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Costs and prospects for home based Long Term Care  
in Northern Italy: the Galca survey

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# Costs and prospects for home based Long Term Care in Northern Italy: the Galca survey

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## Abstract

An important issue in the design of sustainable Long Term Care policies is the relative social cost of community or home based care versus institutional care. Here we undertake this cost comparison making use of the findings from the GALCA surveys on Long Term Care in Denmark, Ireland and Italy but confining attention to Italy. The survey for Italy was conducted in the municipality of Modena that may be considered broadly representative of Long Term Care conditions in the North of the country. It offers detailed descriptions of the carers and the cared for ranging from demographic and epidemiological characteristics to labour market position. The survey also allows to accurately compile all the 'inputs' that go into home care, from 'unpaid' family labour and paid labour of immigrant minders to public and private services. Based on this information, we calculate the overall, per elderly social cost of home based care and find that home based care is more cost effective than institutional care even if the opportunity cost of 'unpaid' family carers is valued and included in the calculation. We discuss the reasons for cost effectiveness and identify some of the risk factors that threaten the long term sustainability of current home care arrangements in Italy.

**JEL classification:** H51, I11, J14, J22.

**Keywords:** Government Expenditure and Health; Analysis of Health Care Market, Economics of the Elderly; Time allocation and Labour Supply

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## Introduction and overview

Social innovation is in the making in Italy. A novel form of organization is emerging in home-based Long Term Care for the elderly, thanks to a new division of labour between the family, the State as provider of (very) last resort, and the market in the guise of migrant workers hired as elderly people 'minders' – the *badanti* in a now common Italian jargon.

A long standing assumption surrounding Long Term Care is that community or home based care costs less to society than institutional care and the consensus is growing in the literature that it is also 'better' in 'quality' variously defined. With few exceptions (Hughes et al 1987; Blackwell et al. 1992) the assumption about costs has rarely been put to the empirical test. Here we take on this task making use of the findings from a comparative survey on the organization and costs of Long Term Care in Denmark, Ireland and Italy which we shall refer to as Galca (Gender Analysis and Long Term Care).<sup>1</sup> The survey was conducted at the local level in all the three countries in order to ensure an appropriate balance between statistical quality and richness of the questionnaire on the one hand, and research costs on the other.

In order to estimate the social cost of alternative Long Term Care arrangements a very rich and reliable data base is needed that combines three types of information, respectively (i) the characteristics of the elderly being cared for, especially their degree of self-sufficiency; (ii) those characteristics of the carers that impinge on the value of the time they put into caring for the elderly, including details on their position in the labour market, and (iii) the amount and price of market and public components of elderly care (inputs) other than the carers' time. The Galca survey provides such data base, and is used here to also present a broader analysis of demand and supply conditions in the home care sector.

We confine our attention to the findings for Italy. 'Local' means 'Modena Council' in the Italian case, i.e. a population of 180.500 residents where 275 face to face, in depth interviews were carried out in the second half of 2003. Given the ongoing innovations in Long Term Care brought about by immigration, Italy stands somewhere in between the two other countries included in the survey: Ireland where home based care is still primarily carried out by family members, and Denmark where it is primarily in the hands of public local authorities. Thanks to immigrant carers (the said *badanti*) Italy is in fact moving towards the American model where the family gets little help from the state and very often buys on the (immigrant) labour market the care work it can no longer deliver directly.

Does the peculiar combination of immigrant plus family labour that is slowly consolidating in our country ensure cost-effectiveness of home-based versus institutional care? And can it last? These are the questions that we address in this paper. Since Long Term Care is one of the main challenges

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<sup>1</sup> For a brief description of the Galca project see <http://www.fondazionebrodolini.it/galca%20executive%20summary.asp>

for social policy in our country and the sector is still in a state of flux, such questions are still important in our view.

In the first three sections of the paper we present institutional, demographic and epidemiological information to introduce the Galca survey and place it in context. The central sections of the paper (4-7) discuss the results of the survey with special regard to the characteristics of the carers and of the cared for, as well as the detailed recording of the inputs going into home based care. Sections 8 and 9 proceed to cost these inputs while discussing the methodological assumptions underlying the calculations. Section 10 presents the overall, per elderly social cost of home based care, compares it with that of institutional care and finds that home based care is more cost effective even if the opportunity cost of 'unpaid' family carers is valued and included in the calculations. Since, however, superior cost-effectiveness of home-based care appears to be conditional on a number of demographic and labour market circumstances that may not be entirely sustainable in the future, the final section (section 11) takes on briefly the issue of sustainability.

## 1. Welfare for the elderly: Italy and Modena

It is well known that the Italian welfare system has largely delegated elderly care to the family, offering relatively generous monetary transfers to 'finance' family care, and a very limited array of services in kind to supplement or replace it (Ferrera 1996; Bettio and Plantenga 2004; Pesaresi and Gori 2005). By law, public home care for the elderly is supplied solely on the basis of means and need testing and is conditional on ascertained non-availability of a family member who can look after the elderly person (Saraceno 1999: 89-90). The prevailing approach is for the local government to step in only in case of extreme need and where no family member is able to provide for the elderly person. "The area of the elderly," writes Trifiletti (1995: 192) "is the one in which the state transfers more explicitly and almost entirely the costs and responsibilities to members of the extended family".<sup>2</sup> Moreover, leave provisions specifically designed to take care of the elderly have been recently announced by the Family Ministry but are not yet in place.

To put a few figures on this broad picture, at the turn of the century, Long Term Care needs were met by family and friends in 83.1% of cases, by private, market services in 9.7% of cases, by a combination of family and private services in 2.1 % of cases, and by public services or a combination of public and private services in the remaining 5.1% of cases.<sup>3</sup> To date, moreover, monetary transfers to finance market and family services are more significant than in-kind public services. Besides relatively generous pensions

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<sup>2</sup> Trifiletti (1995), p. 192.

<sup>3</sup> These figures are based on the microdata from the Survey on Health, Aging and Wealth (SHAW) conducted in 2001 on 1068 households (see A. Brugiavini, T. Jappelli and G. Weber, 2002). The Shaw survey was conducted on a nationally representative sample of household heads aged 50 years or over.

in comparison with other European countries, a national cash benefit scheme (*indennità di accompagnamento* or attendance allowance) for dependent persons afflicted by long term disabilities is in place and is paid for by the National Social Security Institute (Inps) to people assessed to suffer from disabilities that prevent them from performing basic daily life activities. This benefit is not means tested and is not conditional on the family structure of the person in need. The current (2006) amount is 443,83 € per months and the latest figure for the beneficiaries was 881674 in 2003, 60% of whom were elderly.

One additional cash transfer is the 'care allowance', paid either in cash or tax credit form, and means tested. Under this scheme the carer is supposed to take on responsibility but, as Ranci (2001) notes, there is no effective monitoring<sup>4</sup> and the allowance is not infrequently used by families to buy services from immigrant labour. 'Badantato' or elderly people-minding is a type of market service that singles out Mediterranean countries – Italy and Greece in particular. Immigrant labour is hired by members of the family – often, but not necessarily, from the 'informal market' and with the church acting as perhaps the largest (though informal) labour agency in this sector. An elderly-person minder may be hired to co-reside with the elderly on a 24 hours basis or on a full-time daily basis, but part-time solutions are not infrequent.

Overall, the picture that the literature on elderly care offers is that of a three-way segmentation with regard to the predominant mix of own family services, public services, and private ones. Private, professional services tend to be accessed by the richer segment of the population, while the poorer one relies on means-tested public elderly care homes, residency or geriatric hospital wards. The middle segment (rather large in Italy) often resorts to immigrant labour in order to supplement or replace family care. This picture broadly holds across all the Italian regions, but there are significant regional variations. This is partly because social and health services are administered at local level even when much of the funding comes from the state (e.g. in the health service sector).

In Emilia Romagna, the situation is generally much more advanced than in the rest of the country. Almost all Councils in the region provide services for the elderly, including home care services.<sup>5</sup> There are, moreover, regional regulations and specific regional programmes.<sup>6</sup> Within the region, the welfare model for the elderly developed in Modena displays distinctive features in its turn. In order to address the needs of the non self-sufficient elderly, the Modena Council as well as neighbouring administrations make a wide range of services and transfers available to them. In Modena, criteria for access to

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<sup>4</sup> Ranci (2001).

<sup>5</sup> See Istat, 1997:309-11 and Ascoli et al. 2001.

<sup>6</sup> To be mentioned in particular with regard to regional-level regulation is the "Programma degli interventi e per la individuazione dei criteri di ripartizione del fondo regionale socio-assistenziale 2001" (L.R. 2/1985).

services are generally very selective,<sup>7</sup> to the point that they have induced some commentators and scholars of social policy to describe the Modena model as “a rich welfare system for the poor”.<sup>8</sup> Table 1 below reports a summary list of these services, indicating coverage and costs for the Council.

Inspection of Table 1 prompts three main comments. First, domiciliary services are used by around 7% of the population aged 65 and over. Semi-residential services – excluding sheltered hospital discharges – cover some 1.5% of the reference population, while residential facilities host an additional 2.3%.

| Description of the service  | Users  | Costs<br>(000 euros) | Costs/User<br>(000 euros) |
|---|--------|----------------------|---------------------------|
| <b>Domiciliary services</b>   |        |                      |                           |
| Home care service (ADI 1)   | 501    | 4,000.00             | 7.98                      |
| Nursing and integrated home care service (ADI 2 and ADI 3)  | 2,296  | 3,915.00             | 1.71                      |
| Telephone help (Telesoccorso)/<br>Remote assistance (Teleassistenza)  | 140    | 26.55                | 0.19                      |
| <b>Out-patient. semi-residential and residential services</b>   |        |                      |                           |
| Day care centres  | 168    | 1,429.46             | 8.51                      |
| Local socialization centres   | 120    | 122.46               | 1.02                      |
| Sheltered hospital discharges   | 450    | 165.00               | 0.37                      |
| Injection therapy   | 31,828 | 81.50                | 0.00                      |
| <b>Residential services</b>   |        |                      |                           |
| Temporary and/or permanent residential care in sheltered housing and in RSA (Residenze Sanitario Assistenziali) | 850    | 20,048.39            | 23.58                     |
| Community housing   | 10     | 31.00                | 3.10                      |
| <b>Other services</b>   | 13,306 | 593.76               | 0.04                      |

*Table 1: Users of social and health services for the elderly in Modena, 2005*

*Source: Comune di Modena (2005)*

<sup>7</sup> For a description and discussion of the criteria regulating access to services see Comune di Modena (1997). For a cross-country survey of the criteria for access to social services see Bosi, Ferrera and Saraceno (1997) and, more recently, Pacolet (2000). For a qualitative description see Comune di Modena (2000).

<sup>8</sup> Broadly speaking, access to services and the calculation of fees charged to users are based on the income and assets of cohabitants and children, even if they do not cohabit with the elderly person. The user's first home is not considered when assets are calculated. Only in the case of sheltered housing does calculation of the fee depend not only on assessment of the income and assets of cohabitants and non-cohabiting children, but also on the income and assets of all affinal relatives (art. 453 of the Civil Code). For a detailed discussion of access criteria see Bosi, Guerra and Silvestri (1998).



Taken together, public Long Term Care services for the elderly – domiciliary and residential – manage to cover a relatively large proportion of the elderly with high levels of disability and non self-sufficiency, as we shall further document below. However, the elderly with lower levels of disability receive a much lower proportion of public services and are far more dependent on the extended family. In other words, home care services too are severely rationed, thus transferring the burden onto the family. Prior to illustrating the role of the family using the Galca survey, the next paragraph takes a look at the demographic and health scenario in the survey area.

## 2. The local demographic and epidemiological setting

At the time of the survey the elderly in Modena already accounted for 21.8% of total population. The proportion of the elderly population was therefore very large – 3 percentage points higher than the national value Table 2 shows the demographic forecasts for the Modena Council between 2007 and 2015. The estimates have been obtained by hypothesising constant birth and death rates, as well as stationarity of immigrant flows at the (high) levels recorded at the end of the 1990s.<sup>9</sup> On these assumptions, the absolute size of the population would not diminish, since migration would compensate for the negative balance of the domestic population. Moreover, although the absolute number of the elderly would increase, ageing would come to a halt, with the ageing index decreasing by about nine points from 2007, thus reversing the tendency over the past decade. The senile dependency index, however, would continue to increase, albeit only slightly.<sup>10</sup> Should immigration flows slow down substantially, instead, the absolute size of the population would diminish and the trend of the *demographic indices* would be much more negative.

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<sup>9</sup> If the net immigration flow continues at the pace recorded in these years, in 2015. The Municipality will host about 28,300 resident foreign nationals, equivalent to 15.5% of the resident population. The forecasting model is described in detail in Provincia di Modena (2002 and 2006).

