Evidence Based Criteria for Scotland's Public Health Priorities

John Frank, Gerry McCartney, Peter Seaman, Colin Mair, Diane Stockton, Colin Sumpter

Background

This is the final report of the Steering Group formed to develop **evidence based criteria** for the Scottish Government's programme of public health reform. The Group was formed at the request of the Government and chaired by Professor John Frank of the University of Edinburgh, with the final report due before Christmas holidays. Prof Frank invited experts from public health, local government and academia to participate. Practical and research support was provided by the Scottish Collaboration for Public Health Research and Policy (SCPHRP).

The Steering Group met three times in total: to develop the outline of the report and agree as set of draft criteria (06/11/17); to review the document that would be sent for review by a larger Reference Group (22/11/17); and to review the feedback from the Reference Group and agree final recommendations (14/12/17). Meetings were held at SCPHRP and by teleconference.

The fifteen-member Reference Group that were asked to comment on the initial draft of the work were chosen by members of the Steering Group as being well placed to comment and provide advice to the reform of public health, as to what criteria for selecting priorities would be suitable for use in this new endeavour. They came from local government, NHS, academic and voluntary sector backgrounds. A full list of those invited to comment, and those that commented is available.

Work done to develop the criteria, review literature, and collate data on potential priorities was done via email or in smaller sub-groups with support from SCPHRP staff: Alexandra Blair, Larry Doi, Greig Inglis, and Stephen Malden.

The final report is presented here for consideration by the public health reform team of the Scottish Government. Recommendations are distributed and the full recommended criteria are presented in Appendix one. Two additional outputs are in Appendix two (an exemplary Rapid Review of Evidence on potential for action, cost-effectiveness and equity of impact), and Appendix three (Evidence Matrices).

Priorities

The starting point for our report is the priorities themselves. Based on our learning from undertaking this process we recommend that the definition of a priority be set out clearly at the outset of any future consultation process. Our definition for this particular task is below:

Public health priorities for Scotland should be current problems that are important, amenable to change, with broad stakeholder agreement that they should be tackled now

Our understanding of what a priority is, and what it is not, has been vital in making our task of setting selection criteria manageable. This was the main focus of our early conversations. During our work we found that priorities can mean many different things to different people. A priority could be encouraging certain forms of behaviour, such as attending screening, stopping smoking or taking exercise. Or it could be something that services do, such as vaccinating people. Or it could be a

policy or programme action to ameliorate or compensate for socio-economic situations, such as living in poverty, that present barriers to maintaining good health. Given the broad range of professional perspectives and approaches in the wider public health community, there are as many priorities as there are people to ask.

Our hope however was that we could generate a **single set of criteria** against which multiple *types* of priorities could be considered. We therefore felt it essential to categorise and list what we saw as the key *potential* priorities to consider, to ensure our criteria would be relevant across as wide a range as possible of priority candidates.

We know public health is influenced by where we live, individual health knowledge, action and practices, the practices of professionals and services and, forces beyond the control of health services which shape opportunities and barriers to health.

We also know that we are seeking a new way of doing public health in Scotland, where it is everyone's business and we do not focus solely on the specific actions of the health service or those working in traditional health professional roles. We are seeking to open up public health to allow all relevant organisations, to see how health can be maximised and health value added through their work.

We therefore sought to include a full range of potential arenas for public health action. We sought to be broad enough to be inclusive but narrow enough to define the priority. We decided on three classifications:

- Risk factors for ill health (including health behaviours and other hazards that can do us harm).

- The wider socio-economic determinants of health including education, income, housing, connectedness to others, the physical environment and climate change, and others

- System factors including how our social, health and other public sector services are organised, including health protection activities and "healthcare public health" services, and others.

Clearly the three priority types above do not cover all possible priorities people could raise as possibilities. We have therefore left blank a final "Other Priorities" column of all our Evidence Matrices spreadsheets (Appendix 3), to be filled in by participants in the planned deliberative and broadly participatory process of priority section, to be held across Scotland in 2018.

It was equally important to specify what a priority should not be; deciding on these boundaries would make the task manageable and coherent.

