

<b>Institution:</b> University of Warwick		
<b>Unit of Assessment:</b> UOA2 - Public Health, Health Services and Primary Care		
<b>Title of case study:</b> The Impact of the Warwick-Edinburgh Mental Wellbeing Scales on Public Health Policy and Practice		
<b>Period when the underpinning research was undertaken:</b> 1 April 2005 - 31 December 2020		
<b>Details of staff conducting the underpinning research from the submitting unit:</b>		
<b>Name(s):</b>	<b>Role(s) (e .g. job title):</b>	<b>Period(s) employed by submitting HEI:</b>
Sarah Stewart- Brown	Professor	07/03/2003- present
Scott Weich	Professor	01/06/2003- 30/09/2016
Aileen Clarke	Professor	01/03/2007- present
<b>Period when the claimed impact occurred:</b> 1 August 2013 - 31 December 2020		
<b>Is this case study continued from a case study submitted in 2014?</b> N		
<p><b>1. Summary of the impact</b> (indicative maximum 100 words)</p> <p>Warwick Medical School (WMS) created the Warwick-Edinburgh Mental Well-being Scales (WEMWBS) to address a gap in measures suitable for evaluation in the new discipline of public mental health. WMS continues to support use of these positively orientated scales in the UK and currently in over 50 countries worldwide. The WEMWBS are enabling a change in culture by allowing governments, public, private and voluntary sector organisations and services to evaluate approaches that address positive mental health and its impact on productivity, physical health and social wellbeing. They demystify the concept of mental wellbeing and provide a common currency for evaluation which is popular across all sectors contributing to this new field. They are therefore playing a key role in reorienting public health services towards mental health, and also towards a healthier balance of positively and negatively focused approaches.</p> <p>The reach and penetration of these scales is evident with an average of 350 plus, monthly licence registrations for use across the higher education, educational, health, community/voluntary, local authority and commercial sectors in the UK and abroad. Inclusion of the scales in large national and international surveys has enabled international comparisons and provided a basis for on-going policy and practice development.</p>		
<p><b>2. Underpinning research</b> (indicative maximum 500 words)</p> <p>The Warwick-Edinburgh Mental Well-being Scales (WEMWBS) were commissioned between 2005 and 2010 by the Scottish Government after Stewart-Brown (Professor of Public Health, University of Warwick, 2003- present) showed how mental wellbeing is central to public health, highlighted its key role as a determinant of social equity and identified from systematic reviews that a lack of suitable measures was limiting both research and practice. Subsequently Stewart-Brown was invited to advise the Scottish Government on Public Mental Health and was commissioned to lead a team to develop a new measure of mental wellbeing with Professor Stephen Platt (University of Edinburgh and NHS Health Scotland).</p> <p>WEMWBS were designed to capture all aspects of mental wellbeing (emotional-affective &amp; psychological functioning) in a form that would appeal to all sectors of the public, be succinct enough for population surveys and intervention evaluation, and simple enough for public sector services and non-government organisations to administer and score. Unlike existing scales focusing on mental illness, WEMWBS enables evaluation of positive approaches (e.g. assets-based, and programmes using principles of positive psychology) and those adopting Geoffrey Rose's 'shifting the curve' approach to public health. Validation studies were undertaken with student samples from the universities of Warwick and Edinburgh, in Scottish Health Education Population Surveys [3.1] and with population representative focus groups who commented on and rated WEMWBS. The new 14-item scale performed well against accepted criteria using</p>		

classical test theory, but internal consistency and scalability was shown to be improved by eliminating some of the items. This led to the development of the short 7-item WEMWBS [3.2], with Professor Tennant in Leeds.

Further studies have validated the measures in different groups in the UK. These demonstrate that WEMWBS are suitable for measuring mental wellbeing among adolescents (13-15 years [3.3], and more recently, according to the Welsh Government, down to 11 years) and in minority ethnic groups [3.4]; that they are responsive to change in multiple settings from communities to schools and local authorities, and suitable for use in evaluation of interventions at group and individual level [3.5]. Further studies, with collaborators in and outside the UK have shown WEMWBS to be valid in severe and enduring mental illness [3.6], and in primary care and counselling where the short WEMWBS has been benchmarked against popular mental illness measures (PHQ-9, GAD-7).

Stewart-Brown has worked with academics in the UK and abroad to demonstrate that mental wellbeing is associated with relational and recreational behaviours but not with classic socio-economic determinants of disease, providing a basis for development of new policy and practice. She has supported academics abroad to translate and validate WEMWBS into 30 different languages [e.g.3.6] to enable international comparison, and to enhance knowledge necessary for policy making, for example using national registry databases to estimate the cost consequences of mental wellbeing to the public sector in Denmark.