<sup>10</sup> The ageing index is the ratio of elderly (over 65) to younger (below 15) members of the population and indicates the extent of generational turnover. The senile dependence index is given by the percentage ratio of the number of elderly to that of adults between 15 and 64 years old, and measures the 'dependency' of the elderly on persons of working age.

|                                       | 2003  | 2007  | 2011  | 2015  |
|---------------------------------------|-------|-------|-------|-------|
| <b>Italy</b>                          |       |       |       |       |
| Elderly population (65+):% over total |       |       |       |       |
| Males                                 | 7.7   | 8.3   | 8.6   | 9.3   |
| Females                               | 11.1  | 11.7  | 12.1  | 12.9  |
| Total                                 | 18.8  | 20.0  | 20.7  | 22.2  |
| <b>Modena</b>                         |       |       |       |       |
| Elderly population (65+):% over total |       |       |       |       |
| Males                                 | 8.7   | 9.1   | 8.8   | 9.0   |
| Females                               | 13.1  | 13.2  | 13.4  | 13.5  |
| Total                                 | 21.8  | 22.3  | 22.2  | 22.6  |
| <b>Demographic indexes: Modena</b>    |       |       |       |       |
| Ageing index                          | 174.3 | 170.5 | 163.9 | 162.6 |
| Senile dependency index               | 33.3  | 34.5  | 34.7  | 35.5  |

*Table 2: Population trends: Italy and Modena 2003-2015*

*Sources: Provincia di Modena (2002 and 2006); Istat (2003)*

Thus, whatever the medium-term trends in immigration, the number of the elderly is bound to increase, albeit to a modest extent, generating further demand for care services to families and to a public administration under increasingly tighter budget controls. The problem will be exacerbated by the expected decrease in the average size of households: in 2003 the average family in Modena was 2.33 members; in 2015, other things remaining the same, it would fall to 2.11 members.

From a policy perspective, however, the target population are the non self-sufficient, not just the elderly. By non self-sufficient we mean people over sixty-five who, because of health problems, require the help of other persons to fulfil their everyday needs, or who are afflicted by chronic diseases or by invalidities that restrict their self-sufficiency, or who simply cannot be left alone for any length of time. We therefore include mental, physical or sensory disabilities associated with specific pathologies or simply due to ageing.

Estimates of the non self-sufficient elderly are problematic, but forecasts differ for the magnitude, not the sign of the expected variation. There are two variables of interest, respectively the share of the population with disabilities, and the size of the demand for home care expressed by this population. In order to estimate the former we use national epidemiological figures from the 1998 Ilsa-Cnr Ageing Study as well as Council sources. For the latter we use the findings from two household surveys, a preliminary telephone survey conducted as part of the Galca Project in order to identify the family carers,

and the survey of incomes and living standards in Modena conducted by the Centro di Analisi delle Politiche Pubbliche (Capp, University of Modena).<sup>11</sup>

Concerning the share of the disabled, epidemiological estimates can be obtained by applying the disability coefficients from the 1998 Ilsa-Cnr Ageing Study to the number of local elderly. This study defines disability in very general terms as the difficulty in carrying out the ordinary activities of everyday life, and distinguishes between minor and severe disabilities. If minor forms of disability are excluded, around 7% of the local population aged over 65 would be affected. If minor disabilities are included, the figure would increase to 30% of the persons in the same age group. This is broadly in line with the findings from a Council survey showing that, at the turn of the century, around one-quarter of elderly persons had a medium-to-high (11.5%) or high (12.3%) level of non self-sufficiency.

Not all the elderly with some deficiencies demand care, and home care in particular. The two household surveys just quoted indicate that:

- between 14 and 15% of all the families residing in Modena provide care to elderly people;
- the recipients of this care make up 22% of the 65+ population;
- the recipients of home care make up 16% of the 65+ population, i.e. about two thirds of all the recipients of family care.

These estimates are listed in Table 3 and, combined with the epidemiological figures above, provide the basis for our ultimate objective: forecasting the demand of Long Term Care in the community until 2015 (Table 4). In our calculations, demand for public and private domiciliary services will concern between 6.7% and 17.9% of the population aged over 65 in 2015, depending on whether minor forms of disabilities are included. The corresponding figures for 2007 are slightly lower, i.e. we forecast a mildly rising trend.

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<sup>11</sup> The acronym Ilsa stands for *Italian Longitudinal Study on Aging*, an epidemiological survey conducted on a random sample of around 5,600 individuals aged between 65 and 84. Data was collected in eight Italian towns and the main results are set out in Cnr (1998). For the methodology see Maggi, Zucchetto, Baldereschi et al (1994). See also the websites <http://www.italz.it/-CNRPFINV/risultati.htm> and [www.aging.cnr.it](http://www.aging.cnr.it).

The Council survey was carried out on some hundreds of elderly residents in the city's historic centre, See Comune di Modena (2000).

The CAPP survey was conducted on 1,350 households in the province of Modena, 589 of which residing in the Modena Council. The main results are published in Baldini, Bosi and Silvestri (2004).

Further details of the Galca preliminary telephone survey are given later in the paper and in Appendix 1.

|   | <b>Ilsa-Cnr<br/>(1998)</b>                     | <b>Comune di<br/>Modena<br/>(2000)</b>         | <b>Capp<br/>(2003)</b> | <b>Galca<br/>(2003)</b> |
|---|--|--|------------------------|-------------------------|
| No. with disabilities                       | Min: 2,694<br>(6,9%)<br>Max: 11,869<br>(30,4%) | Min: 4,802<br>(12,3%)<br>Max: 9,292<br>(23,8%) |                        |                         |
| No. of families providing<br>Long Term Care |  |  | 11,051<br>(14,3%)      | 7,940<br>(14,4%)        |
| No. of elderly needing<br>Long Term Care    |  |  |                        | 8,932<br>(22,9%)        |
| No. being cared for at home                 |  |  |                        | 6,252<br>(16,0%)        |

*Table 3: Estimates of the number of elderly people needing Long Term Care and people being cared for at home from different sources (2003)*

*Sources: Cnr (1998); Capp (2003); Galca (2003)*

*Note: The Galca figures refer only to families with heads aged over 40, and excludes households consisting of persons aged over 80, living alone. If the same ratio were extended to all resident families, care-providing families would be the same in number as those indicated by the Capp survey*

|   | <b>2001</b> | <b>2003</b> | <b>2007</b> | <b>2011</b> | <b>2015</b> |
|---|-------------|-------------|-------------|-------------|-------------|
| Hypothesis I: minor disabilities excluded                                   | 2,557       | 2,616       | 2,690       | 2,707       | 2,765       |
| Hypothesis II: all levels of disability                                     | 6,846       | 7,002       | 7,203       | 7,247       | 7,403       |
| Index (Domiciliary care/Average total care;<br>minor disabilities excluded) | 69.8        | 71.4        | 73.4        | 73.9        | 75.5        |

*Table 4: Projections of the numbers of persons aged 65 and over needing Long Term Domiciliary Care in Modena*

### 3. The GALCA survey

The survey was conducted between June and September 2003 and was divided into two stages: sampling with telephone screening and actual data collection.<sup>12</sup>

The first stage had two parallel objectives:

- estimate the use of public and private care services in the municipality of Modena;
- identify a number of main carers sufficiently large for the direct interviews to be conducted with, as far as budget constraints permitted, statistical significance.

The telephone interviews were administered to a representative sample of the population of family heads, resident in Modena and aged between 40 and 80 years old. The working hypothesis was that a large part of the population of main carers belonged to households with a family head in this age group.<sup>13</sup> A total of 4,949 telephone interviews were carried out on a sample of 7,500 families stratified by age class of the family head and by city neighbourhood of residence.<sup>14</sup> They revealed that a total of 827 families, or 16.7% of all the families interviewed, cared for elderly persons aged 65 and over – and also identified the set of persons most involved in care work (the ‘main carers’). Many other families declared to provide care, but they did so to elderly people with lower levels of non self-sufficiency/disability, and they regarded such care as part of normal family routine. They were therefore dropped from the survey.

The second stage consisted in administering the questionnaire by means of direct interviews. The main carers identified by means of the telephone screening were interviewed directly at home. The response rate was around 33%, and a total of 275 interviews were completed. The families interviewed provided care for 309 elderly people aged 65 and over, the corresponding numbers in the population being, respectively, 8,000 actual families and 8900 elderly in need of care.<sup>15</sup>

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<sup>12</sup> An extensive methodological note by M. Lalla on the sampling strategy, the construction of the weights and the characteristics of the population estimate is available from the authors upon request.

<sup>13</sup> Family heads aged over 80 and living alone were excluded because they are the recipients rather than the providers of care.

<sup>14</sup> The age-classes used are: 45-54; 55-69; 70 and over. The neighbourhoods into which the city was divided are: Centro Storico, Madonnina, Sant’Agnese, and San Lazzaro. Stratification by neighbourhood will not be considered in what follows.

<sup>15</sup> It should be borne in mind that around 15% of the elderly people involved in the survey were temporarily (10%) or permanently institutionalised (5%). In what follows, the data generally refers to the entire population, except in the tables later used for costing, where data refers to the non institutionalised elderly. Furthermore, sample weights have been used to obtain representative estimates. Henceforth the symbol Nc (Number count) will be used to denote size in the sample and Nw (Number weighted) to denote the size in the population. Frequency values and means refer to weighted data unless otherwise specified.

#### 4. The care givers and the care receivers

As expected, elderly care receivers turned out to be a highly feminized group, with 69% of women (Table 5). Men tend to receive care earlier during their lifetimes. For example, the weight of the up-to-75 age range exceeded 19% among men, while among women it was approximately half as much (11.6%), but the situation was reversed in the oldest age group. Besides complex social factors determining the demand for and the gender distribution of care, these figures reflect the differing incidence of disabling pathologies and, ultimately, the differing life expectancies of men and women (Table 5).<sup>16</sup> Just under three-quarters of female care recipients were widows (68.9%), while the proportion of widowers among males was slightly less than 36.8%, and this asymmetry too was largely a result of different life expectancies (Table 6).

| Age group | Male    |      | Female  |      | Total    |      |
|-----------|---------|------|---------|------|----------|------|
|           | Nc      | %    | Nc      | %    | Nc       | %    |
| Up to 65  | 2       | 1.7  | 2       | 0.9  | 4        | 1.2  |
| 65 – 70   | 7       | 6.5  | 7       | 4.1  | 14       | 4.9  |
| 71 – 75   | 11      | 11.2 | 13      | 6.6  | 24       | 8.0  |
| 76 – 80   | 24      | 26.9 | 51      | 25.4 | 75       | 25.9 |
| 81 – 85   | 22      | 21.7 | 51      | 22.9 | 73       | 22.5 |
| 86 – 90   | 15      | 14.6 | 53      | 24.3 | 68       | 21.2 |
| 91 – 95   | 14      | 15.4 | 26      | 11.6 | 40       | 12.8 |
| 95+       | 2       | 1.9  | 9       | 4.3  | 11       | 3.5  |
| Total (N) | 97      |      | 212     |      | 309      |      |
|           | (32.0%) |      | (68.0%) |      | (100.0%) |      |

Table 5: Age and sex of older persons receiving care in Modena

<sup>16</sup> In the Modena Council, life expectancy at birth at the time of the survey was 77.2 years for men and 83.3 years for women.

| <b>Marital Status</b>    | <b>Male</b> |          | <b>Female</b> |          | <b>Total</b> |          |
|--------------------------|-------------|----------|---------------|----------|--------------|----------|
|                          | <b>Nc</b>   | <b>%</b> | <b>Nc</b>     | <b>%</b> | <b>Nc</b>    | <b>%</b> |
| Married /Living together | 52          | 55.4     | 42            | 20.4     | 94           | 31.6     |
| Widowed                  | 37          | 36.8     | 149           | 68.9     | 186          | 58.6     |
| Divorced                 | 0           | 0.0      | 2             | 1.4      | 2            | 0.9      |
| Single                   | 8           | 7.9      | 19            | 9.3      | 27           | 8.8      |
| Total (N)                | 97          |          | 212           |          | 309          |          |

*Table 6: Marital status of older persons receiving care in Modena*

A son or daughter took principal responsibility for care in the majority of cases (60.8%); in just over 10% of cases responsibility fell on the spouse or a cohabiter while just over one fourth of the elderly were cared for by other relatives. Around two-thirds of the care recipients, therefore, were looked after by close family kin, and one-third by relatives belonging to the extended family. Only in a small number of cases did the main care-giver have no kinship relation with the elderly person (Table 7). However, primary involvement of close kin does not imply co-residence with the elderly. Only 39% of all elderly people receiving care lived in the same household as the carer, 56% resided elsewhere, and 5% were hosted in nursing homes or sheltered housing on a permanent basis.

| <b>Relationship</b>                      | <b>Nc</b> | <b>%</b> |
|--|-----------|----------|
| Spouse/Partner of person being cared for | 31        | 11.0     |
| Son/Daughter of person being cared for   | 189       | 60.8     |
| Other relative of person being cared for | 84        | 26.4     |
| Not related to person being cared for    | 5         | 1.7      |
| Total                                    | 309       | 100.0    |

*Table 7: Relationship between carer and older person receiving care in Modena*

Like care receivers, main carers are a feminised group, the share of women among them being above 70% in our sample. Neither findings is new and, if anything, the share of male carers was higher than expected. Most carers were middle aged or older: only around 20% in our sample were aged under 50, more than 45% fell into the 51 to 60 age group, while the remaining 35% were aged over 60. The fact that male carers tended to be older suggests that men are mainly engaged in taking care of their spouses, while women are more universal care providers (Table 8).

| Age group  | Male |      | Female |      | Total |      |
|------------|------|------|--------|------|-------|------|
|            | Nc   | %    | Nc     | %    | Nc    | %    |
| 18 – 29    | 1    | 1.8  | 1      | 0.4  | 2     | 0.8  |
| 30 – 39    | 1    | 1.2  | 2      | 1.1  | 3     | 1.2  |
| 40 – 49    | 14   | 21.4 | 28     | 15.6 | 42    | 17.3 |
| 50 – 59    | 26   | 30.9 | 100    | 49.8 | 126   | 44.2 |
| 60 – 69    | 25   | 28.4 | 46     | 22.4 | 71    | 24.1 |
| 70 – 79    | 9    | 12.1 | 16     | 9.2  | 25    | 10.1 |
| 80 – 84    | 2    | 2.7  | 2      | 1.0  | 4     | 1.5  |
| >84        | 1    | 1.5  | 1      | 0.5  | 2     | 0.8  |
| Total (Nc) | 79   |      | 196    |      | 275   |      |
|            | 29.3 |      | 70.7   |      |       |      |

*Table 8: Age and sex of carers*

Care is often, albeit questionably, believed to require relatively little skill or education, but family carers themselves need not be low educated or unskilled. In our sample, the highest qualification for around half of all the carers was a lower-secondary school certificate (Junior Certificate level), while little more than 40% had attained upper-secondary school leaving certificates, and the rest a university diploma or degree. Also, education related differences between men and women appeared to be negligible (Table 9). In terms of median years of schooling, the level of education was quite close to the average of the reference population: 9.3 years compared to 9.8 for the latter. The bulk of this modest difference is accounted for by a higher share of people with primary education among the carers and is likely to disappear or reverse once the under-representation of young carers has been taken into account.