We recommend that a public health priority should not be a disease. The consensus was that risk factors provide a clearer basis for concerted public health action. We have included a few 'disease groupings' where the causal risk factors are very diverse and/or poorly understood, but the burden of illness and disability is clearly very large -- e.g. mental health; learning disability, oral health. We

also felt it vital to break from the medical model of public health that we focus in our list of potential priorities on the *determinants* of ill health, not the results of those influences.

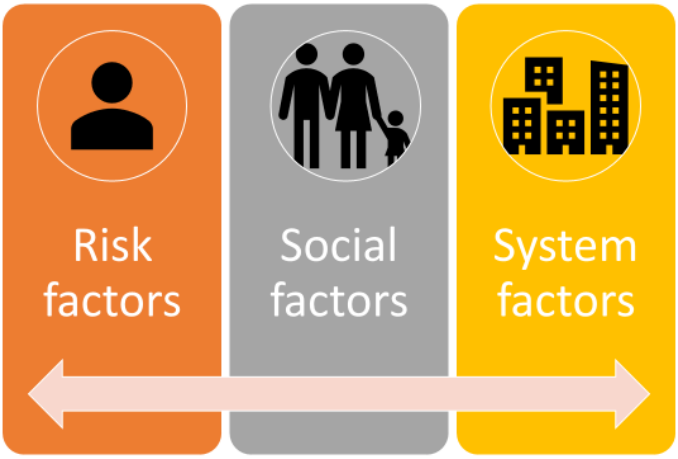
In addition, we recommend that this process should be setting forth the problems, not the solutions and we counsel that specific programmatic and policy approaches not be considered as potential priorities – at least not in the early stages of the forthcoming prioritisation process. The approach of listing every potential route of action to improving public health was discussed but we felt that, in the limited time and resource available, our task was to provide guidance on assessing the prioritisation of 'problems' rather than the potential solutions. Once the problems are prioritised, it will be over to the local public health partnerships, the new national body, the Scottish Government, and others to tackle these across Scotland. As well, the relevant scientific literature, on specific intervention's relative effectiveness and cost-effectiveness (where available) tends to be more coherent and interpretable when comparing various intervention options against the same public health problem, than it is when comparing the problems themselves. That future stage of the prioritisation process in Scotland is therefore likely to be more readily informed by research.

We recommend focusing initially on individual priorities rather than trying to compound risk factors, systems and population sub-groups – i.e. combine them across the already rather broad categories of problem we have identified as potential priorities. Efforts to combine priorities may be undertaken during other, later stages of the priority setting and the criteria can be applied to inform discussions. Evidence signposted as part of this project may provide some insight into differential impacts in groups or settings, which may allow sub-prioritisation as in the examples above.

We are conscious of the need to think about the wording of the final priorities and we have adhered to the most basic description possible in our long-list, attempting to avoid biomedical or other technical jargon. We understand however that the Government may wish to discuss the framing or branding of these priorities and add some prioritisation of population sub-groups within them. We also acknowledge that our suggested long-list of potential priorities could and should be disaggregated at a later stage of the process, to create more focused priorities e.g. 'Quality of Work/Meaningful Activity' could be better focused on specific, modifiable aspects of work.

Bearing in mind all of the points above, we have proposed three broad types of priority and a long-list of eight to ten potential priorities within each of those types. **Our recommendation is that this list is used as a starting point for the prioritisation process.** This list is provided merely as a starting point; we do not seek to exclude any potential priorities from being considered. The list was generated by the Group and added to and amended by the Reference Group. We have made efforts to assess each of these potential priorities against our criteria and we know that useful learning and discussion can be generated on each of these priorities, when interrogated using the criteria.

Priority types and initial recommended long-list



Health behaviours / risk factors / disease states	Wider socio-economic determinants	Systems and services
Initial recommended long-list:		
- Food systems and diet - Obesity - Physical activity - Smoking - Alcohol - Drug misuse - Air pollution - Breastfeeding/attachment - Mental health - Learning disability - Healthy Ageing - Oral health	- Poverty / Income / Welfare / Tax - Educational Attainment - Housing and homelessness - Green space - Social connectedness - Quality of work / meaningful activity - Physical environment - Climate change	- Early years - Maternal and pre-conception health - Screening - Health and Social Care Integration - Primary Care Services - Community health services (e.g. Health Visitors, Community Health Nurses) - Active travel - Work-and-health-related services (including employability) - Communicable diseases control (including antimicrobial resistance) - Vaccination - Data and knowledge to improve health

Criteria

The final list of criteria is presented in Appendix one. These criteria were developed through review of existing literature on priority setting, discussions amongst our group, and the application of common sense and logic. They are largely self-explanatory but some detail on their development, and the rationale for inclusion of some elements, are provided below.