### 3. References to the research (indicative maximum of six references)

- [3.1] **Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J, & Stewart-Brown, S.** (2007) The Warwick-Edinburgh mental well-being scale (WEMWBS): development and UK validation. *Health and Quality of Life Outcomes*, 2007; 5(1), 63. doi.org/10.1186/1477-7525-5-63 (cited 1451 times as at July 2019)
- [3.2] **Stewart-Brown, S., Tennant, A., Tennant, R., Platt, S., Parkinson, J. & Weich, S.** (2009) Internal Construct Validity of the Warwick-Edinburgh Mental Well-being Scale (WEMWBS): A Rasch analysis using data from the Scottish Health Education Population Survey. *Health and quality of life outcomes*, 7:15 doi:10.1186/1477-7525-7-15
- [3.3] **Clarke, A., Friede, T., Putz, R., Ashdown, J., Martin, S., Blake, A., & Stewart-Brown, S.** (2011) Warwick-Edinburgh Mental Well-being Scale (WEMWBS): validated for teenage school students in England and Scotland. A mixed methods assessment. *BMC Public Health*, 11(1), 487 doi: 10.1186/1471-2458-11-487
- [3.4] **Taggart, F., Friede, T., Weich, S., Clarke, A., Johnson, M., & Stewart-Brown, S.** (2013) Cross cultural evaluation of the Warwick-Edinburgh mental well-being scale (WEMWBS)- a mixed methods study. *Health and Quality of Life Outcomes*, 11:27 doi:10.1186/1477-7525-11-27
- [3.5] **Maheswaran, H., Weich, S., Powell, J., & Stewart-Brown, S.** (2012) Evaluating the responsiveness of the Warwick Edinburgh Mental Well-Being Scale (WEMWBS): Group and individual level analysis. *Health and Quality of Life Outcomes*, 10(1), 156. doi: 10.1186/1477-7525-10-156
- [3.6] Trousselard, M., Steiler, D., Dutheil, F., Claverie, D., Canini, F., **Stewart-Brown, S.**, and Nicolas, F., (2016) Validation of the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) in French Psychiatric and General Populations. *Psychiatry Research*, 245: 282–290 doi: 10.1016/j.psychres.2016.08.050

### Key Grants

- PI Sarah Stewart-Brown, Cross Cultural Validation of WEMWBS among English Speaking Members of Minority Ethnic Populations in the UK, National Institute of Mental Health in England, June 2009- May 2010, GBP45,582
- PI Aileen Clarke, CoI Sarah Stewart-Brown, Warwick Edinburgh Assessment of Validity in Adolescents in Educational Settings (WAVES), March 2008- October 2009, GBP119,937
- PI Sarah Stewart-Brown, Affectometer 2 - Proposal for Phase 3 of the UK Validation, NHS Health Scotland, April 2005- June 2006, GBP92,220

### 4. Details of the impact (indicative maximum 750 words)

#### Overcoming the lack of simple, robust mental wellbeing measurement scales

Understanding of mental wellbeing among public health professionals and policy makers together with the role it could play in promoting and protecting public health was constrained in

the early twentieth century by lack of appealing, robust measurement scales. As very well-validated, psychometrically robust, appealing, simple to use scales, WEMWBS have enabled understanding by demystifying the concept of mental wellbeing, and allowing public, private and voluntary sector organisations to evaluate the impact of policies, programmes and services across the spectrum of mental health rather than on illness alone. WEMWBS therefore play a key role in reorienting services to the positive and permitting evaluation of the mental health impact of public health programmes.

Stewart-Brown presented the scales at multiple policy making, professional and practitioner events in the UK and abroad to demonstrate their value. WEMWBS, together with user guides and workbooks, are available once users have registered for a licence. Licences are free to publicly funded services, third sector/voluntary organisations and Higher Education Institutes via a dedicated website. WEMWBS are now highly respected nationally and internationally and used appropriately in a wide range of settings and sectors. They are recommended as the go-to method for measuring mental wellbeing in the UK for example: the UK Faculty of Public Health cited WEMWBS as the most popular scales of mental well-being [5.1]; and Public Health England's (PHE) Toolkit for Schools and Colleges demonstrated schools uptake of WEMWBS [5.2]. Over 11,000 individuals have registered to use WEMWBS. Numbers of licences have increased linearly year on year since 2013. Currently around 350 users register for a licence monthly and analysis of registry data shows the following sector distribution: 30% community/voluntary, 29% HEIs, 20% education, 14% health, remainder: local authorities, commercial, prisons. 17% of licences are now for use outside the UK and WEMWBS have been translated into 30 languages including all Western European and Nordic languages, several Eastern European languages, Russian, Turkish, Chinese, Japanese, Hindi, Urdu, Bangla, Arabic, and Persian. They are available on a validated web-based platform in British Sign Language. A version for people with autism and learning difficulties is being developed.