*a: Highest level of education attained*

| Level of education                                   | Males |       | Females |       | Total |       |
|--|-------|-------|---------|-------|-------|-------|
|  | Nc    | %     | Nc      | %     | Nc    | %     |
| No formal education or Primary Certificate           | 20    | 23.7  | 48      | 24.2  | 68    | 24.1  |
| Intermediate/Group/Junior Cert/O level               | 20    | 24.9  | 47      | 22.8  | 67    | 23.4  |
| Leaving Certificate                                  | 28    | 35.7  | 77      | 40.2  | 105   | 38.8  |
| 3 <sup>rd</sup> Level sub-degree (national cert/dip) | 1     | 1.7   | 1       | 0.5   | 2     | 0.8   |
| 3 <sup>rd</sup> Level primary or higher degree       | 10    | 13.9  | 23      | 12.4  | 33    | 12.9  |
| Total  | 79    | 100.0 | 196     | 100.0 | 275   | 100.0 |

*b: Median years of education*

| Level of Education      | Years Required | Carers (%) | Working Population, Modena (province) 2002 (%) |
|-------------------------|----------------|------------|--|
| Primary                 | 6              | 24.1       | 9.62   |
| Lower secondary         | 9              | 23.4       | 33.98  |
| Upper secondary         | 14             | 38.8       | 41.75  |
| Short BA                | 17             | 0.8        | 1.64   |
| BA                      | 18             | 12.9       | 13.01  |
| Total                   |                | 100.0      | 100.0  |
| Total (n.)              |                | 275        |  |
| Median yrs of education |                | 9.3*       | 9.8*   |

*Table 9: Education level of carers*

\* Obtained by linear interpolation

Given the age profile of the carers, the largest amount of care was provided by non labour force members: retired persons (46.9%) as well as a significant number of housewives (12.9%). By way of comparison, the share of housewives in the Modena population was about half at the time of the survey (8.5%) and that in the whole of the country was 32% (Table 10). The figure for housewives in Modena is telling of the deeply grounded tradition of female emancipation in this area. Partly thanks to such tradition, partly on account of a closely knit industrial structure that sustains relatively high employment rates, for men and women,<sup>17</sup> the share of main carers that also

<sup>17</sup> In 2004, the female employment rate in Modena was 62.9% and the overall rate 68.6%. The labour market participation rate among women of working age was 65.4% compared to the overall rate of 70.8%. In the Modena Council, the female employment rate among persons of working age (15-64 years) exceeded the average national rate by more than twenty percentage points. Female job-seekers amounted to 3.8%, close to full employment values. See Comune di Modena (2004). The main consequence of these high female employment and

held a paid job in Modena was and remains large by Italian standards (less so by international standards). This was reflected in our sample: more than 36% of the interviewees had jobs, 29.8% as employees and 7.6% as self-employed workers (Table 10). Unlike in other countries, much the largest proportion of carers in paid employment worked full-time in Modena: part-time workers made up just over 17% of the employed carers, and almost all of them were women. The fact that part-time in Italy is much less common among older workers may have contributed to keep its share low among the middle aged working carers in our sample, but perhaps a more important reason is self-employment. Almost half the full-time working carers were small entrepreneurs, managers and technicians, and the presumption is that self-employment is more easy to reconcile with caring responsibilities thanks to a higher degree of choice in one's own working schedule.

| Labour force status | Males |       | Females |       | Total |       |
|---------------------|-------|-------|---------|-------|-------|-------|
|                     | Nc    | %     | Nc      | %     | Nc    | %     |
| Employee            | 20    | 28.6  | 58      | 30.3  | 78    | 29.8  |
| Self-employed       | 8     | 10.2  | 11      | 5.4   | 19    | 6.7   |
| Unemployed          | 3     | 3.6   | 4       | 1.9   | 7     | 2.4   |
| Retired             | 47    | 55.8  | 86      | 43.1  | 133   | 46.9  |
| Home Duties         | 0     | 0.00  | 35      | 18.4  | 35    | 12.9  |
| Full time education | 1     | 1.8   | ...     | ...   | 1     | 0.5   |
| Assisting relative  | ...   | ...   | 2       | 1.0   | 2     | 0.7   |
| Total               | 79    | 100.0 | 196     | 100.0 | 275   | 100.0 |

*Table 10: Labour force status of carers*

Overall, the occupational composition of the full-time working carers conforms to the expectation that those who keep their job tend to be more skilled: only about 10% of full-time working carer held unskilled positions, the share of the unskilled rising significantly only among part-timers (41%: Table 11). However, skill was more rarely combined with supervisory capacity, for men or women (Table 12): only 18% of the working carers had supervisory/control functions at work, and only one in every three supervised ten or more persons. This must be assessed against the fact that the private sector in Modena consists overwhelmingly of small and very small enterprises with very simple corporate hierarchies.

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activity rates is that in Modena one earner families are rarer than in the rest of the country (29.1% compared to 35.5%). See Baldini and Silvestri (2003).

| Social class                                | Full –time |       |         |       |       |      | Part –time |       |         |       |       |       |
|---|------------|-------|---------|-------|-------|------|------------|-------|---------|-------|-------|-------|
|   | Males      |       | Females |       | Total |      | Males      |       | Females |       | Total |       |
|   | Nc         | %     | Nc      | %     | Nc    | %    | Nc         | %     | Nc      | %     | Nc    | %     |
| Managers, Professionals and Technicians     | 10         | 35.3  | 30      | 53.7  | 40    | 47.1 | ...        | ...   | 1       | 6.0   | 1     | 5.6   |
| Clerical and service workers                | 10         | 40.9  | 20      | 37.2  | 30    | 38.5 | ...        | ...   | 9       | 56.4  | 9     | 53.1  |
| Skilled and semi-skilled workers            | 4          | 12.4  | ...     | ...   | 4     | 4.4  | ...        | ...   | ...     | ...   | ...   | ...   |
| Elementary occupations                      | 3          | 11.5  | 5       | 9.1   | 8     | 10.0 | 1          | 100.0 | 6       | 37.6  | 7     | 41.3  |
| Total                                       | 27         | 100.0 | 55      | 100.0 | 82    |      | 1          | 100.0 | 16      | 100.0 | 17    | 100.0 |
| Per cent of all carers (total carers 7,940) | 11.2       |       | 20.2    |       | 32.6  |      | 0.004      |       | 5.6     |       | 5.9   |       |

Table 11: Occupation and supervisory position of the carers in employment: carers in employment classified by full-time and part-time work and by social class

| Social class                            | Supervise no one             |       |         |       |       |       |
|---|------------------------------|-------|---------|-------|-------|-------|
|   | Males                        |       | Females |       | Total |       |
|   | Nc                           | %     | Nc      | %     | Nc    | %     |
| Managers, Professionals and Technicians | 7                            | 33.7  | 28      | 45.0  | 35    | 42.1  |
| Clerical and service workers            | 6                            | 35.7  | 24      | 38.9  | 30    | 38.1  |
| Skilled and semi-skilled workers        | 2                            | 9.2   | ...     | ...   | 2     | 2.3   |
| Elementary occupations                  | 4                            | 21.5  | 10      | 16.1  | 14    | 17.5  |
| Total                                   | 19                           | 100.0 | 62      | 100.0 | 81    | 100.0 |
| Social class                            | Supervise 1 to 10 persons    |       |         |       |       |       |
|   | Males                        |       | Females |       | Total |       |
|   | Nc                           | %     | Nc      | %     | Nc    | %     |
| Managers, Professionals and Technicians | 2                            | 34.8  | 2       | 33.6  | 4     | 34.2  |
| Clerical and service workers            | 2                            | 37.6  | 3       | 51.2  | 5     | 44.0  |
| Skilled and semi-skilled workers        | 2                            | 27.6  | ...     | ...   | 2     | 14.6  |
| Elementary occupations                  | ...                          | ...   | 1       | 15.2  | 1     | 7.2   |
| Total                                   | 6                            | 100.0 | 6       | 100.0 | 12    | 100.0 |
| Social class                            | Supervise 10 or more persons |       |         |       |       |       |
|   | Males                        |       | Females |       | Total |       |
|   | Nc                           | %     | Nc      | %     | Nc    | %     |
| Managers, Professionals and Technicians | 1                            | 36.1  | 1       | 29.7  | 2     | 33.2  |
| Clerical and service workers            | 2                            | 63.9  | 2       | 70.3  | 4     | 66.8  |
| Skilled and semi-skilled workers        | ...                          | ...   | ...     | ...   | ...   | ...   |
| Elementary occupations                  | ...                          | ...   | ...     | ...   | ...   | ...   |
| Total                                   | 3                            | 100.0 | 3       | 100.0 | 6     | 100.0 |

Table 12: Carers in employment by social class and number of people supervised

The education and labour market position of the main carers is broadly consistent with the findings on the relative income position of the household they belonged to.<sup>18</sup> Little less than one-sixth (14.5%) of the families interviewed fell below the poverty line identified for the reference region: Emilia-Romagna. However, some underestimation must be allowed for, given that, at the time of the survey, the average equivalent income in the province of Modena was more than one-third higher than the national average, and 10% higher than the average in North-Eastern Italy (Table 13).<sup>19</sup>

| Age group of the elderly cared for | Income of the carer's household: above poverty line |      | Income of the carer's household: below poverty line |      |
|------------------------------------|---|------|---|------|
|                                    | Nc  | %    | Nc  | %    |
| Up to 65                           | 2   | 0.7  | 2   | 4.5  |
| 65 – 70                            | 10  | 4.4  | 3   | 7.1  |
| 71 – 75                            | 18  | 7.6  | 4   | 9.2  |
| 76 – 80                            | 60  | 25.6 | 9   | 23.5 |
| 81 – 85                            | 61  | 23.3 | 8   | 17.1 |
| 86 – 90                            | 61  | 23.3 | 5   | 11.2 |
| 91 – 95                            | 31  | 12.2 | 8   | 19.1 |
| 95+                                | 7   | 2.9  | 4   | 8.4  |
| Total (N)                          | 250   |      | 43  |      |
|                                    | (85.5%)   |      | (14.5%)   |      |

*Table 13: Age of older person receiving care, by income group of the carer's household*

*Note: Number of Missing Observations: 16.*

Also, the incidence of poverty varied with the age of the elderly – and thus the care giver's age – in ways that reflected income distribution at local level. Poverty affects various socio-demographic components in Italy, among them the elderly to a significant extent, and especially women. In the whole country, however, the proportion of the poor decreases as age increases. Not so in Modena, where disposable household income decreases markedly in the over-55 age ranges, unlike in other areas of the country. Here the incidence of poverty rises after 69 years of age, reaching 20% among men and 25% among women, and affecting disproportionately elderly households, one person or couples aged over 65, and couples with children and elderly parents. In general, pensioners are much the largest component of the lowest-income decile, of which they make up 44.9% compared with the Italian average of 18.7%. This is partly because, in a fast growing area as the

<sup>18</sup> Refer to Baldini and Silvestri (2003) for the data on income and poverty in the text, as well as for the methodology and the equivalence scale.

<sup>19</sup> Figures published by the Bank of Italy show that about 20% of Italians fell below the poverty line around 2002. See Banca d'Italia (2002).

province of Modena is, the income of those in employment is bound to rise faster than that of the population having retired. The results of the survey reflect these patterns, showing the concentration of poverty among the elderly in one person households and in those where the carer and the elderly person had both retired (Table 13).<sup>20</sup>

## 5. Inputs into home care: public, market and voluntary services

Unpaid family labour is the single most important input into home care, as we shall document below, but complementary services like public or private home help, medical and paramedical services or respite care are also very important and we report the survey findings on the composition of the various inputs starting with medical and paramedical services.

The share of elderly people who were hospitalised for at least one night in the year preceding the survey is reported in Table 9 alongside the length of stay. Figures are broken down by level of dependency according to an adapted version of the Guttman disability scale.<sup>21</sup> Forty percent of the elderly people being cared for had spent at least one night in hospital. The average duration of hospitalisation increased with the level of non self-sufficiency, as expected: for example, the elderly in category E had been hospitalised for periods three times longer than those in category A.

