Establishing a core set of national, sustainable mental health indicators for adults in Scotland: Rationale paper

Dr Jane Parkinson
Public Health Adviser, NHS Health Scotland
Updated October 2007

healthier scotland
SCOTTISH GOVERNMENT
healthyliving
NHS Health Scotland

TABLE OF CONTENTS

1. BACKGROUND **2**
1.1 Constructs paper consultation process 2
1.2 Commissioned work 2

2. INTRODUCTION **3**

3. SCOPE OF THE INDICATORS **4**
3.1 Requirements for the indicators 4
3.2 Approaches taken in developing the indicators 4
3.3 Process 5
3.4 Data sources for the indicators 5
3.5 Constraints imposed on the indicator set 6
3.6 What this core indicator set does not cover 7
3.7 Audience for the indicators 7

4. CONCEPTUAL FRAMEWORK FOR THE MENTAL HEALTH INDICATORS **8**
4.1 Mental health 8
4.1.1 Evidence for the two dimensions of mental health 9
4.2 Why focus on positive mental health? 10
4.3 Constructs 11
4.3.1 Types of constructs 12
4.3.2 Categories of contextual constructs 12
4.4 Terminology for the indicators 12

5. CHOICE OF CONSTRUCTS **13**
5.1 Evaluation of potential the constructs and indicators 13
5.2 List of constructs 14

6. CONCLUSION **14**

REFERENCES **15**

APPENDIX **17**

Acknowledgements

Special thanks go to Dr Lynne Friedli, Chair of the Mental Health Indicators Advisory Group for her input to the work and comments on this report. Additional thanks to the members of the Mental Health Indicators Advisory group and Dr David Gordon of NHS Health Scotland for their comments.

1. BACKGROUND

This paper has been developed from the *Indicators of Mental Health and Well-being – Constructs Consultation Paper* that was circulated during February 2006 (Parkinson & Mental health Indicators Advisory Group, 2006). That paper, developed in consultation with an expert advisory group (Appendix), set out the preliminary thinking behind, and rationale for, each of the then proposed constructs (elements, determinants and consequences) of mental health[1] which were being considered for inclusion in the *Indicators of Mental Health* programme of work for the Scottish Government[2] (www.healthscotland.com/understanding/population/mental-health-indicators.aspx). It also provided an introduction to the indicators work and initial suggestions for possible indicators.

1.1 Constructs paper consultation process

For the consultation, a wider expert audience was invited to assess the scope of the constructs, addressing the following questions:

- Do you consider that the evidence-base is sufficiently persuasive for the inclusion of each construct?
- Are there specific parts of the evidence-base that should be considered?
- Are there any constructs you consider to have been omitted that are essential for assessing population mental health and well-being?
- Are there any specific indicators you believe should be included?

Those consulted included experts in universities, public sector agencies (including the NHS, local authority, mental health organisations, Scottish Prison Service, Health and Safety Executive), Scottish Government directories (including health, environment/sustainable development and social inclusion), and independent consultants. Comments were sought from experts in the UK, Europe and more widely. In addition, consultees were invited to forward the consultation to others.

Response to the consultation was good, with coverage across the many sectors and disciplines invited. In total, thirty two responses were received, some of which were partnership or multi-agency responses. Overall, comments were very positive with general agreement over the majority of the consultation paper. The comments have been used to inform and move the thinking of the expert advisory group forward and to shape this rationale paper, which addresses and reflects on key issues raised in the consultation. Inevitably, there are areas of significant and ongoing debate. This paper, therefore, outlines and documents more clearly the thinking and reasons behind, and the constraints involved in, decisions that have been taken during the course of the work.

1.2 Commissioned work

A range of work has been commissioned to inform the choice of indicators and provide more indepth evidence. This consists of the following:

[1] For this work mental health has been used as an overarching term representing both positive mental health and mental health problems, see Section 4

[2] Previously known as the Scottish Executive

- review of positive mental health scales for adults validated for use in the UK (Parkinson, in press)
- UK validation of a positive mental health scale and the development and validation of a revised version: the Warwick-Edinburgh Mental Well-being Scale (Parkinson, 2006a; Tennant *et al*., 2006; in press)
- review of questions and scales included in national (excluding Scotland) and cross-national surveys which collect data relating to the mental health of adults (O'Brien & Parkinson, forthcoming).

2. INTRODUCTION

Improving mental health is both a public health priority and a national priority in Scotland, as indicated in, for example, the public health white paper *Towards a Healthier Scotland*, 1999 (The Scottish Office, 1999), *Our National Health: a plan for action, a plan for change*, 2000 (Scottish Executive, 2000), *Partnerships for Care: Scotland's Health White Paper*, 2003 (Scottish Executive, 2003a), the strategic framework for health improvement *Improving Health in Scotland: The Challenge*, 2003 (Scottish Executive, 2003b) and more recently in *Delivery for Health,* 2006 (Scottish Executive, 2006a) and *Delivering for Mental Health,* 2006 (Scottish Executive, 2006b).