#### **Use of WEMWBS to monitor population wellbeing at a national level**

WEMWBS is used across the UK in Scotland, England and Wales as the favoured scale to measure population wellbeing. Improving mental wellbeing, as measured by WEMWBS, is one of Scotland's 55 National Indicators. WEMWBS has been used from 2008 for adults (aged 16 years plus) and from 2012 for children (aged 13 to 15 years) in The annual Scottish Health Survey to monitor population health in private households [5.3]. It is also included in all Scottish Government cross-sectional surveys including the Scottish Crime and Justice Survey and the Scottish Household Survey, with an estimated 20,000 responses annually providing an unprecedented precision of estimates for wellbeing at a national level and a rich dataset informing policy making.

The Well-being of Future Generations (Wales) Act 2015 requires Welsh Ministers to publish national indicators to measure progress towards the achievement of the wellbeing. The national indicator 29 'mean mental wellbeing score for people' is tracked using WEMWBS as defined in the National Indicator for Wales technical document [5.4]. The annual Health Survey for England examines changes in the health and lifestyles of the adult population and uses WEMWBS to measure wellbeing. The data supports the Department of Health, PHE and local authorities to monitor changes in health and inform policy [5.5]. The Office of National Statistics uses WEMWBS to measure mental health and wellbeing as stated in the 'Measuring National Well-being: Quality of Life in the UK, 2018' using data from Understanding Society, a national panel study providing longitudinal information for researchers and policymakers [5.6]. The ONS [5.7.1] and PHE [5.7.2] are now both using WEMWBS (Measuring national well-being programme and a Toolkit for Schools and Colleges). As well as being included in UK national surveys they are also included in Icelandic (2007 onwards), Spanish (2013) and Danish (2017) national surveys [5.7.3]; and are being tested by the Canadian government. WEMWBS were included in the 2014 UK British Psychiatric Morbidity Survey [5.7.4], and 2017 UK Mental Health of Children and Young People Survey [5.7.5]. They were also included in Europe-wide Health and Behaviour of School Children Survey in 2018.

#### **Use of WEMWBS in evaluation of services promoting mental wellbeing in multiple sectors**

Use of WEMWBS has enabled providers in different sectors to show the value of for example workplace and school based programmes, as well as interventions like social prescribing, recovery colleges, physical activity, arts for health programmes and provision of green spaces. By providing a common currency, WEMWBS enables evaluation of cost effectiveness of different public health approaches across different sectors. The What Works Centre for Wellbeing (WWCW) has promoted WEMWBS *'as a good measure of mental wellbeing thanks to its focus on positive experiences and psychological functioning. WWCW reported that 'Among the short scales that recognize the multi-dimensionality of wellbeing, WEMWBS appears to have the most established psychometric properties, population norms and sensitivity to change'* [5.8:1].

**Health Service:** West London CCG aims to improve general mental health care for their service users and make care standardised through primary, secondary and shared care; covering a population in excess of 250,000. They have been using WEMWBS, since the service began 4 years ago, to create care plans and measure patient outcomes and goals. WEMWBS is used with every patient in their service pre entry and exit from the service and annually throughout their involvement, last year it was used with approximately 15,000 patients across North West London. Compared to the PHQ-9 and GAD-7, Dr Dholakia (Clinical Lead) reported *'WEMWBS has been better received by clinicians, for starting the conversation about the patient's mental health and goals as well as giving a more rounded picture; and by patients, as it gives them the opportunity to evaluate and honestly express their feelings'* [5.8.2]. WEMWBS has now been rolled out to 7 CCGs across North West London, covering a population of over 2,000,000 in total.

WEMWBS are recommended by NHS Digital as one of their National Clinical Content Repository tools for NHS providers and suppliers to demonstrate the effectiveness of their services. *'Our clinical experts recommended the use of WEMWBS as best practice within patient/client assessments a few years ago and we have been collecting data from our healthcare providers into our data-set ever since. Results are reported as part of the Mental Health Services Data-set'* [5.8.3]

WEMWBS are also used in: Coventry and Warwickshire Partnership Trust to evaluate the programmes offered by their Recovery College; NHS Tayside's Primary Care Mental Health team to ensure effective use of appointment time. The Finnish Institute of Occupational Health has been using WEMWBS since March 2018 as part of its overview assessment questionnaire (the Abilitator), currently with 400 service providers and over 13,000 clients. The Finnish Institute of Occupational Health have stated that *'WEMWBS is an integral part of the Abilitator survey and that without it the mental wellbeing section would not be functioning so positively.'* [5.8.4]

**Third Sector:** WEMWBS have proved very popular because the scales align with the sector's ethos; they focus on recovery and empowerment and are liked by practitioners and clients; they are easy to use and demonstrably effective at showing impact. The housing sector's ideas and innovation agency (HACT) and Simetrica used WEMWBS to measure their social values. Catalyst Housing Association said *"In six months we have accrued a social impact value of over GBP 500,000 and this continues to grow. Thanks to WEMWBS not only can we report on our social impact value but we can identify areas of improvement and implement ways to further enhance our performance and future impact"* [5.8.5].