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<sup>20</sup> It is possible, however, that the figure overestimates poverty. In fact, the questionnaire did not allow accurate assessment to be made of income from capital and other sources (property rents, etc.)

<sup>21</sup> The Guttman scale is constructed on the basis of a set of questions put to the carer and designed to assess the elderly person's ability to perform certain everyday activities (e.g. wash him/herself, walk outside and inside the home, feed him/herself, remain standing or seated). See Guttman (1950a, 1950b and 1950c). The scale was simplified according to the method described in Blackwell et al. (1992, pp. 42-50 and pp. 60-7) and is briefly described in the note to Table 14. The groups A, B, C, E each comprise between 60 to 80 cases. For these groups the results were reasonably reliable. Group D comprises only 14, heterogeneous cases. The findings for this group should therefore be treated with caution.

| Category of dependency | % Spending at least 1 night in: |              |       |
|------------------------|---------------------------------|--------------|-------|
|                        | Hospital                        | Nursing Home | Other |
| A                      | 25.8                            | 4.4          | 4.7   |
| B                      | 48.4                            | 5.5          | 1.1   |
| C                      | 55.6                            | 4.3          | 0.0   |
| D                      | 30.2                            | 5.8          | 0.0   |
| E                      | 32.0                            | 5.7          | 1.4   |
| Total                  | 40.0                            | 5.0          | 1.8   |

  

| Category of dependency | Average number of nights |      |              |      |       |      |
|------------------------|--------------------------|------|--------------|------|-------|------|
|                        | Hospital                 |      | Nursing Home |      | Other |      |
|                        | (1)                      | (2)  | (1)          | (2)  | (1)   | (2)  |
| A                      | 17.0                     | 4.4  | 26.1         | 1.16 | 7.7   | 0.36 |
| B                      | 20.1                     | 9.7  | 62.4         | 3.42 | 9.0   | 0.10 |
| C                      | 19.6                     | 10.9 | 129.3        | 5.47 | 0.0   | 0.0  |
| D                      | 5.3                      | 1.6  | 15.0         | .87  | 0.0   | 0.0  |
| E                      | 57.1                     | 18.3 | 96.2         | 5.51 | 30.0  | 0.43 |
| Total                  | 23.8                     | 9.5  | 69.6         | 3.47 | 10.9  | 0.20 |

*Table 14: Hospitalisations and average length of stay (Data refers to non institutionalized elderly only)*

Notes:

(1) is the average among those having spent at least one night in hospitals, or nursing home or other;

(2) is the overall average including the elderly with zero nights in hospital.

Category A covers older persons who are classified as independent on the Guttman scale

Category B covers older persons who are on scale points 1, 2 and 3 of the Guttman scale

Category C covers older persons who are on scale points 4, 5, 6, or 7 of the Guttman scale

Category D covers older persons who are on scale point 8 of the Guttman scale

Category E covers older persons who are on scale point 9 of the Guttman scale

However, there was no clear relation between the degree of disability and the incidence of hospitalisations: the highest frequency was found in category C, which comprised elderly people with intermediate levels of non self-sufficiency. It may be that group C included a particularly large number of persons with pathologies that had not been clinically stabilized. It is also possible that below average figures for the incidence of hospitalizations for groups D and E reflected, on the one hand, a higher rate of chronic pathologies and, on the other, pressure by health managers to reduce to the minimum the hospitalisation of severely disabled geriatric patients.

Use of nursing homes was made by a much smaller proportion of the elderly (5.0%), even though lengths of stay in these facilities are typically much longer. Finally, the item 'other' refers to those special facilities involved

in sheltered hospital discharge procedures, and these, as said, concern only a very small number of elderly people.

Medical and paramedical services delivered at home rather than in hospitals are shown in Table 15 alongside home help services that the families bought in the market or received from the state. The upper part of the table estimates the proportion of persons receiving care from the most common set of practitioners/home helpers as well as the weekly frequency of visits (Table 15a). The lower part breaks down the frequency of visits by level of dependency. Inspection of the table indicates clearly the structure of demand. To be noted especially are the health-care intensive set of services. General practitioners made periodic visits to around one-third of the elderly persons; public nursing care covered close to 26%, while private nursing care was used by around 7% of the elderly. Around 8% of the elderly received care from physiotherapists, primarily on a market basis.

Services of a more social-welfare nature were used by around one-third of the elderly. However, in this area the private sector was dominant, since public provisions accrued to less than 10% of the elderly in need of help. Specifically, meals on wheels or telephone help and remote assistance were very sporadic: none of these services were used by more than 2% of the interviewees. Likewise, social work – which nevertheless has an important role for the elderly – reached only a very small proportion of families (little more than 3%) in the course of the year.

Public home care was delivered to 6.1% of the interviewees, whereas non public home services other than the main carers' – paid domestic workers, non-cohabiting minders, etc. – accounted for approximately twice as much, i.e. around 12% of the main carers interviewed were assisted by non-cohabiting domestic workers. An additional 15% of the elderly and their families employed a *cohabiting* elderly-person minder on a full-time basis. Overall – considering cohabiting and non-cohabiting minders – little less than 30% of families with non self-sufficient elderly members used private services of this kind (Table 16). In absolute value, out of the ca. 8,000 families in Modena that cared for an elderly person, more than 2,300 used some form of elderly-person minding. Added to these was a significant proportion (8.4%) who received help from voluntary associations.

a: Visits made to older persons by professional and voluntary agencies

| Type of care                 | Visit made: |      | Of those who said yes:  |         |
|------------------------------|-------------|------|-------------------------|---------|
|                              | (Per cent)  |      | (N. of visits per week) |         |
|                              | Yes         | No   | Mean                    | Std dev |
| GP                           | 65.6        | 34.4 | 0.30                    | 0.21    |
| PHN - (public)               | 25.5**      | 74.5 | 0.60                    | 1.11    |
| HN - (private)               | 6.7         | 93.3 | 1.55                    | 1.96    |
| Physiotherapist              | 7.7         | 92.3 | 1.44                    | 2.16    |
| Home help - (public)         | 6.1**       | 93.9 | 3.14                    | 2.94    |
| Home help - (private)        | 2.5         | 97.5 | 6.09                    | 2.36    |
| Non-cohabiting helper/minder | 12.2        | 72.7 | 4.30                    | 2.99    |
| Voluntary agencies           | 8.6         | 91.4 | 0.35                    | 1.17    |
| Meals-on-wheels              | 1.6         | 98.4 | 7.00                    | 0.00    |
| Emergency phone services     | 2.0         | 98.0 | 0.62                    | 0.21    |
| Social worker                | 3.6         | 96.4 | 0.87                    | 1.95    |
| Priest                       | 8.0         | 92.0 | 0.41                    | 0.38    |
| Others                       | 8.3         | 91.7 | 1.07                    | 2.16    |

b: Average number of visits per week by category of dependency

| Dependency category               | A    | B    | C    | D    | E    | Total |
|-----------------------------------|------|------|------|------|------|-------|
| GP                                | 0.26 | 0.26 | 0.25 | 0.32 | 0.45 | 0.3   |
| PHN – (public)                    | 0.51 | 0.46 | 0.29 | 0.13 | 1.15 | 0.6   |
| HN – (private)                    | 1    | 1    | 0.91 | ...  | 3.25 | 1.55  |
| Physiotherapist                   | 4.09 | 0.59 | 1.75 | 7    | 0.64 | 1.44  |
| Home help - (public)              | ...  | 3.12 | 5    | 1    | 2.43 | 3.14  |
| Home help - (private) )           | 0.02 | 7    | 7    | ...  | 7    | 6.09  |
| Non-cohabiting househelper/minder | 2.78 | 4.74 | 7    | 1    | 5.7  | 4.3   |
| Voluntary agencies                | 0.25 | 0.95 | 0.26 | 0.02 | 0.06 | 0.35  |
| Meals-on-wheels                   | 7    | 7    | ...  | ...  | ...  | 7     |
| Emergency phone services          | ...  | ...  | 0.61 | ...  | 0.62 | 0.62  |
| Social worker                     | 0.25 | 2.21 | 0.25 | ...  | 0.25 | 0.87  |
| Priest                            | 0.02 | 0.6  | 0.43 | ...  | 0.4  | 0.41  |
| Others                            | 0.25 | 0.17 | 2.2  | 1.86 | 0.35 | 1.07  |

Table 15: Frequency of health and other services delivered at home

\* Data refer to non institutionalised elderly; \*\*Estimates on Comune di Modena data

The use of minders, and in particular cohabiting ones, was especially common among families with elderly members in categories C and D: that is, elderly persons who are very frail but still retain some degree of self-



sufficiency. In group E, that comprised almost entirely non self-sufficient elderly persons, less frequent use was made of minders, their place being taken by other types of carer, mainly private nurses.<sup>22</sup> The most significant feature of home care in Modena, therefore, is that, given the rationing of public services, demand for domiciliary social and care services other than family unpaid labour was mainly directed at the private sector.

| % over families                   |      |      |      |      |      |      |
|-----------------------------------|------|------|------|------|------|------|
| Dependency category               | A    | B    | C    | D    | E    | All  |
| Non-cohabiting minder             | 16.1 | 20.8 | 6.2  | 6.2  | 7.9  | 12.9 |
| Cohabiting minder                 | 4.3  | 4.4  | 30.2 | 38.6 | 16.6 | 14.7 |
| Paid carer external to the family | 20.4 | 25.2 | 36.4 | 44.8 | 24.5 | 27.6 |
| % over the elderly cared for*     |      |      |      |      |      |      |
| Dependency category               | A    | B    | C    | D    | E    | All  |
| Non-cohabiting minder             | 14.3 | 19.5 | 6.0  | 5.9  | 6.7  | 12.2 |
| Cohabiting minder                 | 3.3  | 5.0  | 34.4 | 36.6 | 18.7 | 15.1 |
| Paid carer external to the family | 17.6 | 24.5 | 40.4 | 42.5 | 25.4 | 27.3 |

Table 16: Use of a cohabiting and non-cohabiting minder

\* Data refers to non institutionalized elderly only

As already pointed out, by far the largest group of minders comprised immigrant workers from low-income non-EU countries,<sup>23</sup> and their services were quickly becoming competitive with respect to those offered by other private supplies (for-profit firms and cooperatives). Competition was and still is driven partly by cost differentials and partly by the perceived 'quality' of care, given that elderly-person minding allows particularly rich relationships to develop between the care-giver and the care-receiver. Of course, the majority of live-in minders worked in families with medium to-high incomes.<sup>24</sup>

Care services by doctors, public out-patient clinics, day clinics, physiotherapy units as well social workers may also be delivered outside the home, but are nevertheless an important component of what is called home care and are documented in Table 17 below. Respectively 57% and 17% of the elderly interviewees visited their general practitioner and used out-patient clinics. The average frequency of visits to a general practitioner was once every 3 to 4 weeks, and once every 2 to 3 weeks to an out-patient clinic. Both general practitioners and public clinics were used by elderly persons with greater degrees of self-sufficiency.

<sup>22</sup> There was a larger proportion of institutionalized elderly persons in this group.

<sup>23</sup> See Solinas (2001).

<sup>24</sup> More than 80% of cohabiting elderly-person minders lived with families belonging to the two highest income classes, and around 40% with the families of the highest income class (more than 2,578 euros per month).

a: Visits made by elderly persons to professional and voluntary agencies\*

| Type of care  | Visit made: |      | Of those who said yes:   |         |
|---|-------------|------|--------------------------|---------|
|   | (Per cent)  |      | (No. of visits per week) |         |
|   | Yes         | No   | Mean                     | Std dev |
| General practitioner                                    | 57.2        | 42.8 | 0.31                     | 0.23    |
| Dentist   | 17.9        | 82.1 | 0.02                     | 0.00    |
| Out-patient clinic (public)                             | 17.4        | 82.6 | 0.38                     | 0.94    |
| Physiotherapy unit                                      | 9.8         | 90.2 | 1.11                     | 2.16    |
| Specialist examinations in hospital or a private clinic | 67.8        | 32.2 | 0.22                     | 0.17    |
| Check-ups in hospital or a private clinic               | 16.1        | 83.9 | 0.06                     | 0.09    |
| Social worker   | 1.6         | 98.4 | 0.06                     | 0.09    |
| Priest  | 5.7         | 94.3 | 1.63                     | 2.09    |
| Voluntary association                                   | 0.0         | 1    | 0.0                      | 0.00    |
| Other   | 5.7         | 94.3 | 0.37                     | 0.32    |

b. Average Number of Visits per Week by Category of Dependency

| Type of Care  | A    | B    | C    | D    | E    | Total |
|---|------|------|------|------|------|-------|
| General practitioner                                    | 0.32 | 0.32 | 0.29 | 0.25 | 0.29 | 0.31  |
| Dentist   | 0.20 | 0.20 | 0.20 | 0.02 | 0.20 | 0.20  |
| Out-patient clinic(public)                              | 0.85 | 0.27 | 0.28 | 0.25 | 0.22 | 0.38  |
| Physiotherapy unit                                      | 1.39 | 0.86 | 1.49 | ...  | 0.55 | 1.11  |
| Specialist examinations in hospital or a private clinic | 0.22 | 0.24 | 0.18 | 0.26 | 0.21 | 0.22  |
| Check-ups in hospital or a private clinic               | 0.09 | 0.04 | 0.04 | 0.25 | 0.07 | 0.06  |
| Social worker   | 0.25 | 0.02 | 0.02 | 0.02 | 0.02 | 0.06  |
| Priest  | 2.44 | 0.68 | 0.87 | ...  | ...  | 1.63  |
| Voluntary association                                   | ...  | .... | ...  | ...  | ...  | ....  |
| Other   | 0.13 | 0.37 | 0.50 | 0.62 | 0.25 | 0.37  |

Table 17: Frequency of health and other services delivered outside the home

\*Data refers to non institutionalised elderly only.