In 2001, the Scottish Government's *National Programme for Improving Mental Health and Well-Being* (the National Programme) was established as part of the Scottish Government's drive for health improvement, public health and social justice. Its vision is to help improve the mental health of everyone in Scotland and to improve the quality of life, well-being and social inclusion of people who experience mental illness or mental health problems. Its key aims outlined in the Action Plan for 2003-2006 were: to raise the profile of, and support further action in, mental health improvement; to address the stigma of mental health problems; to prevent suicide; and to promote and support recovery (Scottish Executive, 2003c).[3] Continuing as a key part of overall health improvement, the future direction and emphasis of the National Programme and mental health improvement in Scotland from 2007 to 2011 is to:

- promote mental well-being for all
- prevent mental health problems and illness, especially depression and the prevention of suicide
- support improvements in the quality of life, social inclusion, equalities and rights for people experiencing mental health problems or illness
- address inequalities in mental health.

To date, there has been no assessment of the overall mental health of Scotland's population. To determine whether mental health is improving in Scotland and to track progress, there is a need to measure mental health amongst the Scottish population. To this end, NHS Health Scotland was commissioned by the National Programme to take forward a programme of work with the aim of establishing a core set of national, sustainable mental health indicators.[4]

[3] For more information on the National Programme and its work see www.wellscotland.info
[4] See www.healthscotland.com/understanding/population/mental-health-indicators.aspx

This is a support activity to the National Programme, as outlined in its 2003-2006 Action Plan (Scottish Executive, 2003c). These indicators are intended to provide a way of monitoring the state of mental health in Scotland, at a national level, and are vital to the development of a comprehensive health monitoring system.

It is envisaged that the indicators will:

- provide a summary mental health profile for Scotland that includes both positive mental health and mental health problems
- enable monitoring of changes in Scotland's mental health
- inform decision-making about priorities for action and resource allocation, and
- where data allows, enable comparison between population groups and geographical areas of Scotland, as well as with other countries.

3. SCOPE OF THE INDICATORS

3.1 Requirements for the indicators

From the outset it was agreed that the indicator set would be:

- comprehensive and balanced across mental health dimensions - positive/negative, individual/societal, key determinants as well as health outcomes
- clear and unambiguously defined, based on commonly shared definitions
- robust – ie, feasible, measurable, evidence-based, specific (cause and effect), relevant, reliable, valid, replicable, comparable, practical, clearly interpretable and sensitive to change over time, indicating any direction of change, and ethical
- based on data of sufficient quality in terms of: its availability, coverage (geographical, completeness, population groups), sample size (sufficient to allow more precise estimates, greater statistical analysis and subgroup analysis), accuracy and frequency of collection
- flexible to allow adaptation and improvement where appropriate, whilst maintaining a degree of consistency through time
- comparable with data from other countries where possible.

3.2 Approaches taken in developing the indicators

Several general approaches can be used in indicator development. In developing this indicator set, a mixed approach has been used to obtain measurable, meaningful indicators relevant to the policy making process and for which, as far as possible, data are available at a national level. The mixed approach adopted is based on population health, takes account of the requirements of the indicators above, and includes the approaches described below:

i. data-driven approach – where selection of indicators is mainly determined by the availability of data, being based where possible on the best-available data from current collection systems (survey and administrative data[5]). This recognises that a lot of relevant data that could be used are already collected nationally in Scotland and should be capitalised on. Basing the indicators, where possible, on existing data, will ensure that

[5] Information collected on a regular, often continuous, basis to serve a function. For example data on prescriptions for anti-depressants

they are more than a 'wish-list' and should help make them more sustainable, as in many instances there will be a precedent to retain existing data collection for ongoing trend analyses.

ii. policy-driven approach – where indicators are developed for issues currently on the political agenda and for which policy makers require data. Important to this approach is ensuring that other policy agendas are aware of the cross-cutting nature of mental health and that some indicators will be useful to monitoring progress across a range of policy areas. By working with other policy areas to meet shared goals and overlapping data needs, this approach will further help ensure sustainability of data and the development of indicators which where possible are of practical use to others.

iii. evidence-driven approach – where indicators are developed entirely from the evidence-base.

iv. theory-driven approach – where indicators are developed by starting from a clear definition of the phenomenon of interest and developing a more detailed theory of it. Important to the development of the indicator set has been a focus on positive mental health (see below). The evidence-base for positive mental health has developed considerably over recent years but much thinking in the area is still theory-based.

v. Expert-opinion approach – where indicators are developed based on strong belief amongst experts that the evidence and arguments are sufficiently persuasive for the indicators to be included and the absence of evidence is not taken as evidence of absence. Expert-opinion provided by members of the advisory group and through the consultation on the constructs paper, has been taken into account.