We found that the existing body of literature on priority setting was limited, and - as noted above - focuses predominantly on the choice of interventions to tackle identified problems, rather than on prioritising the problems themselves. We also found it to be focused very traditionally on bio-medical approaches, even to clearly public health problems. We also found it to be traditionally – and worrisomely - linear, considering each intervention in turn to tackle each problem, rather than considering the complex and interdependent system of influences on our health. Although the work we found provides some insight into our task, it conventionally leads to a more traditional 'intervention options appraisal' than was deemed suitable in this context. There may be some useful learning in this for prioritising actions within agencies, which may be eventually tasked to tackle these priorities. No readily applicable 'problem prioritising' processes were found in the literature. However, examples of the sorts of methodologies that may help in developing specific packages of intervention, at a later stage of this process, include: programme budgeting and marginal analysis (PBMA); GRADE's Evidence into Action Framework; the Clinically Preventable Burden Approach (CPB) and others.

Our criteria comprise three primary questions split into a total of 15 sub-elements. Each sub-element is mapped to one or more potential evidence source. The sections below provide some of our rationale underlying each of the three primary questions.

Priorities should be important problems: How big is the problem?

We propose that standardised measures be used to quantify the size of an issue where possible, namely Disability-Adjusted Life-Years (DALYs) – a widely used population-based index of both premature mortality and morbidity/disability combined. These computations can be completed for specific risk factors, as set out in the Scottish Burden of Disease Programme of work recently undertaken by ScotPHO. There are additional sources that can be used to attempt estimates of the DALYs associated with more complex socio-economic factors, and "system factors," as found in the above figure's second and third columns – but the results tend to require many untestable assumptions and therefore are contentious. We are not recommending a purely quantitative approach and other evidence may be sought on the size of the problem.

Where an issue is a system factor or approach that we are considering - such as the optimal provision of early years care - then we have attempted to consider the evidence on the *gap* between where we are and where we hope to be/where exemplary similar nations are, and the burden of disease associated with that as far as possible. If a problem's 'size' is not readily quantifiable in this way, we recommend the use of expert informed opinion, which could be explicitly sought during the forthcoming prioritisation process.

Ideally, action to improve the higher ranked problems will have knock-on effects on lower priorities and also other issues such as inclusive economic growth, improved education attainment or

community cohesion; we have therefore included in the criteria an assessment of **the wider "spin-off" benefits of each priority considered, to try and capture the importance of this (1.4)**. As a result, we believe that "upstream" and "system-wide" approaches are more likely to be prioritised through the use of these criteria. They are also widely believed by experts to more typically reduce health inequalities than more "downstream" interventions – for example, targeting individual behaviour change through one-on-one therapies (see below).

Priorities should be amenable to feasible action: Can we do something about it?

We recommend a rapid assessment of the scope for action against this priority (2.1) and the extent to which there are as yet unexplored options for making gains in Scotland. This section of criteria did present a circular problem, as we would naturally need to set out some suggested package of measures in order to assess this, but felt that we could not say whether these actions would in fact be taken in Scotland, if the priority was put in place.

We additionally included an assessment of the potential **equity of impact (2.3)** as it is well known that many courses of action open to us risk widening rather than narrowing health inequalities despite best intentions. We also suggest the relative **cost-effectiveness be assessed (2.2)**. We do not feel that there will be a great deal of robust evidence available on either of these criteria, for the majority of public health priorities, but felt strongly that this issue should still be considered.

An example of a rapid review of evidence against these criteria, for just our first class of potential priorities (Risk Factors) has been produced by SCPHRP and provided as part of our output (Appendix 2: Rapid Reviews). It is recommended that the Team discuss the worth of commissioning further rapid reviews of this type for other potential priorities, possibly for use in the deliberative events.

