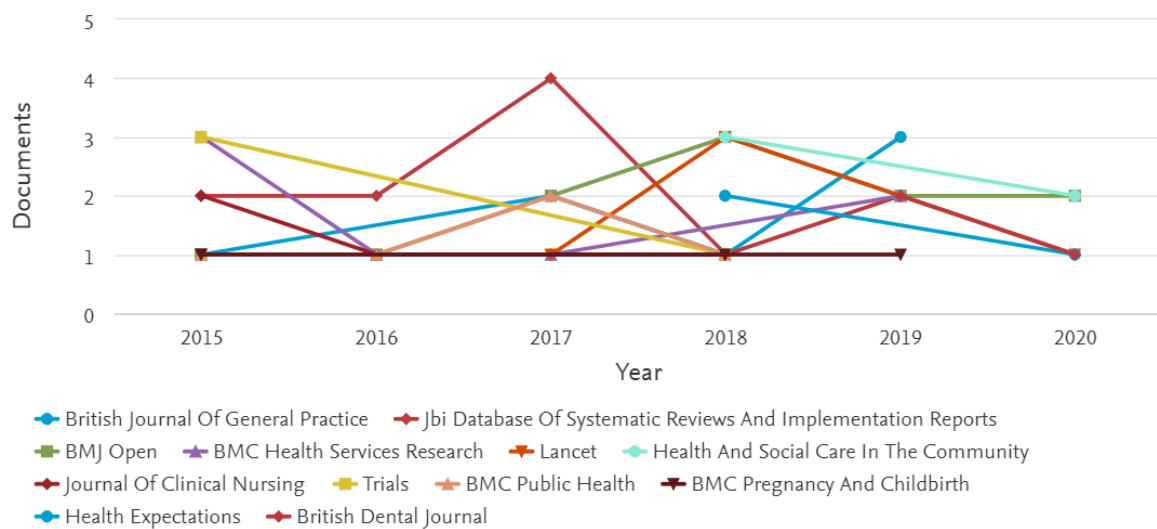


Figure 3. University publications related to Public health by Journal

Public health staff are routinely involved in critically reflecting on and evaluating their practice. Plymouth's Public Health department are unusual in that the majority of Public Health departments consist of employees mainly from Public Health backgrounds. Plymouth's Public Health team, however, includes Physicists, Geographers, Sociologists etc..., which produces a more eclectic set of knowledge and experience. The value of this range expertise, from a research perspective, is demonstrated when considering, for example, how their journal clubs function. This breadth of expertise means that they do not just read research which is labelled as 'Public Health'; they are able to focus on a range of research which is of relevance to the Public Health needs of the community which they serve. Public health staff have received research training to at least a Masters level and have continuing professional development research opportunities.

The data gathered for this research project identifies an overlap of interests, and motivation, between University researchers and the Local Authority Public Health staff. Both bodies report being constrained by actualising their ambitions by the limitations within in which they work within. The main determinates are the time available to commit to research beyond day to day priorities (Public Health staff) and the limitations as to the types of research funding that can or should be applied for (Academic staff).

1B) What are the Public Health research priorities for Plymouth?

The realist informed interviews produced a multiplicity of perspectives of the Public Health research priorities for Plymouth. Individual interviewees reflected on the priorities and perspectives of others, as expressed in previous interviews, when they were presented to them as provisional theories.

There were strong areas of congruence between UoP and PPH research priorities focused on the high levels of socio-economic deprivation, and associated health problems, experienced by the city. Of particular interest were; i) substance misuse, severe mental health problems

and homelessness; ii) children, who have the most potential to change, particularly focusing on working in a trauma informed way and readiness for school; and iii) investing into social prescribing and wellbeing, and the systems around those services, in a particular area. University and Public Health staff shared similar ambitions, and priorities, in the research topics which they wished to focus on to improve the health and wellbeing of the people living in the city.

The differences in research priorities iterated between University and Public Health staff concerned the ways in which the systems that they are working within (or ‘context’ in realist analyses) assess their performance. The interviews with Public Health, University and NIHR infrastructure organisations included examples of how they had worked towards, and in some cases achieved, delivering research which met the local Public Health research priorities for individuals (micro level) and the wider community of Plymouth city (meso level) as well as contributing to generalizable knowledge. These were actualised despite the norm of national (macro level) research funding calls focusing on individualised interventions, measured by standardised health outcomes, and delivered through conventional health research methodologies, such as randomised controlled trials.

2) What are the barriers, and facilitators, to conducting Public Health research in Plymouth?