This mixed approach has meant that the work has not been either solely data or policy driven so that the indicators, whilst being data- and policy- relevant, can go beyond the data that are currently collected and current policy requirements. Using this approach, recognising that the indicator set is a core national set, the indicators set has also been kept to a manageable number of *essential* indicators.

3.3 Process

The key stages have been to:

1. Determine a desirable set of defined mental health indicators
2. Review relevant data currently collected nationally in Scottish
3. Identify, and establish a consensus on, a set of practical indicators for which data are currently available
4. Identify additional data needs and recommend new data that should be collected to fill the gaps between the set of practical indicators and the desirable set
5. Explore approaches to collect the recommended new data, and work to develop the data collection systems for desired indicators where they do not currently exist, through influencing data collection systems to ensure that these adequately cover mental health
6. Ensure the sustainable collection of both current and new data for the indicator set. (Parkinson, 2006b)

3.4 Data sources for the indicators

After scoping the data currently collected in Scotland and in discussion with the advisory

group, it was decided that the majority of the indicators would be informed by data coming from surveys. Several options are available to collect the data from the national surveys and these are considered in the paper *Mental Health Indicators Survey Options Appraisal* 2004 (Parkinson, 2004a). The option chosen was to influence the content of the main Scottish national surveys (the Scottish Health Survey, the Scottish Household Survey, the Scottish Crime and Victimisation Survey and the Scottish House Condition Survey) to ensure better coverage of mental health, and the sustainability of existing data (questions).

3.5 Constraints imposed on the indicator set

Data- and policy-driven approaches represent pragmatic means to developing indicators, but mean that constraints have been imposed on the indicators. Consequently, the indicator set may not represent the evidence- or theoretical-base 'ideal' overall, as compromises have been necessary in the choice of indicators.

The main constraints and compromises over the choice of indicators relate to the availability of data. For an indicator:

i. data currently collected may not be obtained from the 'ideal' scale or questions which would be recommended if new data collection systems/survey questionnaires were being initiated for all the mental health indicators. Using suitable existing data accepts that it is not possible to radically alter current data systems and survey questionnaires. The data used for the indicators that are already available represents a 'good enough' pragmatic option, recognising the need to work with existing data systems.

ii. data may not be available. Where data have not been available for a possible indicator, it has been necessary to seek to influence the data collection systems. However, it was accepted that the amount of new data collection that could be introduced nationally would be limited, for example, due to pressures on space in national surveys. This has meant choices over which of the data-less indicators to prioritise. Working with other policy areas, where there are overlapping data needs, has also been essential to add strength to the case for gaining inclusion of additional mental health questions in the national surveys (Parkinson, 2006b; 2006c).

iii. it may not be practical to collect the required data. For some indicators, suitable data collection systems do not exist and setting up these systems would not be possible during the course of this work or potentially even feasible.

iv. suitable scales/questions to capture the data may not yet exist and need to be developed.

A tension with data for monitoring health is the desire to assess aspects of health at small area geographies and for different sub-groups of the population, and to make comparisons across the nation. Whilst data for these national indicators have been sought from larger national surveys, so that the sample size allows some disaggregation, there are limitations to the population sub-group and sub-geographical level analyses that are possible. Being national indicators, data that may have been suitable to base an indicator on, but which are only available for some localities and not for the whole of Scotland, has not been considered.

Whilst a requirement for the indicator set has been to make the indicators comparable with data from other countries, it has not always been possible to achieve this. The review of

questions and scales included in national (excluding Scotland) and cross-national surveys which collect data relating to the mental health of adults (O'Brien & Parkinson, forthcoming) has highlighted where comparisons are possible (differing methodologies of the surveys aside). Where there have been data gaps for the indicator set, suitable questions to suggest for inclusion in the Scottish national surveys were looked for in UK and cross-European surveys. In most instances the questions have come from UK/English surveys as comparison to other UK countries was prioritised.

3.6 What this core indicator set does not cover

The work has had a specific focus. The indicator set:

i. does **not** include indicators for children and young people - recognising that both data collection and the assessment of the mental health of children and young people is separate to that for adults, work has focused initially on establishing indicators for adults. Once established, work will turn to establishing indicators for children and young people.

ii. does **not** include indicators to assess the availability, appropriateness, efficiency or effectiveness of service provision

iii. is **not** intended to be used for performance monitoring

iv. does **not** assess legislation, policies, strategies or initiatives which may be in place

v. is **not** intended to inform practitioners as to which indicators to use to evaluate and assess the mental health impact of their work. However, where an indicator from the national set is consistent with the aims and objectives of a piece of work, then it is anticipated that the national indicator could be used. In this case, the associated data collection scales/questions could be used to collect the data from the required sample locally. Limited space in national surveys has meant that it has not been possible to obtain inclusion of scales/questions in these surveys for all the many aspects of mental health that practitioners may be interested in assessing, for example, for positive mental health: self-esteem; sense of coherence etc. For this reason, for the core indicator set, an overall assessment of positive mental health (via the Warwick-Edinburgh Mental Well-being scale) has been prioritised, as well as a single item on life satisfaction relevant to the wider well-being agenda.[6] However, for those wanting to capture measurement of more detailed aspects relating to positive mental health, the review of positive mental health scales which have been validated for use in the UK, should help when deciding which are the best scales to use to assess the mental health impact of their work (Parkinson, in press; NHS Health Scotland, in press).

vi. is **not** about past life events - an important guiding principle for the indicators work has been that the set needs to cover the current situation rather than past events which have impacted on an individual's mental health, and also factors that are modifiable, rather than those it is not possible to change or control.