The **timeline for results is also of importance (2.4).** It is our understanding that the Scottish Government will be likely to want to see - quite understandably - a mixture of short-term gains and longer-term goals in the priority set; this criterion will allow that mix to be sought.

Priorities should resonate with the stakeholders: Do we want to do something about it now?

Finally we discuss the most subjective, but critically important element: is there an appetite for action amongst those whom we seek to influence to deliver on these priorities? We understand that these priorities will be set in the widest sense, that they are not for one single profession or public body, but rather they are to enlist the joint efforts of all who seek to improve health, ranging from local government, the NHS, the private and voluntary sector to the public themselves. It is hoped that assessment of these criteria will serve to concentrate efforts on those issues that are the most important to tackle, from the various stakeholders' points of view.

The priorities eventually selected therefore need to resonate widely: with the public (3.1); Local Government (3.2); the Scottish Government (3.4); and the professional workforce tasked with undertaking the legwork to bring these priorities to the fore of Scottish life (3.3).

We recommend that these criteria also be assessed by desk review of public consultations such as Healthier Scotland (2016); reports from professional bodies such as the FPH Manifesto; the analysis of the recently published Local Outcome Improvement Plans; Government publications such as the Programme for Government and the Public Health Review itself; and many others. Voices should

also be carefully listened to at the forthcoming participatory-consultative events across Scotland, designed to develop these priorities.

Priorities should reinforce our new ways of working. A number of the criteria throughout the sections above also seek to ensure that the priorities are catalysts for change within any new national public health organisation and in improved local partnerships.

Public health reform is about making health gains through new ways of working with limited public sector resources, in particular through enhanced national leadership and improved local partnerships. The criteria therefore include the requirement that the new public health priorities for Scotland are those areas of work where we feel **additional progress could be made through these new ways of joined-up working (3.5)**. These are the areas where we seek to 'level up' our efforts across Scotland, and see capacity and opportunity to do that across agencies.

Associated with this, we do not want to select priorities that are overly technocratic or that focus on conventional 'medical public health' perspective. The group was conscious of the need to ensure that as wide a church as possible be asked to offer additional potential priorities to be tested by these criteria. And we were conscious that the criteria would need to challenge any 'group-think' within the public health community. To that end we included the criterion that priorities be tested against the criteria that they have the **capacity to be tackled innovatively (2.5).**

We have specifically included the requirement that each priority be tested on the extent to which it could increase **community empowerment (2.6)**. The post Christie framework, now legislated in the Community Empowerment Scotland Act, emphasises prevention and empowerment in a linked way, i.e. prevention is most likely to happen if people are enabled to have agency and control in their own lives. Enabling agency/control with respect to individual and community health is therefore a priority criterion.

As defined at the outset, we are setting out problems, not solutions, and how priorities are taken forward will be the strategic decision of each agency working on public health, However, if we are to achieve the gains we hope in these areas, then focused and concerted effort will be required, likely at the cost of other, lower priority, areas of work. We recognise from our own discussions, and with those in the Reference Group, that this presents some problems. If organisations moving into the new national body do not take the requirement to deprioritise some elements of work, those that are deemed to be of lower priority, then these are priorities only in name. We therefore recommend consideration of a further criterion on the potential for dis-investment in this topic. **What would happen if we did not prioritise this area?** We have not yet added this criterion to the Matrices summarizing available evidence (Appendix 3) because we think such a judgment typically requires strong stakeholder input from those likely to be most affected -- for example by defunding of any particular current activity or service. However, we suggest that explicitly adding this criterion, at a later and appropriate stage of the prioritisation process, will minimise the risk of truly important priorities not being prioritised in action. For example, within our last "System Factors" matrix, we have described, in a few of the cells of the columns labelled "Communicable Disease Control" and "Vaccination," those activities as ones we could **not** support defunding of, since rapid rebound of the historically common diseases, which are currently well controlled by these activities, would be highly likely.

Using the criteria

Our understanding is that these criteria for prioritisation are designed to assist with consultative events which will allow a wide range of people to consider the relative importance of each potential priority, with a view to ordering a final list. We were not tasked with determining how these events would be run but we feel we are well placed to advise on the use of these criteria in any such event.

