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## Monetary Valuation of Informal Care Based on Carers' and Noncarers' Preferences

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### ABSTRACT

**Objectives:** To elicit willingness-to-accept (WTA) values for informal care based on the preferences of informal carers and noncarers. **Methods:** Two surveys were conducted with a sample of carers (n = 202) and a sample of noncarers (n = 200). Individuals in both groups were asked three questions in which they had to state the minimum monetary compensation they would require (WTA) if they had to look after a person described in a hypothetical scenario for one extra hour per day. Furthermore, carers were asked for the compensation they would demand if they had to be in charge of their actual care recipient for one extra hour per day. **Results:** No significant differences were found between the distributions of carers' and noncarers' WTA values. Overall, respondents' valuations were sensitive to and consistent with their preferences over the tasks to be carried out in the extra hour of informal care. On average, carers required a lower

monetary compensation for one extra hour taking care of their loved one (mean/median WTA values €5.2/€4.5) than if they had to devote that time to look after the hypothetical care recipient (mean/median WTA values €6.4/€5.5). More than half of the carers stated the same value under the two caring situations, which suggests that carers' WTA values were influenced by their own experience providing informal care. **Conclusions:** Our results show that it is feasible to derive a monetary valuation for informal care from the preferences of noncarers.

**Keywords:** contingent valuation, economic evaluation, informal care, willingness to accept.

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### Introduction

The provision of informal care may cause a profound impact on the different dimensions of carers' lives. For instance, informal carers ("carers" hereafter) can bear substantial opportunity costs because of the time they have to give up in other activities, such as a paid job, family duties, social relationships, or leisure time [1,2]. Furthermore, carers may undergo great burden, physical and psychological problems, and even increased risk of mortality [3–7]. However, carers may also experience positive feelings as a result of the care they provide [8–10]. Despite the relevance of these costs and effects, economic evaluations of health care interventions usually ignore them [11], which is equivalent to view informal care as a costless resource [12]. This neglect can lead to wrong resource allocation decisions [13], by favoring those treatments that rely heavily on informal care.

Several methods can be used to derive a monetary value for informal care [14]. Traditionally, it has been recommended that the time spent providing informal care be monetized using either the opportunity cost method [15,16] or the proxy good method

[17,18]. A major limitation of both methods is that they value exclusively the costs associated with the time invested in providing informal care, instead of its full impact on carers' lives [12]. Furthermore, neither of the two methods accurately assesses carers' and care recipients' preferences. Alternative methods have been proposed and applied, including the contingent valuation (CV) method [13,19], multiattribute stated preference methods, such as conjoint analysis [20,21] and discrete choice experiments [22], and the well-being valuation method [23].

The CV method can be applied by asking individuals about their maximum willingness-to-pay (WTP) value to obtain a potential benefit or, alternatively, about their minimum willingness-to-accept (WTA) value as a compensation for a potential loss. According to the standard economic theory, WTP and WTA values for a same good should be fairly close [24], unless the good represents a substantial proportion of subjects' income or the transaction costs are large [25]. Those studies that have elicited both WTA and WTP values for informal care have found small differences between the two values, with the WTA

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value being slightly higher than the WTP value [26,27]. In this regard, it has been argued that it is more appropriate to use WTA instead of WTP when subjects are asked to value a potential welfare loss, whereas WTP is more suitable when subjects have to value a potential welfare gain [28]. Given that the provision of informal care entails a sacrifice, it could be more appropriate and natural to value informal care using WTA rather than WTP values [13], although there is no formal consensus on this topic.

CV has been found to be sensitive to carers' characteristics and, allegedly, it reflects their preferences [13,27]. In addition, compared with other stated preference methods (conjoint analysis and discrete choice experiments), the CV method seems to be less burdensome and to lead to higher response rates. A drawback of this method, however, is that it mainly focuses on money and some carers may find it difficult and even unethical to indicate how much money they would be willing to pay (or to accept) to spend less (or more) time assisting a loved one. As a result, CV may lead to strategic or protest answers [21]. Moreover, CV studies can be affected by different types of biases and anchoring effects [29].

When a stated preference method, such as CV, is used to value informal care, a key issue is to decide who should be asked. The most straightforward way is to ask actual carers because they are the best informed subjects and they are used to make decisions concerning informal care [20]. For that reason, stated preference studies until now have focused on the carer's perspective [13,19,22]. In addition, some CV studies have elicited monetary values for informal care from both carers' and care recipients' viewpoints [26,27], in an attempt to reflect the interdependency between the preferences of the two groups. Another alternative is to elicit preferences from the general public, much as is done for the valuation of health-related quality of life for use in economic evaluations taking the societal perspective. Hitherto, however, no study has used this approach. There are several reasons why it is important to consider public's preferences for informal care [30]. First, the general population comprises potential, actual, and former carers or care recipients. Furthermore, people who are neither informal carers nor care recipients (who will be called "noncarers" throughout this article) may be more objective (although presumably less informed) than are carers and care recipients [14].