3.7 Audience for the indicators

The primary audience for these indicators is national policy makers and planners. As such the focus has been on the development of **national** indicators for the Scottish population with an assessment of data that is currently collected for the whole of Scotland.

[6] These are to be included in the Scottish Health Survey core from 2008

Although the indicator set will be national, this does not mean that local needs for indicators have been ignored. Where possible, data from sources with a large enough sample size to allow disaggregation have been used to enable sub-national/population sub-group analyses. Where national data for an indicator cannot be disaggregated to the required sub-national/population sub-group level, it is anticipated that the questions and scales used for the national indicators could be included in smaller specific questionnaires by practitioners/planners to collect the data locally from the required sample. The indicators can therefore form a backdrop to designing local evaluations which we would hope to be consistent with the goals of the indicator work.

4. CONCEPTUAL FRAMEWORK FOR THE MENTAL HEALTH INDICATORS

In developing the indicators, it has been important to work from an agreed understanding of mental health as the way mental health is conceptualised will affect how it is measured. Mental health, however, is a contested and still much debated concept, with no universally accepted definition (Warr, 1987; Herron & Mortimer, 1999; Herron & Trent, 2000; Friedli, 2004). Arguably, it is more complex, subjective and contested than any single definition can capture.

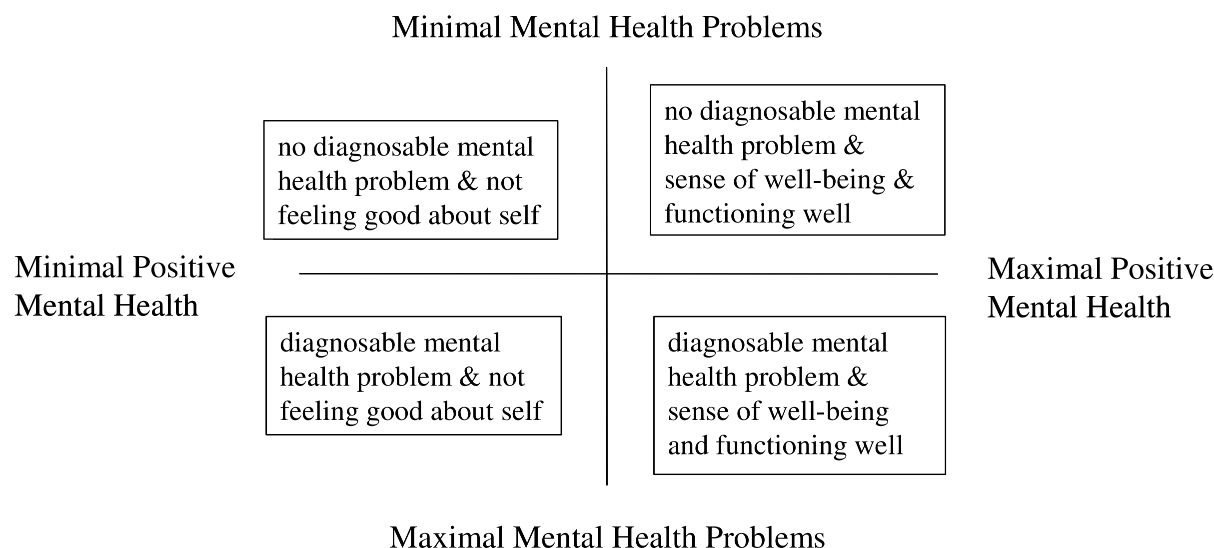
Rather than attempting to concisely define mental health and enter into the many philosophical debates, an outline of the broad mental health concepts and framework within which the indicators have been developed is described below. It is acknowledged that even this constitutes a simplification and that the indicators are an indirect or partial measure of a complex concept (Vaillant, 2003).

4.1 Mental health

For this work, mental health has been used as a broad, overarching concept encompassing both positive mental health (often used interchangeably with mental health, mental well-being or well-being) and mental health problems[7] (often used interchangeably with mental health, negative mental health, mental illness, mental ill-health and mental distress), drawing on a 'positive mental health' model. Thus, positive mental health and mental health problems have been considered as two separate and distinct dimensions of mental health, consistent with the two continua model (Figure 1) (Tudor, 1996; Keyes, 2002; 2005a; 2007). On these continua, positive mental health ranges from a low level to a high level of positive mental health and mental health problems from absence through mild to severe clinically diagnosable illness. This recognises that mental health is not a euphemism for mental health problems nor the absence of mental health problems, and should not be used as such (Herron & Mortimer, 1999; Herron & Trent, 2000). This model also recognises that people with a mental health problem can still experience high levels of positive mental health and vice versa.