An even higher proportion of the elderly received specialist examinations in hospital or in private clinics: on an annual basis, around 2 in 3 elderly persons made use of hospital facilities or a medical specialist. Frequency of use was also very high: an elderly person underwent an average of 10 to 11 specialist medical examinations every year, independently of their degree of self-sufficiency, and around 16% of elderly people had an annual check-up in hospital or a private clinic. Just under 10% of them used physiotherapy units, and practically none of them visited a social worker. Finally, between 2 and

3% of the elderly with minor disabilities visited community centres and day centres regularly (Table 18).<sup>25</sup>

| <b>Category of dependency</b> | <b>Community centres (%)</b> | <b>Day centres (%)</b> |
|-------------------------------|------------------------------|------------------------|
| A                             | 2.7                          | 0.0                    |
| B                             | 1.2                          | 3.7                    |
| C                             | 0.0                          | 0.0                    |
| D                             | 0.0                          | 0.0                    |
| E                             | 0.0                          | 1.9                    |
| Total                         | 1.1                          | 1.4                    |

Table 18: Regular use of community and day centres by category of dependency\*

\*Excluding institutionalised elderly

## 6. Inputs into home care: hours of work by family and helpers

The key input into home based care of the elderly is unpaid hours of work by family carers (the main carer and other family members) as well as paid hours by ‘helpers’ hired by the family, like minders, other home helpers or nurses. What follows documents the contribution by family carers and their helpers discussing four main findings. First, carers are primarily women and middle aged. Second, hours of care per week are high although they differ markedly across disability group. Third, supervision accounts for a larger share of hours of total care than either physical or instrumental activities. Fourth, the main family carer puts more than half of total hours of work, but her/his contribution goes down sensibly when co-residing ‘minders’ are hired.

The average elderly in our sample received between 33.2 (20.1+13.1: Table 19) and 85.6 (41.7+43.9: Table 19) hours of care per week. Although there was a tendency for the number of hours to increase with the level of dependency, the highest value was recorded for category D rather than E. This may be due to both statistical and health reasons, i.e. small numbers in category D perhaps combined with the fact that being bed-ridden (category E) demands some more physical care but less supervision or instrumental care (see below).

The questionnaire divided hours of work between physical care, instrumental care and supervision. Physical activities include cleaning, dressing the elderly person, walking, feeding, and washing him/her.

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<sup>25</sup> The direct interviews were intended to measure the regular use of both day centres and community centres. However, the level of use may have been underestimated. According to information provided by the Modena Council, in fact, the city’s day centres are used – in ratio to the target population of this report – by 1.2% of elderly people, and the community social centres by 5.8%.

Instrumental activities are shopping, preparing meals, and housekeeping. General supervision comprises all activities on the border between companionship and control, intended to ensure the well-being of the elderly person, to foresee and satisfy his/her needs, and to prevent accidents.

The amount of total physical care provided was clearly correlated with the elderly person's degree of dependency, and ranged from a minimum of 3.2 hours for the least dependent elderly persons (group A) to a maximum of 28.6 hours per week for those with the greatest dependency (group E). Instrumental activities and supervision showed a negative rather than positive association with the degree of dependency, but a less clear one. Of these three types of activities supervision was the most time absorbing since it accounted for 39% of the total number of hours received by the elderly (averaging out across levels of disability :Table 19).

*a: hours provided by the principal care giver*

| Principal caregiver<br>(All families)       |       | Dependency category |       |       |       |       |       |
|---|-------|---------------------|-------|-------|-------|-------|-------|
|   |       | A                   | B     | C     | D     | E     | All   |
| All physical                                | Mean  | 2.12                | 6.63  | 10.19 | 15.33 | 16.21 | 8.90  |
|   | S. D. | 3.19                | 4.58  | 9.59  | 16.34 | 14.67 | 10.70 |
| All instrumental                            | Mean  | 6.11                | 9.50  | 7.22  | 12.90 | 6.34  | 7.76  |
|   | S. D. | 6.87                | 8.61  | 7.83  | 15.54 | 6.67  | 8.48  |
| Supervision                                 | Mean  | 8.68                | 6.91  | 12.69 | 12.29 | 13.71 | 10.35 |
|   | S. D. | 16.13               | 11.55 | 17.18 | 17.33 | 15.60 | 15.46 |
| Total                                       | Mean  | 20.16               | 23.51 | 31.88 | 41.73 | 37.00 | 28.51 |
| Total (excluding institutionalised elderly) | Mean  | 20.16               | 23.82 | 32.54 | 46.08 | 40.83 | 29.39 |

*b: hours provided by the 'helpers'*

| Principal caregiver<br>(All families) |       | Dependency category |       |       |       |       |       |
|---------------------------------------|-------|---------------------|-------|-------|-------|-------|-------|
|                                       |       | A                   | B     | C     | D     | E     | All   |
| All physical                          | Mean  | 1.12                | 2.71  | 11.93 | 16.37 | 12.43 | 7.24  |
|                                       | S. D. | 2.77                | 4.50  | 11.18 | 12.51 | 14.17 | 10.76 |
| All instrumental                      | Mean  | 4.72                | 5.44  | 7.91  | 8.88  | 5.40  | 6.02  |
|                                       | S. D. | 6.64                | 7.13  | 9.61  | 9.30  | 7.99  | 8.08  |
| All supervision                       | Mean  | 5.80                | 7.77  | 14.35 | 18.55 | 11.16 | 10.15 |
|                                       | S. D. | 13.82               | 15.09 | 17.61 | 18.85 | 16.53 | 16.40 |
| Total                                 | Mean  | 13.05               | 16.76 | 34.10 | 43.86 | 29.28 | 24.03 |

*Table 19: Average number of hours of care per week*

*Note: reported hours have been capped to 56 per week. The capping involved a limited number of cases but, due to it, total average values may differ from the algebraic sum of the average values for hours of supervision, physical, and instrumental care.*

The amount of help received in undertaking these three types of activities by the main caregiver varied greatly according to whether there was an elderly-person minder in the household. In households without a live-in minder, the help received by the main carer was 16 to 17 hours on average: a large amount, which was mainly provided by other household members and distributed in similar proportions among physical care, instrumental care and supervision. In families with a live-in minder the situation was very different: the physical care provided by the minder on a weekly basis amounted to around 18 hours, instrumental care to around 14, and supervision to fully 34 to 35 hours. In fact, in these families – which made up, it will be remembered, around 15% of the families interviewed – the actual main carer was not a member of the family but the minder, while the family carer generally acted as supervisor.<sup>26</sup>

## 7. Inputs into home care: adaptation to dwellings

In the Italian context where use of technical appliances is still limited, one of the main fixed costs that may be incurred in order to organise home care for an elderly is adaptation to dwellings in order to make them suitable to an elderly person's loss of self-sufficiency. More or less major alterations to the dwelling had been made by just under 20% of households, with costs that tended to increase with the level of disability. The average cost of adaptations ranged between € 4,000 and 8,000 for elderly persons in categories A and B, and it exceeded € 12,000 for those in category E. Note finally that, as Table 20b shows, the spaces occupied by the elderly person would have been left unused (72.5%) if s/he were moved into a hospital or a home, or, to a lesser extent (26.3%), would have been used by other household members.

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<sup>26</sup> As regards help in terms of supervision hours in particular, the situation differs entirely between families that use paid external help and those that do not: the hours of supervision in families with live-in minders amount to around 30; in families without a live-in minder to around 11. Finally, in families without either type of elderly-person minder, the main carer receives help from other persons in the form of supervision that amounts to 5 hours per week, on average.

*a: Adaptations to dwelling made because of elderly persons loss of ability to do things for themselves, by category of dependency\**

|   | Dependency category |         |          |         |          |          |
|---|---------------------|---------|----------|---------|----------|----------|
|   | A                   | B       | C        | D       | E        | All      |
| No. Who made adaptations (Nw)             | 262                 | 307     | 493      | 122     | 306      | 1489     |
| % Who made adaptations                    | 14.7                | 13.6    | 27.3     | 26.8    | 18.6     | 18.8     |
| Average value of adaptations made (000 €) | 8,047.5             | 3,899.4 | 5,934.1  | 7,464.8 | 12,334.3 | 7,596.9  |
| (S.D)                                     | 6,285.4             | 5,848.9 | 13,564.3 | 6,676.2 | 37,493.9 | 15,936.7 |

*b: Use to which space in house would be put if elderly persons were moved into a hospital or home, by category of dependency*

| Per cent who say space would be: | Dependency category |      |      |       |      |      |
|----------------------------------|---------------------|------|------|-------|------|------|
|                                  | A                   | B    | C    | D     | E    | All  |
| Left vacant                      | 69.1                | 78.3 | 61.4 | 100.0 | 75.7 | 72.5 |
| Used by other household members  | 30.9                | 21.7 | 38.6 | 0.0   | 18.3 | 26.3 |
| Rented out                       | 0.0                 | 0.0  | 0.0  | 0.0   | 6.1  | 1.2  |

*Table 20: Use of space*

## 8. The trade-off between caring and being employed

In order to finalize the costing exercise that this paper undertakes we must 'price' inputs. This paragraph and the two that follow are devoted to this task, starting with the price of carers' time. Underneath the apparently crude cost calculations lie important gender issues. Assessment of cost effectiveness in the literature often neglects the opportunity cost of carers' time, whereas full assessment is necessary to make choices more efficient as well as more gender equitable. The first task of our costing exercise is therefore to derive an estimate for the opportunity cost of carers' time.

A conflict may arise for the principal carer between the need or desire to care and the decision to remain in paid employment or to enter it. Calculation of the opportunity cost of the carer's time hinges on this conflict. This paragraph documents such conflict, laying the basis for the calculations in the next paragraph.

The characteristics of the carer (sex, age, education and so on), the labour market context, and the level of disability of the elderly, all influence the extent of the potential conflict between (unpaid) care work and employment. While personal characteristics and labour market position of the carers were

discussed above, here we focus on employment decisions. We address the issue both ways: for those who were working when the need to care arose, did this imply loss of jobs or of hours? Conversely, what alternative use would the carers have made of the time they devoted to care? Broadly speaking the answer to the first question is that only a small minority of the carers had given up their job or reduced working time or asked for leave in order to provide care. Respectively 9.4% of male carers and 12% of female carers resorted to one of these options, the vast majority having opted for quitting employment altogether (10% versus 2% for female) especially among those holding lower paid positions. The answer to the second question is less clear-cut except for the common awareness among the respondents that time actually spent caring would primarily be devoted to leisure. Both answers will be used later to calculate the opportunity cost of caring.

If the labour market is tight, taking care of the elderly entails much higher implicit costs. In the Italian context, severely rationed public services have led to the hiring of paid ‘minders’, as noted. Only when this is not affordable (or is not considered desirable) is care assigned to those who have already retired from employment and/or those whose position within the market is weaker.

We have already documented in section 4 above that (i) retired people are the most important source of unpaid care and yet (ii) carers in employment are well represented in Modena compared to the rest of the country. The additional piece of evidence that Tables 21 and 22 provide is that relatively few people had to give up work altogether and fewer still reduced their working time in order to cope with the needs of their elderly. Not only do our findings show that the proportion of carers who withdrew from employment was rather contained – between 9% and 10%, as noted; differences between men and women also turned out to be modest: if workers who had taken temporary leave of absence are included, the gender gap would come down to less than 2 percentage points. While this holds for the ‘average’ elderly, higher levels of dependency appear to take a higher toll. Also, those who quit the labour market often held marginal, i.e. lower paid positions, with net weekly earnings foregone of €156.83 for men and €120.45 for women compared with an average of €295.6 for all the carers in our sample.

| Per cent who:                | Males               |        |        |     |       |               | Females             |        |        |        |        |               |
|------------------------------|---------------------|--------|--------|-----|-------|---------------|---------------------|--------|--------|--------|--------|---------------|
|                              | Dependency category |        |        |     |       |               | Dependency category |        |        |        |        |               |
|                              | A                   | B      | C      | D   | E     | All           | A                   | B      | C      | D      | E      | All           |
| *Gave up paid work to care   | 9.9                 | 15.6   | 5.7    | ... | 6.1   | <b>9.4</b>    | 4.4                 | 7.3    | 12.3   | 12.2   | 17.9   | <b>10.5</b>   |
| Asked for leave              | ...                 | ...    | ...    | ... | ...   | ...           | 1.8                 | ...    | ...    | ...    | ...    | <b>0.5</b>    |
| **Net weekly pay forgone €   | 40.95               | 205.16 | 230.77 | 0.0 | 92.31 | <b>156.83</b> | 87.12               | 111.86 | 134.61 | 184.62 | 120.16 | <b>120.45</b> |
| Reduced working time to care | ...                 | ...    | ...    | ... | ...   | ...           | ...                 | 1.8    | 2.1    | ...    | ...    | <b>1.0</b>    |
| **Net weekly pay forgone €   | ...                 | ...    | ...    | ... | ...   | ...           | ...                 | 18.46  | ...    | ...    | ...    | <b>18.46</b>  |

Table 21: Changes in carer's work status in relation to caring by category of dependency

\* Figures include those who said yes to stop work completely and who took early retirement.