The main motivation of this study was to obtain a monetary value for informal care on the basis of stated preferences of a sample of noncarers. As such, this study can be regarded as the first attempt to estimate a monetary value for informal care assuming a societal perspective. In addition, this study compares noncarers' valuations with those elicited by asking actual carers and also examines whether carers' valuations in reference to a hypothetical caring scenario are influenced by their own caring situation.

## Methods

### Samples

The data used in this study come from a survey that was specifically designed for the monetary valuation of informal care. The questionnaire was administered face to face at respondents' home (located throughout the region of Murcia, in south-eastern Spain), and respondents received no reward of any kind. Before the final survey, a pilot study was conducted with a convenience sample ( $n = 66$ ) of students and teachers at the University of Murcia.

Two independent samples were selected (one of informal carers and another of noncarers), with a target size of 200 respondents in each group. The sample of noncarers was

composed of 200 subjects, who were selected according to a quota system based on sex and age, so as to resemble the Spanish adult general population in terms of these characteristics. To select this sample, the citizens listed in the telephone directory of the most populated city in the region of Murcia were taken as the target population and then potential respondents were approached by using random digit dialing. The sample of carers comprised 202 individuals, being recruited in different settings (primary care centers, hospitals, and day care centers). No quotas were used for this group.

### Questionnaire

Two different versions of the questionnaire were designed, one for each sample. Both versions started with a set of three core questions intended to elicit respondents' WTA for one additional hour of care per day under the hypothetical scenario presented in Appendix 1 in Supplemental Materials found at <http://doi.org/10.1016/j.jval.2015.05.001>. This scenario described the health state of a person with disabilities in terms of a dependency health state classification system called DEP-6D [31]. This instrument is used to characterize dependency states, which is done by means of six dimensions (number of levels in parentheses): eat (3), incontinence (3), personal care (4), mobility (4), housework (3), and mental health problems (4). For each dimension, level 1 represents the mildest degree of dependency, whereas the upper level stands for the highest degree. The chosen dependency state was that coded as "334332." In addition, the hypothetical scenario detailed the number of hours per day to be invested in four different types of caring tasks (assistance in personal care, mobility, housekeeping, and practical activities) to satisfy the daily life needs of the hypothetical care recipient.

The first WTA question (labeled "WTA<sub>general</sub>") was posed without specifying the task to be performed in the extra hour of care. The full wording of this question is presented in Appendix 2 in Supplemental Materials found at <http://doi.org/10.1016/j.jval.2015.05.001>. Given that the hypothetical situation entailed the provision of four types of activities, respondents were asked to rank them, from the least preferred one to the most preferred one. Then, two further WTA questions were posed in the same terms as the WTA<sub>general</sub> question, except for the fact that respondents were asked about the monetary compensation they would demand for one additional hour of care undertaking the least preferred task (labeled WTA<sub>worst</sub>) and the most preferred task (WTA<sub>best</sub>). Henceforth, the abbreviation "WTA<sub>hypothetical</sub>" will be used in allusion to WTA<sub>general</sub>, WTA<sub>worst</sub>, and WTA<sub>best</sub> as a whole. Before formulating the WTA<sub>general</sub> question, carers were explicitly asked to abstract from their own caring situation when answering the three WTA<sub>hypothetical</sub> questions.

The payment vehicle used in the WTA questions consisted of a set of cards, each one representing a different amount of money (€0, €1, €2, €3, €4, €5, €6, €8, €10, €12, and €15 per hour). The cards were shuffled and subsequently presented to respondents. Therefore, although all participants were faced with the same number of cards and the same sums in each WTA question, the order of appearance varied randomly between questions and subjects. For each bid, respondents had to choose one of the following options: 1) "It would be definitely high enough"; 2) "It would be definitely not high enough"; or 3) "I am not sure whether it would be high enough or not." In a follow-up question, respondents who stated that €15—that is, the highest amount of money—would be definitely not high enough were directly asked to specify the minimum amount of money they would require. Conversely, those who stated that €0—that is, the lowest sum—would be definitely high enough were subsequently asked why they needed no monetary compensation at all (see Appendix 2 in Supplemental Materials).

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