[7] In previous documentation (for example: Parkinson, 2004b; 2006b; Parkinson & Mental health Indicators Advisory Group, 2006) the dimension of mental health referred to here as *mental health problems* was called *negative mental health*. This post consultation change should avoid confusion by those who saw negative mental health as the opposite of positive mental health on a single continuum and not as a separate dimension of mental health.

Fig. 1. Mental health as a broad concept of positive mental health & mental health problems



Adapted from: Tudor K 1996

4.1.1 Evidence for the two dimensions of mental health

Whilst models for mental health are largely theoretical, empirical research is emerging which supports the two continua (dimensions) model, which is also intuitively popular. Analyses of data from the Midlife in the United States Survey (MIDUS) 1995, which used 3 scales as indicators of the positive mental health dimension and four diagnosed mental illnesses as indicators of the mental health problems dimension, strongly support the two continua model, which is a near perfect fit to the MIDUS data (Keyes, 2002; 2005a; 2007). This work suggests that measures of mental health problems and measures of positive mental health form two psychometrically distinct, but correlated, continua in the U.S. population, as well as evidence that the absence of diagnosable mental illness does not imply the presence of high levels of positive mental health. Only a small proportion of those free of a common mental health problem were found to be truly mentally healthy ie to possess high levels of positive mental health and no diagnosable mental illness. Others have also argued that positive mental health and mental health problems are associated with different health, socio-economic and demographic variables (Huppert & Whittington, 2003; Hu *et al.*, 2007), and with different biological markers (Ryff *et al.*, 2006).

Further evidence (which has certain limitations as discussed by the authors) which is more strongly supportive of the two continua than the single continuum model (in which positive mental health and mental health problems are seen as being at opposite ends of a continuum) comes from:

i. analyses of data from the General Health Questionnaire 30 completed in the Health and Lifestyle Survey UK to compare the characteristics and determinants (socio-demographic, health and psychosocial variables) of the two dimensions (Huppert & Whittington, 2003)

ii. work analysing data from questions in the General Health Questionnaire 12 completed in the British Household Panel Survey and the Health Survey of England to assess the independence of positive mental health and mental health problem dimensions and

whether associations with individual and household characteristics vary across the two dimensions (Hu *et al*., 2007)

iii. comparisons of associations between measures of aspects of positive mental health and mental health problems, assessed by scales, with biomarkers (measures of neuroendocrine and cardiovascular function) (Ryff *et al*., 2006).

Although the two continua model has weaknesses, it has proved to be the most helpful framework available for the development of the indicator set.

4.2 Why focus on positive mental health?

If, as has been argued, mental health consists of two distinct dimensions, the absence of mental health problems does not necessarily imply the presence of (high levels of) positive mental health. Equally, the presence of mental health problems does not preclude the presence of (high levels of) positive mental health. Thus, prevention alone is unlikely to be sufficient to result in high levels of positive mental health at a population level. In addition, there may be significant benefits from efforts to increase levels of positive mental health among people with mental health problems. Therefore there is a case for assessing positive mental health as well as mental health problems,

While it is widely understood that mental health problems have a significant impact on people's lives (Rogers & Pilgrim, 2003), there is also growing evidence to suggest that individual and collective levels of positive mental health influence health and social outcomes (Huppert *et al*., 2005; Friedli & Parsonage, in press). Analyses of the MIDUS data (section 4.1.1) indicate that less than a high level of positive mental health is associated with greater levels of impairment and disability in terms of work reductions (missed days and work cutbacks), health limitations of daily living and psychosocial functioning, and higher numbers of chronic physical conditions (Keyes, 2002; 2005a; 2005b; 2007). Having low levels of positive mental health but no mental illness may be more dysfunctional than having a mental illness and medium/high levels of positive mental health. A mental illness combined with a low level of positive mental health produces the most negative outcomes. Overall, those without a mental illness and with a high level of positive mental health report the fewest missed days of work, the healthiest psychosocial functioning, the lowest risks of cardiovascular disease, the lowest number of chronic physical diseases with age, the fewest health limitations of activities of daily living and lower health care utilisation.

Overall, the skills and attributes associated with positive mental health lead to improvement in a range of domains including physical health, higher educational attainment and improved outcomes for employment, parenting, relationships, crime, health behaviours and quality of life (Care Services Improvement Partnership, 2005). Positive mental health also contributes fundamentally to the extent to which people feel able and motivated to exercise choice and control and to adopt healthy lifestyles.