The process by which potential priorities are assessed using these criteria, and the final number to be formally taken forward, are decisions for the Scottish Government reform team. We propose that as long a list of potential priorities as possible be assessed using all the criteria we have proposed, and that the engagement be designed in such a way that a fully ranked list be developed, to inform future work of bodies working in public health.

In terms of the mix of priorities across the 'types' and the total number, we believe that is a decision for participants at the deliberative prioritisation events and the public health reform team. Two queries raised by the reference group included the timescale for finalising these priorities, and the process by which they will be measured and maintained (i.e. updated and reported on). It may be useful to review and decide on these issues before the deliberations begin as much decision-making will depend on the answer to these questions.

Unlike choosing a policy or programme solution, choosing a problem requires a complex discussion of the nature and understanding of that problem amongst all involved. This makes it far harder to tackle quantitatively. We do not recommend ranking and numbering each priority using the criteria; they are to be considered primarily in a qualitative way. Even where quantitative sources are proposed, they are meant to be discussed in a more holistic way. Comparisons attempted quantitatively across the three different 'types' of priorities will be particularly challenging e.g. comparing DALYs attributable to smoking vs. those attributable to a failure to fully integrate health and social care. We would encourage the future prioritisation process participants to select across all three types of potential priority, without "quotas" or restrictions – but not to attempt detailed quantification.

The criteria are not proposed to be used as a decision tree (i.e. a sequential set of pass-fail questions) or tick-list (such that every final priority has to pass all or some specific proportion of them); they are instead a set of topics for discussion. We do not propose that there is a precise calculus that will provide a quantitative result for every potential priority using these criteria, but rather that the proposed criteria will be useful in structuring a detailed discussion that will lead to a deliberative decision.

These criteria all interact with each other in a complex way: some problems are bigger than others, but they aren't necessarily as important right now, or ripe for public health action right now, or as well-placed politically right now. It will be the full picture across the criteria, as difficult as this is, that will be important in determining the right priorities for Scotland.

We recommend that any approach involving explicit criteria *weighting* - we are *not* recommending here -- be discussed with participants at the outset of any event; some may wish to put more weight on some criteria than others, but we doubt that consensus would be easy to reach among such a diverse group of stakeholders. We concluded that, as the process is not strictly quantitative,

informal weighting could only really be used as part of the qualitative assessment overall or – possibly -- to help decide the time allocated to discussing each element, within a participatory prioritisation process.

What counts as 'evidence'? The criteria have been discussed by a largely academic group but this is not intended to be an academic process – it is one part of a pragmatic policy-making process, based on broad stakeholder participation. We therefore do not propose potential priorities pass tests normally associated with formal peer review, as is usual in epidemiological and other research. Where possible, we have used the highest quality published evidence we could find within the limited time and resources available for this work, e.g. when considering the DALYs associated with a risk factor. However, stakeholder opinion should and will also constitute an important kind of "evidence." We see evidence against each criterion as coming from a wide range of sources and have signposted and provided examples of how this might be developed for the potential priorities. The evidence we have drawn for the matrix is from sources known to the group, the aim is not to expect conclusive evidence only from systematic reviews of the scientific evidence: experiential evidence also important and should come from the participants in the broader engagement events to come.

We have begun to collate a basic summary of evidence against the criteria for the long-list of potential priorities included in this document and this has been submitted as a supplement to this report (Appendix Three: Evidence matrices, also available as Excel files). Some potential evidence sources are listed in the criteria table in this document. This work can be used as the Scottish Government team sees fit in the engagement work planned for January / February 2018.

The evidence matrix is currently traffic-lighted (RAG rated). This was discussed in some detail, whether it placed an undue focus on some issues over others. However, we felt it was our role to provide a dispassionate evidence overview across the piece, where evidence was available. These are intended to be evidence-based criteria, but we freely admit to using our own expertise whenever we thought that useful.

