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Original Research

Can Social Care Needs and Well-Being Be Explained by the EQ-5D? Analysis of the Health Survey for England

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ABSTRACT

Background: The recent shift to an integrated approach to health and social care aims to provide cohesive support to those who are in need of care, but raises a challenge for resource allocation decision making, in particular for comparison of diverse benefits from different types of care across the two sectors. **Objective:** To investigate the relationship of social care needs and well-being with a generic health status measure using multivariate regression. **Methods:** We empirically compared responses to health and well-being measures and social care needs from a cross-sectional data set of the general population (the Health Survey for England). Multivariate regression analyses were conducted to examine whether social care needs measured by the Barthel index can be explained by health status as captured by the EuroQol five-dimensional questionnaire (EQ-5D) and two well-being measures—the Warwick Edinburgh Mental Wellbeing Scale (WEMWBS) and the General Health Questionnaire (GHQ-12). **Results:** Our study found that poor overall scores for EuroQol visual analogue scale, EQ-5D index, GHQ-12, and WEMWBS indicated a need for social care. Investigation of the dimensions found that the EQ-5D dimensions self-care and pain/discomfort were statistically significantly associated with the need for social care. Two dimensions of the WEMWBS ("been feeling useful" and "had energy to spare") were statistically significantly associated with the Barthel index, but none of the GHQ-12 dimensions were. **Conclusions:** The results show that the need for social care, which is dependent on the ability to perform personal day-to-day activities, is more closely related to the EQ-5D dimensions than the well-being measures WEMWBS and GHQ-12.

Keywords: health status, HSE, social care, well-being.

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Introduction

Health care systems are under more pressure than ever before, with people living longer and often with several comorbidities or chronic conditions that require care. In the United Kingdom, there is a shift toward an integrated approach to health and social care [1,2]. In 2013, the National Institute for Health and Care Excellence (NICE) was given a new responsibility for providing guidance and quality standards for social care services. This was in addition to its established remit of providing guidance on health technologies, clinical practice, and public health [3]. The move to an integrated approach aims to provide a cohesive and consolidated support to those who are in need of care. It, however, raises the challenge of capturing the benefits from different types of care to inform resource allocation decisions across health and social care interventions.

The NICE manual on developing guidelines states that the health effect of health technologies, public health, and social care interventions should be expressed in terms of quality-adjusted life-years (QALYs), with the EuroQol five-dimensional questionnaire (EQ-5D) as the preferred measure of health status [4]. The EQ-5D describes an individual's health status across five dimensions: mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. It is the most widely used instrument for estimating the health-related quality of life (HRQOL) component of the QALY and has preference-based value sets obtained from general population samples in several countries [5,6].

The NICE manual for developing guidelines recognizes that use of the EQ-5D as the measure of outcomes for the evaluation of public health and social care interventions may be inappropriate in some situations. In addition to health effects, public health and social care interventions may result in non–health-related benefits that might not be captured by the EQ-5D. In public health, non–health-related benefits are included on a case-by-case basis, and in social care, "capability" measures are recommended by NICE to capture improvements in terms of an

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individual's ability to "do" and "be" the things that are important in life and health/social care outcomes [4]. A systematic review conducted by Makai et al. [7] that aimed at identifying quality-of-life instruments for economic evaluations in health and social care for older people found 487 articles using 34 generic instruments, 23 of which were well-being measures and 11 HRQOL instruments. It was noted that HRQOL instruments include physical, social, and psychological dimensions, whereas well-being instruments include additional dimensions such as purpose in life and achievement, security, and freedom [7]. This study suggested the use of the Adult Social Care Outcome Tool (ASCOT) and the ICEpop CAPability measure for Older people (ICECAP-O), but noted that these measures may capture health dimensions only partially and that the instruments require further validation [7]. Another report [8] noted that the six most commonly used measures of health and well-being in the United Kingdom are the General Health Questionnaire (GHQ-12); the Warwick Edinburgh Mental Wellbeing Scale (WEMWBS); the Office of National Statistics well-being measure that includes four subjective well-being questions (ONS-4); ICECAP-A measure, which is a capability measure for adults; ASCOT, which was designed in 2012 to measure the aspects of an individual's quality of life that can be affected by social care; and the EQ-5D, which is an HRQOL measure.