However, the focus on positive mental health also has some limitations. The relationship between positive mental health and the positive outcomes described in the literature depends to some extent on which aspect of mental health is being measured and which scales are

used.[8] This is a weakness in any attempt to draw firm conclusions about the influence of positive mental health in different domains, although there tends to be a reasonably good correlation between different elements of positive mental health e.g. life satisfaction, positive affect, optimism, psychological well-being, quality of life and 'happiness' (Blanchflower & Oswald, 2004). There are also wider considerations of cultural specificity and cultural bias in the positive psychology literature (Carlisle, 2006) as well as the fact that a high proportion of 'positive mental health' studies are based on relatively privileged cohorts e.g. students, white-collar workers. Positive affect, for example, may have a greater influence on outcomes for people who are relatively well resourced.[9]

Direction of causality is problematic, because much of the literature is based on cross-sectional studies, although many of the associations between positive mental health and positive outcomes are increasingly being confirmed in longitudinal and experimental studies (Lyubomirsky *et al.,* 2005). Nevertheless, the extent to which the presence or absence of positive mental health is a determinant or an outcome (notably of levels of inequality and material circumstances) is the subject of considerable debate (Lynch *et al.,* 2001; Macleod *et al.,* 2005; Wilkinson & Pickett, 2006).

The constructs described in the next section attempt to take account of some of the limitations, potential pitfalls and difficulties inherent in an emerging field like positive mental health. At the same time, the prevalence of individuals with high levels of positive mental health (with or without a mental illness) has been calculated to be less than 20% (MIDUS data) (Keyes, 2005a). If this is the case, focusing on positive mental health has the potential to produce benefits for a significant majority of the population (Huppert, 2005; Keyes, 2007). Taking a complete health approach to mental health ie covering both improving positive mental health for all and preventing and treating mental health problems is therefore of considerable importance.

4.3 Constructs

The indicators are structured under constructs, where a construct refers to a conceptual element that is (arguably):

- an important or necessary constituent of mental health, or
- a contextual variable, where a contextual variable can be a determinant of mental health (usually a risk or protective factor, as direction of causality is often unknown), a consequence of mental health, or both. These may be at an individual level e.g. learning and development; at a community level e.g. social support; or at a structural level e.g. equality.

In turn, for this work, a mental health indicator is defined as a measurement indicative of the state of mental health; it is a variable that has been related to mental health itself or one of its determinants/consequences.

---

[8] For a review of a wide range of positive mental health scales validated for use in the UK see Parkinson, in press.

[9] Diener found that among affluent students, positive affect was a significant determinant of improved educational and employment outcomes, whereas for less affluent students, parental income was a more significant determinant (Diener cited in Lyubomirsky *et al.,* 2005).

4.3.1 Types of constructs

Constructs (and hence indicators) have been categorised in two ways:

1. High level constructs - of mental health status, outcome measures with a construct for each dimension of mental health
2. Contextual constructs – covering the determinants (and/or risk and protective factors) of mental health and the consequences of mental health.

In many cases, however, there is no consensus on mental health outcomes (especially for positive mental health), there is no easy way of distinguishing between cause and effect, and certain constructs overlap or fit in different categories. We have attempted to adopt a pragmatic stance, aiming to select indicators that are relevant, reflect desirable aspirations for the population and that include those indicators considered essential to assessing the mental health of the population.

4.3.2 Categories of contextual constructs

The framework used represents a public mental health approach, recognising the complex relationship between the mental health of individuals and broader socio-economic, cultural and environmental factors (Department of Health, 2001; Friedli, 2004).

The constructs consist of high level constructs and contextual constructs. The latter includes the three broad interconnected levels of the individual, community,[10] and structural. These are also the levels at which mental health improvement works, namely:

- strengthening individuals
- strengthening communities
- reducing structural barriers to mental health.

At each of these levels, interventions may be designed to strengthen factors known to protect mental health (protective factors) or reduce factors known to increase the risk of mental health problems (risk factors) (Department of Health, 2001).

4.4 Terminology for the indicators

To ensure clarity, outlined are examples of how certain terms have been used in the indicators programme:

Positive mental health

Type of construct	high level
Construct	positive mental health
Indicator	positive mental health
Measure	mean adult score on Warwick-Edinburgh Mental Well-being Scale (WEMWBS)
Method	survey, Scottish Health Survey
Data	scores obtained on WEMWBS

[10] Note that this does not refer to the well-being of a community, but relates to community aspects (social capital etc) important to individual's mental health

Mental health problem

Type of construct	high level
Construct	mental health problem
Indicator	depression
Measure	Percentage of adults who have a symptom score of 2 or more on the depression section of the Revised Clinical Interview Schedule (CIS-R)
Method	survey, Scottish Health Survey
Data	scores obtained on the depression section of the CIS-R

Social support

Type of construct	contextual level
Construct	trust
Domain	community
Indicator	general trust
Measure	percentage of adults who trust most people
Method	survey, Scottish Health Survey
Data	scores obtained on the ONS validated harmonised social capital general trust question

5. CHOICE OF CONSTRUCTS

Whilst it was planned that the constructs (and hence the indicators) included would be evidence-based, in some instances the evidence-base has been incomplete and/or the construct entirely theoretical. There are also questions about the direction of causality. Therefore, the absence of evidence on the importance of a construct to mental health has not been taken as demonstration of a lack of its importance. In instances where there was consensus amongst experts in the field that a construct is important to monitoring the mental health of the population, and it was felt that the evidence and arguments available are sufficiently persuasive to propose the construct, an incomplete evidence-base did not exclude the construct from the proposed list. Inclusion of such constructs should contribute to the robustness and completeness of the evidence-base.