The main barriers are: Prioritising time in the face of other pressures on Public Health staff time; identifying and developing appropriate research methods; being able to focus on local needs while also contributing to building regional and national knowledge; building up from a ‘low base’; and developing infrastructure support which allows Public Health staff to develop research as part of their career pathways, rather than acting as enablers.

The main facilitators are: Strong overlapping interests in terms of Public Health topics of importance for the city and developing appropriate research methodologies; lots of peripheral overlapping activities which could be co-ordinated into a more cohesive whole; the recent launch of the Plymouth Institute of Health and Care Research (PIHR) which could act as co-ordinating body; and high levels of enthusiasm and commitment from Public Health Local Authority, University research and local NIHR infrastructure organisations (PenARC, RDS SW, SW CRN and PenCTU) to make substantial progress in addressing local Public Health needs and generating wider knowledge.

3A) What are the knowledge gaps in current Public Health research?

Our learning developed over the course of the study. Initially we expected to identify health and illness, or service delivery, focused areas which were of interest to local Public Health practitioners and which lacked an evidence base. We established at an early stage that the knowledge gaps concerned appropriate methods for a local context and complex individuals in complex systems. The literature review surveyed successful Public Health systems approaches and approaches addressing complexity, this informed our selection of some of the case studies where we examined these exemplars in greater depth.

There is currently a gap in the wider literature of robust evidence for interventions based on the specific context of Plymouth, that is an urban conurbation, in a rural county, with access to coastal areas and rural idylls.

The lack of acceptance of creative methodological approaches to support a non-medical model has traditionally been exacerbated by a lack of funding for public health research, with a focus on established public health centres and histories, and a lack of research career development pathways for Public Health staff equivalent to those accessible by their health colleagues.

3B) How do Plymouth's research priorities relate to these knowledge gaps?

The case studies not only showed the variety of organisational configuration and content of public health research elsewhere but also provided insight as to how the strengths in Plymouth could be brought together productively. Plymouth is strongly situated to develop appropriate research methods to meet local Public Health needs and generate wider knowledge in both methodological innovations and learning for other peripheral, urban coastal communities experiencing high levels of socioeconomic deprivation. These strengths will be realised by the commitment of the University, Local Authority and local NIHR infrastructure organisations working together. For example, there are already two (one part-time) SW CRN funded research posts about to commence in PPH and discussions about greater opportunities for joint supervision of PhD students. This project has also facilitated conversations with potential research partners in other parts of the country and the beginnings of a discussion as to how to think more strongly with the regional Public Health training programme. These initiatives will prove hard to sustain without further co-ordination and/or infrastructure funding. It will be important, in the early stages to achieve 'small wins' and avoid repeating the past experience of a sense of 'defeat' and 'time wasted' when considerable amounts of time have been put into unsuccessful funding bids, without positive results or constructive feedback to inform future research.

Recommendations

The constraints of COVID-19 on PPH and illness in the project team contributed to us not being able to hold the consensus meetings and motivational workshops and therefore draw together the ideas into a coherent plan for future action. The 'recommendations' for consideration are therefore not yet prioritised either for Plymouth or for what might be relevant elsewhere and also include a combination of potential short and long term actions.

4A) What research activities will the local Authority and University undertake together in the future?

This will require establishment of a set of co-ordinated of PPH research approaches and activities which might include:

- Regular joint meetings
- Develop joint posts and honorary positions across organisations
- Create more coherent profile for existing public health research in both the University and PPH Department in order to foster shared understanding of current skills and interests
- Work proactively for upcoming funding opportunities and match people with Public Health expertise with people with methodological expertise and similar areas of interest

- Support Public Health staff with an interest in research to develop this part of their career, particularly in understanding how to access NIHR support and resources, so that they can begin to lead, rather than just facilitate research
- Develop ways of working together and research designs that take account the different timeframes and outputs that the university and department are working towards.
- Develop the capacity for the University to be more active in providing leadership and supervision for trainees on the Bristol led regional Public Health Training Programme, thus supporting expansion of existing placements in PPH
- Develop joint PhD supervision and funding opportunities
- Develop co-ordinated links to local, relevant, Masters programmes and possible dissertations based on Public Health topics
- Agree how to put in place infrastructure, or equivalent, funding to sustaining Public Health research initiatives
- Develop potential joint projects using Appreciative Enquiry and Human Learning Systems approaches, with the aim of sharing best practice and providing exemplar methods for other University and Public Health researchers
- Explore the potential benefits, and any disadvantages, of using Natural Experiments and Systems Resilience Approaches for evaluating PPH services at future joint workshop events
- Further develop researcher in residence models and funding opportunities.
- Build links to regional Public Health communities of practice
- Build collaborations with other academic centers with more established in Public Health research profiles who face similar local issues such as high levels of socioeconomic deprivation and urban coastal or peripheral locations.