\*\* Figures are only for those who gave up paid work to care

Gender mattered with respect to the decision to reduce working time. While very few carers chose this option to reconcile care with employment (1%), all of them were women. However, chances to reduce working time might have been rationed by the fact that few collective agreements allow for variation in the work schedule in response to needs other than sickness or child care (Table 21).

Since moving from full to part-time was not a common option, we found no clear relationship between intensity of care – as proxied by level of dependency – and the ratio of full-time to part-time employment positions. Table 22 indicates that part-timers tend to decrease more than full-timers when disability increases, but there is more than one exception.

| Per cent who:             | Dependency category |         |         |         |         |         |
|---------------------------|---------------------|---------|---------|---------|---------|---------|
|                           | A                   | B       | C       | D       | E       | All     |
| A. Work full-time         | 26.8                | 35.5    | 36.7    | 18.4    | 28.3    | 31.3    |
| B. Work part-time         | 10.9                | 6.3     | 3.3     | ...     | 4.7     | 5.9     |
| A+B                       | 37.7                | 41.8    | 40.0    | 18.4    | 33.0    | 37.2    |
| * Average net monthly pay | 1,138.0             | 1,160.4 | 1,430.3 | 1,250.0 | 1,444.7 | 1,280.3 |

Table 22: Current work status and average net monthly pay of carers by category of dependency

\*Category of dependency refers to the person most cared for.

Assessing the potential conflict between care and paid work from the perspective of those in employment, as we have done so far, may be important to evaluate reconciliation policies like changes in the retirement age, or the introduction of a Long Term Care leave. However, evaluation of the opportunity cost of caring assumes the carers' perspective and asks what choices the latter would make if they were not providing care; i.e. evaluates their next best alternatives.

The answers we got when investigating carer's alternative choices are remarkably consistent with those given in answer to the questions on actual change in labour force status (Table 23). Namely, 10% of female or male carers would seek either full or part-time employment if freed from the responsibility of caring, a figure that is remarkably close to the share of those who had withdrawn from employment or reduced working hours in order to be able to care (although they need not be the same people). The rest of the carers (90%) would keep their current status – be it employment or retirement. As might be expected, the desire for change was expressed by those below retirement age (60 years) caring on a full time basis: they put in between 33 and 36 hours of care per week. Among women those from the lowest income household were more eager to work.<sup>27</sup>

<sup>27</sup> For reasons of space we omit reporting the breakdown of these carers by hours of care and age. The figures of 33 and 36 hours are weekly average figures for those who would seek, respectively, full-time and part-time employment in alternative to caring.



| Net monthly household income     | Males           |                    |                    |             | Total |
|----------------------------------|-----------------|--------------------|--------------------|-------------|-------|
|                                  | Under<br>€1,038 | €1,039 -<br>€1,654 | €1,655 -<br>€2,577 | €2,578<br>+ |       |
|                                  | (%)             |                    |                    |             |       |
| Not working- would not seek work | 100.0           | 54.9               | 60.4               | 37.6        | 51.9  |
| Would look for FT work           | ...             | 6.2                | 4.0                | 5.6         | 4.8   |
| Would look for PT work           | ...             | 9.4                | 4.0                | 3.0         | 4.6   |
| Would continue FT work           | ...             | 19.5               | 27.3               | 53.9        | 37.6  |
| Would continue PT work           | ...             | ...                | 4.2                | ...         | 1.2   |
| Would increase PT work           | ...             | ...                | ...                | ...         | ...   |
| Total                            | 100.0           | 100.0              | 100.0              | 100.0       | 100.0 |

  

| Net monthly household income    | Females         |                    |                    |             | Total |
|---------------------------------|-----------------|--------------------|--------------------|-------------|-------|
|                                 | Under<br>€1,038 | €1,039 -<br>€1,654 | €1,655 -<br>€2,577 | €2,578<br>+ |       |
|                                 | (%)             |                    |                    |             |       |
| Not working-would not seek work | 73.0            | 63.9               | 45.8               | 47.2        | 52.4  |
| Would look for FT work          | 6.5             | 8.1                | 1.4                | ...         | 2.5   |
| Would look for PT work          | 10.2            | 5.4                | 11.0               | 6.5         | 8.5   |
| Would continue FT work          | 1.8             | 16.7               | 33.8               | 35.1        | 28.7  |
| Would continue PT work          | 4.9             | 5.9                | 8.0                | 9.9         | 7.5   |
| Would increase PT work          | ...             | ...                | ...                | 1.3         | 0.4   |
| Total                           | 100.0           | 100.0              | 100.0              | 100.0       | 100.0 |

Table 23 : Changes in labour force status that carers would make if they were not caring for an elderly person, by household income and gender

For the specific purpose of calculating the actual cost of care, however, what matters most is alternative use of hours currently devoted to caring. Table 24 sets out the (average) amount of hours per week of paid, unpaid and voluntary work as well as the leisure that a carer must forgo in order to look after an elderly person.

On average, the interviewees would spend 12 to 13 hours a week more on these activities than their caring responsibilities allow. The figures vary sensibly across categories of dependency, and are weakly correlated with the gender of the carer. The emerging pattern reflects the differing amounts of external help received by carers and their differing labour-market status. The only firm conclusion to be drawn is that looking after the elderly is above all at the expense of the carer's leisure time.

To sum up on the potential conflict between paid employment and elderly care, demographic as well as labour market factors contribute to explaining the apparently low 'attrition' between these alternatives. Italy has one of the oldest populations in Europe and worldwide, which tends to also increase the

average age of the carers and thus the probability that they are out of the labour force. Until recently, moreover, early retirement has been extensively used to soften the impact of redundancies, thus freeing at least some older carers from the need to choose between work and care.

| <b>Males</b>  | <b>Dependency category</b> |          |          |          |          |            |
|---------------|----------------------------|----------|----------|----------|----------|------------|
|               | <b>A</b>                   | <b>B</b> | <b>C</b> | <b>D</b> | <b>E</b> | <b>All</b> |
| Paid Work     | 2.66                       | 2.43     | 2.60     | 2.40     | 3.69     | 2.70       |
| Unpaid Work   | 0.81                       | 1.58     | 0.76     | 0        | 1.49     | 1.07       |
| Voluntary     | 0.77                       | 0.29     | 2.69     | 0.86     | 1.84     | 1.16       |
| Leisure       | 3.84                       | 6.59     | 12.19    | 17.12    | 4.29     | 7.72       |
| Total         | 8.08                       | 10.53    | 18.24    | 20.37    | 11.32    | 12.53      |
| <b>Female</b> | <b>A</b>                   | <b>B</b> | <b>C</b> | <b>D</b> | <b>E</b> | <b>All</b> |
| Paid Work     | 1.40                       | 1.79     | 2.08     | 1.57     | 3.15     | 2.08       |
| Unpaid Work   | 0.35                       | 2.17     | 2.88     | 1.22     | 2.96     | 2.08       |
| Voluntary     | 0.37                       | 1.65     | 1.98     | 2.11     | 3.42     | 1.88       |
| Leisure       | 3.59                       | 5.88     | 7.09     | 8.62     | 9.19     | 6.56       |
| Total         | 5.75                       | 11.49    | 14.04    | 13.51    | 18.72    | 12.61      |
| <b>ALL</b>    | <b>A</b>                   | <b>B</b> | <b>C</b> | <b>D</b> | <b>E</b> | <b>All</b> |
| Paid Work     | 1.79                       | 2.01     | 2.21     | 1.98     | 3.26     | 2.26       |
| Unpaid Work   | 0.50                       | 1.97     | 2.34     | 0.61     | 2.65     | 1.78       |
| Voluntary     | 0.49                       | 1.19     | 2.16     | 1.49     | 3.09     | 1.66       |
| Leisure       | 3.66                       | 6.12     | 8.40     | 12.85    | 8.16     | 6.90       |
| Total         | 6.48                       | 11.17    | 15.12    | 16.93    | 17.16    | 12.60      |

*Table 24: Number of hours spent caring for the elderly which would otherwise be used for paid work, unpaid work in the home, voluntary work, and leisure activities, by category of dependency*

Among women (and men) in employment, a combination of relatively 'friendly' work schedules and favourable economic conditions frequently offers solutions for reconciliation other than quitting a job or reducing working hours. In Modena, as elsewhere in Italy, women are disproportionately represented in public sector employment where a combination of work schedule, generous leaves and higher tolerance to absenteeism makes it easier to reconcile family care and work. Also a non negligible share of working carers are self-employed and can thus better organize their schedule around care needs. When such needs increase to the point that a 'friendly schedule' no longer suffices for reconciliation, minders can be hired if the family can afford it, with this happening more frequently in rich areas like Modena. Part-time work is either a second best solution compared with hiring

a minder or is not available: hence where attrition exists it takes the form of job quitting rather than reduction in hours.

## 9. The opportunity cost of caring

How does low attrition between care and employment reflect on the opportunity cost of carers' time? In order to derive an estimate for this cost we proceeded in three steps, as follows:

1. estimation of the average (gross) hourly earnings that the carer could expect to get in the area. This was identified with the average net hourly earnings for industrial employees;
2. discounting of this industrial hourly figure to take account of the (small) educational gap of carers, thus obtaining the cash value of one hour's work by carers;
3. calculation of the opportunity cost per hour on the basis of this cash value and of the expected use to which one hour less of caring would actually be put.

Step 1. As reported earlier, our survey figure for the net monthly earnings of carers in employment was € 1280, remarkably close to the net earnings in industry for blue collar and clerical employees on a full-time, year-round schedule (*operai e impiegati*) in Emilia Romagna. In this region, net average monthly earnings for these two occupational groups (who make up more than 70% of all employment in industry and report weekly hours averaging 37.8 p.w.) amounted to € 1276 in 2003. Gross hourly earnings can be estimated by adding about 24% in taxes and social security contributions and by assuming about 46 working weeks per year.<sup>28</sup> This yields a final figure of € 10.9 per hour.

Step 2. In order to obtain the cash value of an 'average' hour of care the above figure of € 10.9 was discounted by the ratio of median years of education for carers in our sample (9.3) to median years for the population in Modena (9.8). This yields a value of € 10.4 per hour.

Step 3. Euro 10.4 thus represent the cash value or market wage for carers and was used to 'cost' foregone paid work. Foregone unpaid and voluntary work was valued at the margin, that is the probability of engaging in it. Following a consolidated tradition in the literature, foregone leisure was valued at 25% of the combined sum of the weighted value of paid, unpaid and voluntary. The calculations are detailed in Table 25 and yield an opportunity cost of € 2.7 per hour.

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<sup>28</sup> Based on our calculations using microdata from the 2002 Household Survey conducted by the Bank of Italy. The original 2002 value for monthly earnings was obtained by dividing by 12 months the yearly figure of € 14886 net earnings and was updated using the GDP deflator.

| <b>Activity</b>   | <b>Weight*</b>                     |         |
|---|------------------------------------|---------|
| Paid work   | 17.95%                             |         |
| Unpaid work   | 14.13%                             |         |
| Voluntary work  | 13.21%                             |         |
| Leisure   | 54.72%                             |         |
| <b>Activity</b>   | <b>Cash value of time</b>          |         |
| Paid work   | $€ 10.37 \times 0.1795$            | = €1.86 |
| Unpaid work in the home<br>(valued at the margin at the expected market wage, that is the probability of engaging in paid work) | $€ 1.86 \times 0.1413$             | = €0.26 |
| Voluntary work<br>(valued in the same way as unpaid work in the home)   | $€ 1.86 \times 0.1321$             | = €0.25 |
| Leisure<br>(valued at 25% per cent of a market wage of €2.37 an hour)   | $€ 2.37 \times 0.5472 \times 0.25$ | = €0.32 |
| Average value of price of an hour of care   |                                    | = €2.7  |

*Table 25: Expected use to which one hour less of caring would be put and cash value time used for other activities*

*\*The weights are derived from table 24 and correspond to the desired, alternative allocation of actual care time i.e. if the average carer did not need to devote time to caring, s/he would allocate 54.7% of the time thus freed to voluntary work, 13.4% to unpaid work and so on.*

This is a rather low opportunity cost and proceeds mainly from the low 'attrition' between work and care. The most frequent alternative use to which an hour of care would be put is leisure, which has been valued least; conversely, the least frequent alternative is paid work itself. In the Italian context, where older workers' participation rates are among the lowest in Europe and pensions are relatively high, retired workers are less likely to envisage going back to the labour market. This lowers their opportunity cost further. The weekly opportunity cost per head is derived in Table 26 based on the average number of hours of care provided at each dependency level and neglecting the difference between supervision, physical care and instrumental care. This cost appears to vary from €54.4 for carers who are looking after older people at level A, to more than twice this amount, €110.2, at level E. The highest cost is obtained for level of dependency D, €124.4, but the latter figure warrants caution due to scant observations in this group.

| Category of dependency | Opportunity cost       |
|------------------------|------------------------|
| A                      | 20.16 x €2.7 = €54.43  |
| B                      | 23.82 x €2.7 = €64.31  |
| C                      | 32.54 x €2.7 = €87.86  |
| D                      | 46.08 x €2.7 = €124.42 |
| E                      | 40.83 x €2.7 = €110.24 |

*Table 26: Weekly opportunity cost per head by category of dependency ( Average hours for caring elderly in families i.e excluding institutionalised elderly:see Table 19)*

## 10. The overall opportunity cost of home care versus care in institutions

The next move to estimate the social cost of home care is compilation of unitary costs for inputs other than the carer's own time. A large variety of information from other sources were used to this purpose, in combination with our survey data. Table 27 reports the full list of inputs we considered relevant for costing home care. For each input unitary costs are reported in the table and refer to the year of the survey (or were updated). The sources and related methodological notes are detailed in Appendix 2.