In other instances, there was a strong evidence-base for the inclusion of a construct in the proposed list, but the means for adequately collecting data to capture information on this are not yet available. Again, this did not prevent a construct being included in the proposed list and further research will be needed to identify ways to capture information on the construct to accurately assess its level within the population.

These two points are reflected below.

5.1 Evaluation of potential the constructs and indicators

Each potential construct and indicator has been evaluated against the following:

1. correlation to mental health outcomes
2. assessment of the quality, strength, and amount of evidence

3. whether amenable to change by interventions
4. weighting on 'positive' to advance the area of positive mental health
5. feasibility, both in terms of whether the data are currently collected in Scotland (either fully, partially or not at all), and if the data are not collected whether there are questions or scales available which could be used to collect the data or whether these need to be developed.

5.2 List of constructs

HIGH LEVEL CONSTRUCTS		
Positive mental health		Mental health problems
CONTEXTUAL CONSTRUCTS		
Individual	**Community**	**Structural**
Learning and development	Participation	Equality
Healthy Living	Social Networks	Social inclusion
General health	Social support	Discrimination
Spirituality	Trust	Financial security/debt
Emotional Intelligence	Safety	Physical environment
		Working life
		Violence

6. CONCLUSION

The set of indicators selected constitute a pragmatic choice, recognising that mental health, and specifically positive mental health, is a developing area and an evolving concept. The indicators do not provide a definitive answer to the question of measuring mental health, but reflect what has been possible within the constraints of: theory; the evidence-base; data availability; and the availability of good scales/questions to adequately capture data on a construct. It is hoped that the indicators will contribute to greater understanding of all dimensions of mental health and to the future development of this field. In the long term, the indicator set may be adjusted and adapted accordingly.

REFERENCES

Blanchflower D, & Oswald A (2004). Well-being over time in Britain and the USA. *Journal of Public Economics,* 88: 1359–87.

Care Services Improvement Partnership (2005). Making it possible: improving mental health and well-being in England. National Institute for Mental Health England: Leeds.

Carlisle S (2006). Series of papers on cultural influences on mental health and well-being in Scotland University of Glasgow: Glasgow. www.wellscotland.info/publications/consultations4.html.

Department of Health (2001). Making It Happen: A guide to delivering mental health promotion. Department of Health: London.

Friedli L (2004). Mental health improvement 'concepts and definitions': Briefing paper for the National Advisory Group. Scottish Executive: Edinburgh.

Friedli L, & Parsonage M (in press). Mental health promotion: building an economic case. Northern Ireland Association for Mental Health: Belfast.

Herron S, & Mortimer R (1999). 'Mental health': A contested concept. *International Journal of Mental Health Promotion*, 1(1): 4-8.

Herron S, & Trent DR (2000). Mental health: A secondary concept to mental illness. *International Journal of Mental Health Promotion*, 2(2): 29-38.

Hu Y, Stewart-Brown S, Twigg L, & Weich S (2007). Can the 12 item General Health Questionnaire be used to measure positive mental health? *Psychological Medicine*, 37: 1005-1013.

Huppert FA. (2005). Positive mental health in individuals and populations. In: The science of well-being. Huppert FA, Baylis N, & Keverne B (Eds). Oxford University Press: Oxford.

Huppert FA, & Whittington JE (2003). Evidence for the independence of positive and negative well-being: Implications for quality of life assessment. *British Journal of Health Psychology*, 8: 107-122.

Huppert FA, Baylis N, & Keverne B (Eds) (2005). The science of well-being. Oxford University Press: Oxford.

Keyes CLM (2002). The mental health continuum: from languishing to flourishing. *Journal of Health and Social Behavior*, 43: 207-222.

Keyes CLM (2005a). Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of Consulting and Clinical Psychology*, 73: 539-548.

Keyes CLM (2005b). Chronic physical conditions and aging: is mental health a potential protective factor? *Ageing International*, 30: 88-104.

Keyes CLM (2007). Promoting and protecting mental health as flourishing: A complementary strategy for improving national mental health. *American Psychologist*, 62: 95-108.

Lynch J, Smith GD, Hillemeier M, Shaw M, Raghunathan T, & Kaplan G (2001). Income inequality, the psychosocial environment and health: comparisons of wealthy nations. *Lancet,* 358: 165-166.

Lyubomirsky S, King L, & Diener E (2005). The Benefits of Frequent Positive Affect: Does Happiness Lead to Success? *Psychological Bulletin*, 131: 803-855.