There are going to be people, with very specific interests and causes, involved in future discussions of these priorities. We recommend that deep thought be put into how they can be placed in a space – typically termed a "deliberative group process" -- where they are able to lift above their own focus and see the bigger picture, because they learn new things within the process that affect their previous views. The worst-case scenario for this RAG rating is a completely green sheet where we feel everything is equal. It was highlighted repeatedly by the group, and the Reference Group, that unless this process allows some de-prioritisation then little will be gained. On the other hand, we found that it was virtually impossible for us to rate any cell of the matrices as clearly "red" (i.e. no basis for prioritisation") because a great deal of "pre-selection" had already been done within the process of creating the three lists of potential priorities (i.e. the column-headings of the matrices.) In effect, we believe we had already excluded from that list potential priorities which we, as an Expert Group, could not support in any way. Again, we completely accept that there are likely important potential priorities which we have missed entirely, and hope the forthcoming engagement process will identify these.

Finally we recommend a broad church of involvement. The process will be as important as the end result; through including as many relevant people as possible, including the wider public, we will maximise the chance that the priorities will be well understood – both where they came from and why they are important. This will be vital for concerted action across agencies.

As a group, we remain committed to this project and are willing to continue to assist in developing and delivering deliberative events using these criteria, where our schedules allow. We would be happy to discuss any element of this report in more detail at a future meeting.

Professor John Frank (on behalf of the Public Health Priorities Criteria Development Group)

University of Edinburgh, Dec. 22, 2017

Appendix One: Evidence based criteria for choosing Scotland's public health priorities

Headline Question	Sub-question	Potential Evidence Sources
1. Is this priority addressing an important public health concern?	1.1 What is the current **'size'** of the problem?	• DALYs from the Scottish Burden of Disease (SBoD) / Global Burden of Disease study / Institute of Health Metrics and Evaluation; Triple I tool (ScotPHO); published literature; DALYs associated with the system / service; Published research
	1.2 How has the problem changed and how might it **change** in the future?	• Historical trend data and future disease burden e.g. demographic changes; socio-economic scenarios
	1.3 What would happen if we **disinvested** in this area?	• International comparisons, published literature, expert opinion
	1.4 What are the **wider impacts**?	• Published research and expert opinion on the externalities associated with this priority on other priorities, social factors such as inclusive economic growth; education attainment; community cohesion, etc.
2. Can we do something about it?	2.1 Is this issue **amenable to prevention** by known effective measures?	• Gaps between Scotland and comparable country. Comparison of the trend rate of change; rapid review of effective approaches; what leverage do we have to 'nudge' toward this priority – i.e. what is the added value of public health? • *Note: an example of 'rapid review' has been produced and provided by SCPHRP team*
	2.2 Are the measures **cost efficient**?	• Estimates of cost in line with the examples provided above. Map against existing resources
	2.3 Does this priority impact **health inequalities**, or risk worsening them?	• Broadly qualitative indicator of the relative contribution of a priority to overall Scottish inequalities in health. Expert opinion and published evidence where available; Is the system disproportionately focused on one group?
	2.4 **When** might we expect to see results?	• Rapid review of published literature, expert opinion
	2.5 Is there scope for **innovation** on this priority?	• International comparison and expert opinion on whether there is a new way of working; what innovative approaches exist elsewhere that could be applied here?
	2.6 How can communities be **empowered** through this priority?	• Rapid review of published literature, expert opinion
3. Do we want to do something about it?	3.1 Do the **public** prioritise this issue?	• Review of public surveys or consultations on this topic for example Healthier Scotland consultation.
	3.2 Do **local government** prioritise this issue?	• Use the analysis of the Local Outcome Improvement Plans and Locality Plans to provide insight into the extent to which local government prioritise this issue.
	3.3 Do the **professions** who will likely work on this prioritise this issue?	• Does the priority feature in the FPH Manifesto? This level of support would also be gauged through feedback at the engagement events.
	3.4 Does the **Scottish Government** share the aims of this priority?	• What does the Programme for Government and National Performance Framework say about this priority? Other relevant national policies? Will this priority enhance Public Health leadership and be consistent with the other aims of the Public Health Review?
	3.5 Is this issue best addressed by a **joined-up approach** rather than lying mostly with one agency?	• Expert opinion on whether this the work to achieve this priority shared across partners involved – i.e. does it resonate with the NHS, local government, national government and others?