Unit costs were applied to activity levels derived from survey results to value each input. The sources for activity levels are detailed in Table 28 and additional information is given in Appendix 3.

According to the estimates we obtained (Table 29), the total cost of caring for elderly in the community varied from € 284 for the lowest level of dependency (level A) up to € 496 for the highest (level E), with an average of € 393 per week. The progression of costs as dependency increases is plausible, with the possible exception of level D for which total costs were practically on par with level A. We have repeatedly noted that, since the level of dependency D comprises only 14 elderly, this raises the odds of recording gaps for specific values (e.g. none of these elderly used meals on wheels) and of obtaining high standard deviation when calculating means. Thus both single cost components and, a fortiori, total costs for group D should be considered with caution.

The largest cost items are, in decreasing order, the cost of the combined time spent by main carers and paid helpers, personal consumption other than direct care costs, and the cost of hospitalisation.

| <b>Type of care or service</b>  | <b>Unit cost (2003)</b>  |
|---------------------------------|--|
| 1. Carer's time                 | €2.7 (see Table 26).   |
| 2. Acute hospital care          | €378 per bed per day (average across wards).   |
| 3. Visits to/by doctors         | General Practitioner: €15.5 (at surgery), €25.8 at home (fees for private services); specialists and check-ups: 78-80 € per visit to the surgery.  |
| 4. Public health nurse          | €23: average hourly cost to public supplier; the estimated cost per visit at home is €16.8; per visit to surgery/clinic is 12.1  |
| 5. Home help                    | i) €19.8 per hour for public services; the estimated cost per visit is 29.2<br>ii) €8.1 minimum hourly fee charged for private service, on call; the estimated cost per visit is 18.5<br>iii) €5.13 per hour: minimum official per hour wage of non co-residing minder, 2nd skill class, inclusive of contributions. The estimated cost per visit is 29.1<br>iv) €987 per month, i.e. 228 per week for living-in minder, inclusive of all contributions and of the meal allowance. |
| 6. Meals on wheels              | Full cost per meal to public supplier is 5.3 for weekdays, 5.9 for Sundays; 5.9 on average including VAT.  |
| 7. Physiotherapist              | €22: hourly cost for public services; The estimated cost per visit at home is €21.1; per visit to surgery/clinic is 17.1.  |
| 8. Priest or pastor             | 10.94 per hour (gross industrial wage); The estimated cost per visit at home is €8.1; per visit to pastor's office is 6.9  |
| 9. Day care centre              | €86 per day in 'Casa Protetta'; we have imputed one half day stay, on average.   |
| 10. Gross personal consumption  | €120: average 2002 personal consumption in Emilia Romagna for people over 65 inclusive of durables and exclusive of mortgage or insurance payments, rent and expenses to renovate the house; updated to 2003 using the Eurostat harmonized consumer price index.   |
| 11. Opportunity cost of housing | €20.1  |

*Table 27: Unit cost data by main type of care or service used*

*Sources and notes: see Appendix 2*

| <b>Nature of Activity</b>       | <b>Table number</b>  |
|---------------------------------|----------------------|
| 1. Carer's time                 | Table 19             |
| 2. Acute hospital care          | Table 14             |
| 3. Visits to or from the doctor | Tables 15 and 17     |
| 4. Public health nurse          | Table 15             |
| 5. Home help                    | Tables 15, 16 and 19 |
| 6. Meals-on-wheels              | Table 15             |
| 7. Physiotherapist              | Tables 15 and 17     |
| 8. Priest or pastor             | Table 15             |
| 9. Day care centre              | Table 18             |
| 10. Housing adaptation          | Table 20             |

*Table 28: Sources of data for activity levels used to estimate the opportunity cost of care*

*Note: See Appendix 3*

Two main conclusions are warranted on the basis of our estimates. First, home care is far more cost effective than hospitalization: the weekly cost for one hospital bed totalled € 2646 in the average ward, i.e. more than five times the cost of home care for the elderly in the highest dependency category. Even if a geriatric, rather than an average ward were chosen for comparison, the weekly cost for the latter would amount to € 1400, nearly three times the cost of home care for the most dependent elderly.<sup>29</sup>

Second, community care is more cost effective than institutionalization in a nursing home, at all levels of dependency. A weekly total between € 600 and € 660 is representative of the cost for a nursing home in the region of Modena.<sup>30</sup> In view of this, home care is definitely more cost effective for elderly with milder disabilities - levels A and B - and somewhat more cost effective for people with higher levels of disability - D or E.

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<sup>29</sup> The daily cost of one hospital bed is 378 in the average ward and 200 in a geriatric ward. See Table 28 for sources.

<sup>30</sup> The figures refer to the Residenza Sanitaria Assistita 9 Gennaio and Cialdini, respectively and are rounded up (from 602 and 665, respectively). No average figure is available for nursing homes in the area.

| Category of dependency | Opportunity cost of carer's time | Use of hospital | Use of nursing home | Doctor <sup>^</sup>  | Public health nurse | Private nurse                    | Home help     | Meals <sup>^^</sup> on wheels |
|------------------------|----------------------------------|-----------------|---------------------|----------------------|---------------------|----------------------------------|---------------|-------------------------------|
| A                      | 54.43                            | 32.02           | 1.91                | 25.84                | 1.30                | 2.65                             | 19.08         | 0.56                          |
| B                      | 64.31                            | 70.63           | 5.66                | 24.59                | 0.69                | 1.86                             | 47.46         | 2.97                          |
| C                      | 87.86                            | 79.25           | 9.05                | 20.98                | 0.78                | 5.08                             | 103.19        | -                             |
| D                      | 124.42                           | 11.62           | 1.44                | 18.47                | 0.30                | 0.00                             | 86.93         | -                             |
| E                      | 110.24                           | 132.67          | 9.11                | 19.31                | 0.37                | 13.40                            | 62.71         | -                             |
| All                    | 79.35                            | 69.38           | 5.74                | 22.95                | 0.79                | 5.17                             | 57.95         | 0.96                          |
|                        | Physiotherap.                    | Priest          | Day Care            | Personal consumption | Housing replacement | Housing adaptation <sup>**</sup> | Total         |                               |
| A                      | 4.49                             | 0.97            | -                   | 119.74               | 20.21               | 0.61                             | <b>283.81</b> |                               |
| B                      | 3.41                             | 0.66            | 9.50                | 119.74               | 20.21               | 0.27                             | <b>371.97</b> |                               |
| C                      | 5.50                             | 0.62            | -                   | 119.74               | 20.21               | 0.84                             | <b>453.08</b> |                               |
| D                      | 15.46                            | -               | -                   | 119.74               | 20.21               | 1.04                             | <b>399.62</b> |                               |
| E                      | 2.20                             | 0.26            | 4.94                | 119.74               | 20.21               | 1.19                             | <b>496.37</b> |                               |
| All                    | 4.34                             | 0.90            | 4.78                | 119.74               | 20.21               | 0.74                             | <b>393.00</b> |                               |

Table: 29 Average weekly per capita cost of community care by type of care and category of dependency

Notes:

§ Estimate based on actual costs for residency in a representative nursing home (RSA 9 Gennaio: Modena)

<sup>^</sup> Inclusive of costs for visits to specialists

<sup>^^</sup> Based on the assumption that those receiving this service consume 1.5 meals per day, on average (the options are one meal or two meals)

<sup>\*\*</sup> The cost of adaptation is the weekly yield of the sum spent to adapt the dwelling

One key reason for these findings is the relatively low opportunity cost of total carers' time. Two groups of factors concur to determine this outcome, respectively the intensity of care and the unit cost of carers' time. With regard to the intensity of care, the average Italian carer spends little more than 4 hours per day on elderly care, partly because a large number of extra hours are provided by other non family members and by private minders, as we have repeatedly noted. The per hour cost of carers' time is low for the two main suppliers of care hours, namely family carers and privately hired



minders. Thus, even if all costs components are valued, as we have done here, home care for the elderly turns out to be more cost effective than institutional care across all levels of dependency.

A related factor enhancing cost effectiveness of home care is the way families efficiently combine the time of the three key actors, treating them as complements: the minder, the family carer and the public home helper. The minder is dependent on the family carer for coordinating his/her work and for complementing his/her work with tasks requiring skills that the migrant may lack, e.g. interfacing with doctors and health or social operators. The public helper is generally more skilled at handling disabled elderly than either the family carer or the migrant are, and s/he is likely to be far more productive per unit of time. Thus cheaper and less (socially) skilled migrant labour is mainly allocated to minding, while the family carer supplies coordination, social skills and additional care whenever needed, and the (costly and scarce) public home helper intervenes briefly with some physically skilled task like handling or washing an elderly person confined to bed, or with tasks requiring basic paramedical expertise.<sup>31</sup>

## 11. Cost effectiveness and long-term sustainability

From a policy perspective does the finding on social cost-effectiveness imply that the best course of action for public authorities is to progressively move away from subsidizing institutionalization towards encouraging home care while, at the same time, limiting their own provisions to selective home services?

Social cost effectiveness cannot be the sole criterion for public action, since questions of quality of care and of equity must also be addressed. Consider, for example the option of extending cash transfers devoted to elderly care. While this may make the services of migrant carers more accessible to all the families, including the not-so well-off, it also perpetuates a model where the ultimate responsibility continues to be placed on the 'daughters'. As our results show the amount of 'coordination work' and of additional care that the latter are expected to put in is not negligible. Is this fair on women? Also, is it acceptable that the standard of care received by the elderly or the working conditions facing care workers be as diverse as implied by the very unregulated market that now prevails?

We have taken up some of these issues elsewhere making use of the comparison between Italy and the other two countries included in the Galca survey – Denmark and Ireland (Bettio et al. 2006; Bettio and Solinas 2004). Since our main concern here is costs effectiveness we will confine ourselves to raising some questions on the underlying conditions that ensure this

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<sup>31</sup> Survey figures not reported here indicate that minders may but do not often take on paramedical tasks, although the pattern may be different where income is lower or public services poorer.

effectiveness in the long run, i.e. the issue of sustainability of current arrangements.

Three incumbent developments threaten sustainability. The first is change in the family structure. The birth rate among nationals is still too low (1.35 overall in 2004, including births among immigrants) to rule out for the next years a substantial increase in the share of the elderly who will not be able to rely on family carers. Given that work by family members is indispensable also when migrants are hired, and given that market services other than migrant labour are fairly expensive (e.g. private nursing services or non subsidized nursing home: see Table 27), it is likely that a still large and probably increasing share of elderly will need to rely on public provisions.

The second development is postponement of the age of retirement. According to our survey (not reported above) the employment rate of carers aged 55 to 64 in Modena was 28% compared with a very high 73 % for people under 55 years, i.e. the employment rate among older workers fell considerably short of the Lisbon target. Furthermore, our survey figures disclose that 42 % of working carers in the 55 to 64 age group employed minders, as opposed to 22 % of carers who did not work.

Suppose now that the employment rate target for older workers were set at 50 % in compliance with the European employment strategy. It is plausible to assume that most of the increase would have to come from people facing poorer earning prospects or relatively high costs of reconciling work and family, given that the remainder are likely to be employed already. In order to reconcile work and care many of the additional workers would then need to hire a minder or to buy expensive market services to ensure compatibility, unless public services step in. The question is: would work really pay in this case?, i.e. would the benefit from employment outweigh the additional costs of having to finance private care? To make some back of the envelope calculations, consider hiring a co-residing minder. While it may be safely assumed that this ensures compatibility between work and care, it remains an expensive option. Recall that the overall monthly expenditure for a 'regular' minder in Modena was 987, some 290 € lower than the average net earnings of carers in employment in our sample. Is a differential of this order of magnitude ( or lower) enough to motivate lower paid workers, unless it is boosted by subsidies like the attendance allowance? The problem of making work pay has been mostly discussed with respect to child care, but periods of severe disability spanning more than one year calls for the problem to be addressed also with respect to elderly care.

The third development and possibly the most 'risky' one is labour market prospects in the country of origin of migrant carers. At present, migrant care workers from Eastern European countries like Albania, Poland, Bulgaria, Romania, but also Cecnia, and Moldavia are known to be well represented among minders in Italy, although there is a large degree of uncertainty over actual estimates on account of illegal migration (Caritas/Migrantes 2005). They are especially valued by families thanks to cultural similarity and ability to quickly learn the language. And their supply is plenty partly because they can afford to be truly temporary migrants unlike, say, workers from the Philippines or South America who are long term migrants. However, how long

will it take for low income Eastern European economies to pick up and thin emigration flows? During the economic miracle of the fifties and sixties internal migration flows of female housemaids dried up quickly and this may serve as a reminder (King and Zontini 2000).

None of these questions can be answered solely on the basis of the information collected in our survey and must therefore be left to future research. Nevertheless, our findings on the conditions under which home care is socially more cost effective than institutional care provide a basis for rethinking public policy in this vital area of the economy.