Macleod J, Davey-Smith G, Metcalfe C & Hart C (2005). Is subjective social status a more important determinant of health than objective social status? Evidence from a prospective observational study of Scottish men. *Social Science and Medicine,* 61: 1916-1929.

NHS Health Scotland (in press). Mental Health Improvement: Evidence and Practice Guide 5: Selecting questionnaires to assess positive mental health in adults. NHS Health Scotland: Edinburgh.

O'Brien R, & Parkinson J (forthcoming). International mental health data: Review of data on the mental health and well-being of adults collected in national (excluding Scotland) and cross-national surveys. NHS Health Scotland: Glasgow.

Parkinson J (2004a). Mental health indicators survey options appraisal. NHS Health Scotland: Glasgow.

Parkinson J (2004b). Indicators of Mental Health and Well-being - Background Paper. NHS Health Scotland: Glasgow.

Parkinson J (2006a). Measuring Positive Mental Health: Developing a New Scale. NHS Health Scotland: Glasgow.

Parkinson J (2006b). Establishing national mental health and well-being indicators for Scotland. *Journal of Public Mental Health*, 5: 42-48.

Parkinson J (2006c). Establishing National Mental Health and Well-being Indicators for Scotland Briefing Update December 2006. NHS Health Scotland: Glasgow.

Parkinson J (Ed) (in press). Review of scales of positive mental health validated for use with adults in the UK: Technical report. NHS Health Scotland: Glasgow.

Parkinson J, & Mental health Indicators Advisory Group (2006). Indicators of Mental Health and Well-being - Constructs Consultation Paper. NHS Health Scotland: Glasgow.

Rogers A, & Pilgrim D (2003). Mental health and inequality. Palgrave Macmillan: London.

Ryff C, Love G, Urry H, Muller D, Rosenkranz M, Friedman E, Davidson R, & Singer B. (2006). Psychological well-being and ill-being: do they have distinct or mirrored biological correlates? *Psychotherapy and Psychosomatics*, 75: 85-95.

Scottish Executive (2000). Our National Health: A plan for action, a plan for change. The Scottish Executive: Edinburgh.

Scottish Executive (2003a). Partnerships for Care: Scotland's Health White Paper. The Scottish Executive: Edinburgh.

Scottish Executive (2003b). Improving Health in Scotland - The Challenge. The Stationery Office Bookshop: Edinburgh.

Scottish Executive (2003c). National Programme for Improving Mental Health and Well-being: Action Plan 2003-2006. The Scottish Executive: Edinburgh.

Scottish Executive (2006a). Delivering for Health. The Scottish Executive: Edinburgh.

Scottish Executive (2006b). Delivering for Mental Health. The Scottish Executive: Edinburgh.

Tennant R, Fishwick R, Platt S, Joseph S, & Stewart-Brown S (2006). Monitoring positive mental health in Scotland: validating the Affectometer 2 scale and developing the Warwick-Edinburgh Mental Well-Being Scale for the UK. NHS Health Scotland: Glasgow.

Tennant R, Hiller L, Fishwick R, Platt S, Joseph S, Weich S, Parkinson J, Secker J, & Stewart-Brown S (in press). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation. *Health and Quality of Life Outcome.*

The Scottish Office (1999). Towards a Healthier Scotland: A White Paper on Health. The Stationery Office: Edinburgh.

Tudor K (1996). Mental Health Promotion: Paradigms and practice. Routledge: London.

Vaillant GE (2003). Mental Health. *American Journal of Psychiatry*, 160: 1371-1382.

Warr P (1987). A study of psychological well-being. *British Journal of Psychology*, 69: 111-121.

Wilkinson RG, & Pickett KE (2006) Income inequality and population health: a review and explanation of the evidence. *Social Science and Medicine,* 62:1768-1784.

APPENDIX

Advisory Group Membership

- Dr Lynne Friedli (Chair), Mental Health Promotion Specialist
- Dr Jenny Bywaters, Senior Public Mental Health Adviser, National Institute for Mental Health England, Department of Health
- Dr Hilary Guite, Consultant Public Health/ Acting Director of Public Health Greenwich TPCT
- Dr Sunjai Gupta, Senior Medical Officer, Public Health Systems and Governance, Department of Health
- Gregor Henderson, Mental Health Improvement Advisor, National Programme for Improving Mental Health and Well-being, Scottish Executive
- Jackie James, Principal Health Development Specialist, National Public Health Service for Wales
- Professor Rachel Jenkins, Director, WHO Collaborating Centre, Head of Section of Mental Health Policy HSRD Institute of Psychiatry, London
- Professor Howard Meltzer, Professor of Mental Health and Disability, University of Leicester
- Professor Steve Platt, Director Research Unit in Health, Behaviour and Change, Edinburgh University
- Professor Sarah Stewart-Brown, Director of the Health Sciences Research Institute, Chair of Public Health, Warwick University