A practitioner from Noise Solutions, a social enterprise using music to engage and motivate people facing challenges, said *'WEMWBS has been instrumental in the day to day operations of Noise Solution CIC for the last 5 years. It has been a vital cog in providing convincing validated evidence for commissioning organisations (Education/local authority/mental health) that has taken the organisation from a small local concern to being recognised as one of the UK's top 100 performing social enterprise's (2019, 2020 NatWest SE100)* [5.8.6].

Further examples of the myriad of 3<sup>rd</sup> sectors organisations using WEMWBS include: The Mental Health Foundation measuring the impact of a programme developed for prisoners

between (2013- 2016) in HMP & YOI Parc (Parc prison project); domestic abuse charity Women's Aid using WEMWBS since 2015 with 8786 survivors in their 'On Track' system for national level tracking (personal communication) [5.8.7]; Age UK to evaluate phase 2 of its Personalised Integrated Care Programme (2015 and 2017) demonstrating "a significant and enduring positive impact on the mental and overall wellbeing of older people" [5.8.8]

**Educational Sector:** WEMWBS are now being widely used in the education sector. For example, the Schools and students Health Education Unit (SHEU) regularly use WEMWBS for the monitoring of health and evaluation programmes commissioned by local authorities and schools. Ealing Borough Council, commissioned SHEU to include WEMWBS in its biannual survey of all schools in the Borough. Data collected from years 7 and 9 in 2013, 2015 and 2017 is providing the backdrop for the Council and to initiate conversations about mental wellbeing programmes in the Borough's Learning and Development team and develop programmes to promote secondary age pupils' wellbeing in all schools. This Borough plans to use their WEMWBS time series and matched control data to conduct robust analysis of initiatives like whole school approaches, mindfulness and yoga programmes in a real world setting. SHEU uses WEMWBS in many of its reports including; Trends and research in young people's alcohol and substance use (2017), Goldilocks is online (2019) and What's fun got to do with it? (2017). On an international level, the Department for International Development (DFID) funded programmes Girls Education Challenge and No Girls Left Behind are being evaluated using WEMWBS in Tanzania, Malawi and Zimbabwe. The University of Warwick is supporting this by ensuring a robust Swahili translation is available.

**Commercial sector and workplaces:** Increased awareness of the importance of mental wellbeing has resulted in a growing demand for WEMWBS in the commercial sector. Recent agreement by NHS Health Scotland and Universities of Edinburgh and Leeds allows Warwick to license WEMWBS on a commercial basis enabling development of a sustainable licensing model. To date, 275 inquiries have been received from commercial organisations, and 12 Evaluation and 54 'Click and Buy' Licences have been granted across a range of applications and contexts including: Cambridge Cognition including WEMWBS in a digital suite of assessment tools for employers; Opinium, a market research company conducting workplace audits (e.g. Opening the Conversation: Mental Wellbeing at Work, 2019); Health Insurance and workplace wellbeing organisations (e.g. AXA, Optima Health and New Leaf) evaluating WEMWBS to measure mental wellbeing in health interventions across a range of sectors. Organisations like Jaguar Land Rover are using WEMWBS to measure staff mental wellbeing. A senior psychological wellbeing practitioner at AXA said that WEMWBS was valued because it 'increased opportunity for customers to explore their mental as well as physical wellbeing' and enabled 'evidence suggesting positive change' [5.8.9].

#### 5. Sources to corroborate the impact (indicative maximum of 10 references)

- [5.1] Faculty of Public Health <https://tinyurl.com/ydezwrsv>
- [5.2] Public Health England <https://tinyurl.com/uz6b84sc>
- [5.3] Scottish Government National Performance Indicators (2019) <https://tinyurl.com/xvymd6rd>
- [5.4] National Performance Indicators for Wales (2016) <https://tinyurl.com/34epjmuu>
- [5.5] Health Survey England (2016) and Health Survey for England content <https://tinyurl.com/4drx7hvv> and <https://tinyurl.com/8x23v39n>
- [5.6] Office of National Statistics <https://tinyurl.com/jht8ersc>
- [5.7] A collection of reports guidance and surveys, ONS, PHE, National surveys review, UK British Psychiatric Morbidity Survey, and UK Mental Health of Children and Young People Survey
- [5.7] A collection of written statements via letter, email and webpage supporting evidence from What Works Centre for Wellbeing, North West London CCG, NHS Digital, Finnish Institute of Occupational Health, Catalyst Housing Association, Noise Solutions, Women's Aid, Age UK and AXA