The use of multiple outcome measures such as these presents decision makers with several issues. Which measures are most appropriate for capturing social care outcomes? How should measures be used to make comparisons? How should information from multiple measures be combined? Given these questions, it is important to gain a better understanding of how the measures used in health and social care are related to each other; one way to do so is to compare the responses with the instruments used in the same population.

There is currently little clarity about how health and well-being measures are associated with outcomes specifically associated with social care. The Health Survey for England (HSE) series obtain data using health and well-being instruments such as the three-level EQ-5D (EQ-5D-3L), GHQ-12, and WEMWBS to capture changes in the health and lifestyles of people in England. In 2011, the HSE included a core module on social care with the objective of delivering robust data on the need for and receipt of social care services. A major study was undertaken to identify the questions to be used in the social care module in 2009. This included review of relevant economic evaluations and a review of existing questions to identify data gaps, followed by qualitative research with stakeholders, service providers, and service users. This research informed the initial design of the questions, which were then subject to expert evaluation and two rounds of cognitive question testing. More detailed information about the development of the questions is available in chapter 5 of the HSE 2011 report and in the NatCen report [9,10]. The HSE measured the need for and receipt of social care using a number of activities of daily living (ADL) and instrumental ADL and summarized it using the Barthel index (BI) [9,11]. The social care module focused only on population aged 65 years and older, because the proportion of people who have difficulties with ADL increases with age. The percentage of people with at least one difficulty at age 65 years is 21.2% and the proportion increases to more than 50% after the age of 85 years [12].

This study will use this cross-sectional data set of the general population to investigate the relationship of social care needs with health and well-being using regression analysis of responses to BI, EQ-5D, GHQ-12, and WEMWBS. As the measure selected to represent social care needs in the HSE, the BI is used as a proxy of social care needs in this study. In addition, the relationship of the EQ-5D with well-being measures will be examined using regression techniques to augment understanding of the primary analysis.

Methods

HSE Data Set

The HSE is an annual survey administered since 1991 to monitor trends in national health and to estimate the prevalence of specific health conditions and risk factors. A number of core questions on sociodemographic characteristics, employment, health conditions and risk factors, and some clinical measurements (such as blood pressure, anthropometric measurements, and analysis of blood and saliva samples) are included in every survey. Each survey also has a particular focus on a disease, condition, or population group (such as older people or minority ethnic groups) that varies from year to year. General health status has been measured using the EQ-5D in the years 1996, 2003 to 2006, 2008, 2011, and 2012. This study uses the 2011 and 2012 data sets, which are the only two data sets including information on the EQ-5D, social care needs, general health, and well-being [9,11].

In HSE 2011 and 2012, a total of 8992 and 9024 addresses were randomly selected from a postcode address file, using a multistage sample design with appropriate stratification, and surveyed over 12 months from January to December 2011 and from January to December 2012, respectively. Data collection involved a face-to-face computer-assisted interview with some questions asked by the interviewer and others provided in a booklet for self-completion, followed by a visit from a specially trained nurse if the participant agreed. The nurse visit included measurements and collection of blood and saliva or urine samples, as well as additional questions. Household response rates of 66% and 64% were achieved in 2011 and 2012, respectively. The HSE surveys are designed to yield a representative sample of the general population living in private households in England. Those living in care institutions were not included in the survey.

Instruments Used in the HSE

HSE 2011 and 2012 measured self-reported health status using the EQ-5D-3L, which contains five dimensions assessed across three levels each, and the EuroQol visual analogue scale (EQ-VAS), which measures self-assessed health on a scale of 0 to 100, where 0 represents "worst imaginable health" and 100 represents "best imaginable health." Mental health was assessed using the GHQ-12. In the GHQ-12, each item is rated on a four-point response scale to indicate whether 12 symptoms of mental ill health are "not at all present," present "no more than usual," present "rather more than usual," or present "much more than usual." Subjective well-being was measured using the WEMWBS, which includes hedonic and eudemonic perspectives and covers many attributes of mental well-being. A summary of the components of the different instruments used in the HSE and the modes of administration is presented in Table 1. Questions on the EQ-5D, GHQ-12, and WEMWBS were self-completed by the respondents, whereas social care questions were asked by the interviewer. The GHQ-12 was not included in the 2012 survey. In 2011, the WEMWBS was administered during the main interview, but in 2012 it was administered during the nurse visit.

Social Care Needs

Social care describes a range of care activities, such as providing help with personal hygiene, dressing, and feeding as well as help with shopping, getting out and about, socializing, and keeping

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