4B) What University, Local Authority and NIHR infrastructure organisations resource could be repurposed to support Public Health research? How should they work together and also support Local Authority social care research?

We have begun to understand how the local NIHR infrastructure organisations do, and do not interact with Public Health; currently the SW CRN are actively involved in facilitating Public Health research within the local authority by funding one full and one fractional research post. The RDS SW have previously worked with a prospective PhD funding candidate, but they are not currently directly engaged with them. We have also developed an understanding of which local NIHR infrastructure organisations are likely to be of relevance to PPH's research interests. PenCTU have previously supported Public Health focused trials, but conventional Randomised Controlled Trials methods are less likely to be of particular interest to research studies located within the Public Health department. PenARC have supported development of public health projects regionally including in Plymouth, and are also committed to developing of capacity and connecting people. There is also an emerging commitment for the CRN, PenARC and AHSN to work with each regional STP/ICS to build research capacity and activity with an emphasis on Public Health (along with social care and primary care). The Deputy Director of PenARC will be co-facilitating the delayed joint workshops for the study. Recent increases in remote working have increased these bodies practice of co-hosting joint meetings to ensure that all are aware of research that is being developed and to make sure the most appropriate body is supporting it in the right way. This practice could be extended to Public Health research projects. RDS SW staff could also

attend PPH staff meetings, as this project has done, and let them know about forthcoming funding opportunities, how to get support to submit applications and potentially link them with appropriate methodological expertise. Knowing that NIHR pre, post and doctoral Local Authority funding should be available next year will give more Public Health staff the opportunity to start to work with the RDS SW, supporting the development of their research funding application skills and knowledge.

Locally based research projects have Researchers in Residence situated in Local Authority social care sites. Learning from this could be shared with Public Health colleagues to explore whether this might be a beneficial model for them to explore. This could then facilitate further conversations about how Public Health and social care research could support and reinforce one another, particularly in a relatively small Local Authority such as Plymouth. In the reviewing of this report by local partners suggestions were made that PenARC and the SW CRN should pool their resources in collaboration with the Local Authority and University to build capacity. This remains an aspiration to work towards as the joint working develops.

4C) What additional national resource would be required to further PPH research?

- a. Funding calls to allow a wider range of methods, to give guidance on how they will be assessed, and have the requisite reviewer expertise
- b. National NIHR funding focussed on developing capacity in areas with limited public health research capability
- c. Funding calls to value a wider range of outputs which recognise that Public Health research being used to inform practice is likely to need do so in shorter time scales, and in different ways, than those in which academic articles are produced
- d. Funding calls to allow for locally focused projects, perhaps assessed on a regional basis, which emphasise wider learning, and an understanding of context, rather than focusing on narrow definitions of generalisability. Regional funding subject to the same peer review processes as national funding calls would help build up research evidence that are context specific but perhaps methodologically similar
- e. PHR funding to be more accessible to and inclusive of non-established PHR centres including infrastructure funding
- f. Unsuccessful funding applications to be given detailed, supportive, feedback when requested so that they can build learning for the future and not become discouraged that time spent developing research applications has been wasted
- g. NIHR to develop a more inclusive view of marginalised and under-represented groups that is relevant to the range of contexts in different geographical areas of the country, and potentially support networks of public health research in more peripheral places where research into such challenges needs capacity building
- h. NIHR to continue to develop support for Local Authority research career pathways, this could include shared learning from the first candidates to take up the opportunities
- i. Increased lead times on funding calls allowing Local Authority partners to become involved and learn about the process, thus able to take the lead in the future
- j. National Public Health bodies to work together to coordinate knowledge about existing evaluations, and other related studies with potential generalisability, of relevance to the priorities of peripheral/coastal areas with similar public health

challenges. This would make cross-case and multi-site development and evaluation of locally relevant public health approaches easier to carry out

- k. NIHR infrastructure to develop simpler processes that support research in non-NHS settings and to support non-medical model of PHR including excess treatment costs (ETCs)

Conclusion

This study has provided the opportunity to develop clearer ideas about how University researchers and the PPH Department could work together to fulfil shared passions for addressing local challenges and inequalities through research and help mobilise the many strengths of the population of Plymouth. It also shows a range of equally achievable shift in relationships between regional research and other organisations could promote capacity building. Lastly it considers how national support could not develop capacity for public health research in general, and encourage links between areas with more limited public health research capacity; and could also promote generalizable and locally applicable research through supporting development of less traditional methods which have the potential to generate knowledge to inform public health practices which take account of the very great local heterogeneity of causal influences and therefore likely solutions.

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