## References

- Ascoli U., Barbagli M., Cossentino F. and Ecchia G., *Le politiche sociali in Emilia Romagna*, Torino, Rosenberg & Sellier, 2001.
- Baldini M. and Silvestri P., Redditi, benessere e disuguaglianza nella provincia di Modena – Primi risultati dell'Indagine Capp-IcesMo, Modena, June 2003.
- Baldini M., Bosi P. and Silvestri P., *La ricchezza dell'equità. Distribuzione del reddito e condizioni di vita in un'area a elevato benessere*, Bologna, Il Mulino, 2004.
- Banca d'Italia, *I bilanci delle famiglie italiane nell'anno 2000*, Supplemento al Bollettino Statistico, No. 6/XII, 2002.
- Bettio F. and Plantenga J. 'Comparing care regimes in Europe', *Feminist Economics* 2004, 10, (1), pp 85-113.
- Bettio F. and Solinas G., 'Is the 'Care Drain' Compatible with the European Social Model? The Case of Elderly Care', *EAEPE Annual Conference*, Creta: 28-31 October 2004.
- Bettio F., D'Amato M. and Mazzotta F., 'Long Term Care for the elderly in Italy. Is the extended family still important?', mimeo 2003.
- Bettio F., Simonazzi A. and Villa P., "Change in care regimes and female migration" *Journal of European Social Policy*, 2006, 16 (3), pp 271-285.
- Blackwell J., O'Shea E., Moane G., and Murray P., *Care Provision and Cost Measurement: Dependent Elderly People at Home and in Geriatric Hospitals*. Dublin: Economic and Social Research Institute, General Research Series Paper No. 157, 1992.
- Bosi P., Ferrera M. and Saraceno C., "Istituto del minimo vitale, esperienze e proposte di riforma", Allegato 1 al documento base No. 3, Commissione Onofri, 1997.
- Bosi P., Guerra M.C. and Silvestri P., "La spesa sociale nel comune di Modena", *Materiali di discussione*, No. 223, Università degli Studi di Modena, Dipartimento di Economia Politica, 1998.
- Bosi P., Guerra M.C. and Silvestri P., "La spesa sociale nel comune di Modena: la valutazione della condizione economica", *Materiali di discussione*, No. 264, Università degli Studi di Modena, Dipartimento di Economia Politica, 1999.
- Brugiavini A., Jappelli T. and Weber G., "The Survey on Health, Aging and Wealth", *Centre for Studies in Economics and Finance*, Working Paper No. 86, Università di Salerno, 2002.
- Capp – Centro di Analisi delle Politiche Pubbliche, *Indagine sui redditi e le condizioni di vita a Modena*, Università degli Studi di Modena e Reggio Emilia, 2003.
- Caritas/Migrantes, *Immigrazione. Dossier Statistico 2005*, XV Rapporto, Roma, Edizioni IDOS, 2005.
- Cnr, *Relazione Conclusiva Progetto Finalizzato Invecchiamento*, Roma 25 November 1998 (<http://www.ageing.cnr.it>).
- Comune di Modena, "Analisi e riflessioni sui processi di disagio povertà e esclusione sociale presenti a Modena", *Quaderni dell'osservatorio su disagio e risorse sociali*, No. 9, Assessorato alle politiche sociali, Modena, 2000.
- Comune di Modena, "La domanda e l'offerta di assistenza domiciliare nel comune di Modena", Assessorato alle politiche sociali, Modena, 1999.
- Comune di Modena, "Percorsi di qualità della vita degli anziani nel centro storico", Assessorato alle Politiche Sociali, Modena, 2000.
- Comune di Modena, "Progetto per un: sistema di valutazione della condizione economica e socio-sanitaria per l'accesso ai servizi", *Quaderni dell'osservatorio*

- su disagio e risorse sociali, No.. 5, Assessorato alle politiche sociali, Modena, 1997.
- Comune di Modena, *Il piano di zona della città di Modena 2005-2007*, Modena, 2005.
- Comune di Modena, *Lettera sull'occupazione*, anno XI, 2004.
- Ehrenreich B. and. Hochschild A.R. (eds), *Global Women, Nannies, Maids and Sex Workers in the New Economy*, Metropolitan Books 2002.
- Ferrera M., "The "Southern" Model of Welfare in Social Europe", *Journal of European Social Policy*, vol. VI, No. 1, 1996.
- Ferrera M., *Le trappole del welfare*, Bologna, Il Mulino, 1998.
- Guttman I., "Problems of Reliability", in S. Stouffer, I. Guttman, E.A. Suchman, et al. (eds.), *Measurement and Prediction. Studies in Social Psychology in World War II*, Volume IV, Princeton, New Jersey, Princeton University Press, pp. 277-311, 1950c.
- Guttman I., "Relation of Scalogram Analysis to Other Techniques", in S. Stouffer, I. Guttman, E.A. Suchman, et al. (eds.), *Measurement and Prediction. Studies in Social Psychology in World War II*, Volume IV, Princeton, New Jersey, Princeton University Press, pp. 172-212, 1950b.
- Guttman I., "The Basis of Scalogram Analysis", in S. Stouffer, I. Guttman, E.A. Suchman, et al. (a cura di), *Measurement and Prediction. Studies in Social Psychology in World War II*, Volume IV, Princeton, New Jersey, Princeton University Press, pp. 60-90, 1950a.
- Hughes S., Manheim L., Edelman P. and Conrad K., "Impact of Long-Term Home Care on Hospital and Nursing Home Use and Cost", *Health Services Research*, 1987, 22 (1), pp.19-47, 1987.
- Istat, Previsioni della popolazione residente. Base 1.1.2001, Informazione, No 13, Roma, 2003 (<http://demo.istat.it>).
- Istat, *Rapporto annuale sulla situazione del paese nel 1996*, Roma, Istituto Nazionale di Statistica, 1997.
- King R. and Zontini E., *The Role of Gender in the South European Immigration Model*, Paper No.. 60. Falmer, Brighton: University of Sussex, School of European Studies, 2000.
- Maggi S., Zucchetto M., Baldereschi M. et al., The Italian Longitudinal Study on Aging (ILSA): Design and methods, *Ageing Clinical Experimental Research*, 1994, 6 (6), pp. 464-473.
- Pacolet J., Bouten R., Lanoye H. and Versieck K., *Social protection for dependency in old age in the 15 EU Member States and Norway*, Synthesis report commissioned by the European Commission and the Belgian Minister of Social affairs. Luxembourg: Office for official publications of the European Communities, 1999.
- Pesaresi F. and Gori C., "L'assistenza agli anziani non autosufficienti in Europa' in *Anziani e Sistemi di Welfare*, Rapporto 2005 Spi Cgil-Cadef, Milano, Franco Angeli, 2005
- Provincia di Modena, *Atlante statistico*, Servizio Statistica, 2001.
- Provincia di Modena, *Osservatorio demografico 2005: La popolazione modenese e i cittadini stranieri residenti*, Modena 2006.
- Provincia di Modena, *Previsioni demografiche 2003-2014*, Modena, 2002.
- Ranci, C., *L'assistenza agli anziani in Italia e in Europa*, Milano, Franco Angeli, 2001.
- Saraceno C., "The ambivalent familism of the italian welfare system", *Social Politics*, No.. 1, pp. 60-82, 1994.
- Solinas G., "Popolazione, servizi di cura e occupazione. Il caso dell'assistenza domiciliare per gli anziani nel Comune di Modena", in *Rapporto sulla situazione*

*economica e sociale della provincia di Modena 2000*, Modena, Università degli Studi di Modena, pp. 87-132, 2001.

Trifiletti R., "Family obligations in Italy", in Millar J., Worman A., (ed.), *Defining family obligations in Europe*, Bath, Bath University Press, 1995.

**Appendix 1****The Galca project: telephone interviews and direct interviews conducted**

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| <b>Outcomes (Contact and Outcome):</b>  | <b>Freq.</b> | <b>%</b> |
|---|--------------|----------|
| Interview completed (Telephone screening)   | 4949         | 66.0%    |
| Untraceable   | 1084         | 14.4%    |
| No telephone number or wrong number   | 1319         | 17.6%    |
| Refusal (Carer refusal)   | 146          | 1.9%     |
| Total contact attempts (telephone screening sample) - (Valid contacts and refusals) | 7498         | 100.0%   |

**Families that provide and do not provide care:**

|                            |      |        |
|----------------------------|------|--------|
| Provide care               | 827  | 16.7%  |
| Do not provide care        | 4122 | 83.3%  |
| Total families interviewed | 4949 | 100.0% |

**Willingness to be interviewed:**

|  |     |        |
|--|-----|--------|
| Agreed to participate in survey                  | 396 | 47.9%  |
| Unavailable/impossible to contact/refusals       | 431 | 52.1%  |
| Total No. of carers of elderly people identified | 827 | 100.0% |

|                                 |      |       |
|---------------------------------|------|-------|
| No. of completed questionnaires | 275  | 69.4% |
| Response rate                   | 33.2 |       |

**Appendix 2**  
**Sources and methodology for unit costs in Table 27**  
**(by number of item in the table)**

SOURCES :

Item 2. AUSL and Servizio Anziani: Modena

Item 3. Ordine dei Medici (Modena): lowest fee for General Practitioners (GP); CUP Roma and Firenze: median fee for intra-moenia check-up visit to dentist or to specialists like dermatologists, cardiologists, geriatricians and others.

Item 4. For the hourly cost: AUSL and Servizio Anziani: Modena;

Item 5. For the hourly cost of public and (credited) private home helpers: Servizio Anziani and Cooperative Sociali: Modena. For private minders non residing with the family: contractual minimum rate + hourly contribution for minders working more than 24 hours per week. For live-in minders the reported weekly cost is based on the average gross monthly cost of 987 incurred by the 330 families in Modena having hired a co-residing minder on a regular contract. The figure is all inclusive ( Comune di Modena: Rapporto di Attività 2003, parte A. Informazioni e Serdom, p. 6);

Item 6. AUSL and Servizio Anziani: Modena (the figures include 10% VAT)

7. For hourly cost: AUSL and Servizio Anziani: Modena;

Item 8. The hourly cost for a priest is the average gross earnings for blue collar and administrative employees on a full-time schedule in industry in the Emilia region: own calculation from Bank of Italy 2002 Household Survey data.

Item 9. AUSL and Servizio Anziani: Modena

Item 10. Bank of Italy: Survey of Italian Households' Income and Wealth 2002; own calculations on microdata; value updated to 2003 using Eurostat harmonized consumption index

Item 11. See 10

METHODOLOGICAL NOTES :

Items: 4,5,7 and 8: Cost per visit is based on hourly costs (Table 27) combined with the Galca survey estimates of the mean duration of a visit; in the case of visits at home the duration of the visit was augmented by an estimate of transport time; the latter too is based on the Galca survey results.

Item: 11: Based on the average value of families' own estimate of the potential rental value of owned flat in 2002 in Emilia Romagna, divided by number of family members (people over 65 years of age); this base value of € 71.4 was multiplied by the share of households where alternative use of space is either allocation to family members or renting (27.5%) and was updated to 2003.



**Appendix 3**  
**Notes to Table 28**  
**(by number of item in the table)**

All items. Activity levels used for costing refer to the elderly being cared for in families; i.e. the institutionalised elderly in our sample (about 5%) have been excluded from cost calculations since the main purpose of the latter was comparison of costs for home care versus institutional care.

Item 3. In Italy, elderly people receive frequent visits from only some service providers. The most frequent visits are from general practitioners, nurses, home helpers, followed by physiotherapists, priests, social workers and volunteers (Table 15). In contrast, visits received by the elderly from specialist health providers like dentists, cardiologists etc. have been neglected altogether because they are sufficiently rare. The cost per visit received was estimated using one of two alternative formulas: where the cost per visit was available, we assumed that transport cost was included in the fee. Transport costs were neglected in the case of visits made by the elderly to service providers because it was assumed that such costs are already included in private consumption. When the cost per hour was available we used data on the mean duration of visits and on mean distance between home and clinic or provider to estimate a cost per visit, inclusive of transport costs. Distances recorded in the survey are from home to clinic, for visits to doctors, priests or other. We assume that the distance for visits from doctors, specialists, priests, etc. is the same as the distance to. Also, when the distance was not recorded, e.g. for home helpers, we imputed the mean distance for a public nurse. Distances were translated into time by using the following formula:  $2 * (2\text{km per minute}) + 5\text{ minutes for parking}$ .

Item 5. Home help is a very composite category that comprises help from other family members, privately paid help for either external or co-residing minders, help from other private agencies and help from public home helpers. Recall from the discussion around Table 19 that there was a marked division between families with and without in-living minder, with the latter caring for 15.1 of the elderly and being able to count on 67 hours per week from live-in minders. Using unit costs detailed in Table 27 and activity levels in Table 28 we have valued help received from external minders, from other private agencies and from public home helpers on a per hour basis.

For co-residing minders a different methodology was used: we have used the fixed weekly cost of regularly hired minders (see Appendix 2) because of the difficulty in estimating actual working time for these minders, who may regularly sleep but are 'on call' 24 hours. Note also that, having chosen to price the minders according to a relatively high 'official' rate – that for the regularly hired - this cost may be overestimated, since a non negligible share of the minders are not 'regularly' employed. This may be compensated by the fact that we have not accounted for about 10 hours per week of help furnished by other family members, the reason being that we have no information to compute opportunity costs for family members other than the main carer. However, we would not expect the latter to be an important omission: help is likely to be shared among different family members with each giving up a limited amount of leisure time.

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