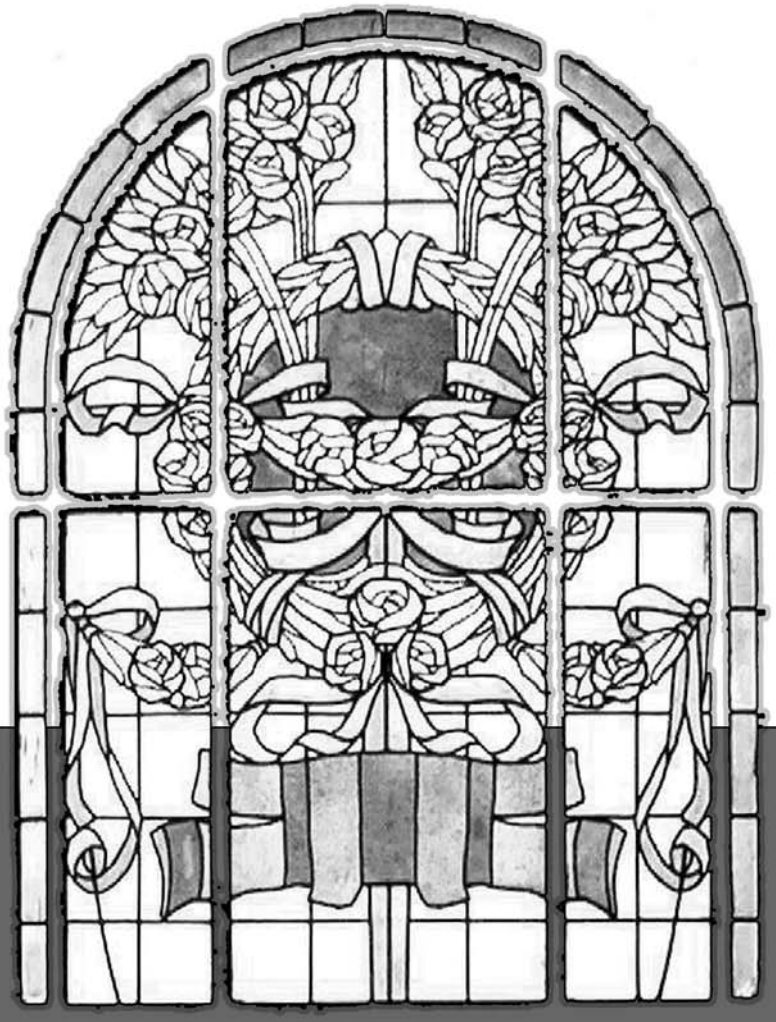

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Documenti

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HEALTH AND SOCIAL SERVICES IN RURAL UMBRIA

S. Lucatelli, S. Savastano, M. Coccia

Ministero dell'Economia e delle Finanze
Dipartimento per le Politiche di Sviluppo
Unità di Valutazione degli Investimenti Pubblici

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Health and social services in rural UmbriaAbstract

Abstract

Three main issues are increasingly characterising Rural Areas in developed countries: aging population, difficulties in accessing services, and gender inequalities in entering the labour market. Although aging can be considered a general trend in Italy, in certain areas it has become a chronic tendency. Development policies for Rural Areas need to be based on sound and rigorous territorial analysis. In fact, rural development policies are very often based on sectoral analysis alone, with no support from territorial analysis. In this paper, a new methodology of territorial analysis with a spatially-based approach has been used to investigate the supply of health and social (child care) services in different categories of Rural Area in *Umbria* (peri-urban, intermediate and remote rural zones). This methodology is applied to the Umbria region in Italy, but could be easily adapted to other regions. The study found that, with per-capita public health investment in line with the Italian average, the implementation of regional health policy in recent years has focused on all areas, even the more remote ones. Nevertheless, the accessibility of health services seems to matter, especially with regards to old people and hospitals and only one third of total service delivery points serving Rural Areas offer a full set of basic services. The state of the supply of child-care services is quite different. The entire region suffers from a lack of child-care services and this study reveals an important territorial divide between urban and Rural Areas. Finally, this paper has been presented and discussed in Edinburg, at the OECD Conference on 'Investment Priorities for Rural Development".

Servizi socio-sanitari nell'Umbria rurale

Sommario

Tre aspetti caratterizzano in maniera crescente le aree rurali dei paesi sviluppati: invecchiamento della popolazione, difficoltà di accesso ai servizi e situazioni di disuguaglianza nell'ingresso delle donne al mercato del lavoro. Sebbene l'invecchiamento sia considerato un *trend* generale per l'Italia, in alcune aree il fenomeno sta assumendo una forma cronica. Le politiche di sviluppo per le aree rurali devono fondarsi su analisi territoriali approfondite e rigorose. Di fatto le politiche di sviluppo in favore dei territori rurali sono basate su analisi di tipo settoriale, senza il supporto di quelle territoriali. In questo studio, una nuova metodologia di analisi territoriale è stata utilizzata per ricostruire – secondo un approccio spaziale – lo stato dell'offerta dei servizi sanitari e dei servizi di cura per l'infanzia nelle differenti tipologie di aree rurali della regione Umbria (aree rurali peri-urbane, intermedie e periferiche). Questa metodologia è stata applicata a questa regione, ma potrebbe facilmente essere adattata ad altre regioni. L'analisi rivela come, con un investimento pro-capite in linea con la media italiana, la politica sanitaria della regione, negli ultimi anni, abbia prestato attenzione a tutte le aree, comprese quelle più marginali. Nonostante ciò persiste un problema di accessibilità ai servizi, specialmente per quanto riguarda gli anziani e gli ospedali. A ciò si aggiunga il fatto che soltanto un terzo dei punti di erogazione di servizi sanitari che operano nella aree rurali sono in grado di offrire tutte le prestazioni di base. Diversa è la situazione per quanto riguarda l'offerta dei servizi di cura per l'infanzia, considerata la carenza di asili nido in tutta la regione. Questo studio permette, inoltre, di evidenziare una situazione di notevole disuguaglianza tra territori urbani e rurali.

The present work was edited by Sabrina Lucatelli, Sara Savastano and Marco Coccia.

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A preliminary version of this paper was presented at the OECD Conference "Investment Priorities for Rural Development", Edinburgh, 19-20 October 2006.

We would like to thank the regional Authorities of Umbria who, providing us with helpful interviews, have contributed to the realization of this work. We would also like to thank Elena Angela Peta for her valid statistical support, Sabrina Atturo who has contributed to the realization of the direct surveys and Ezia Stella who was involved in the translation of the paper to Italian. We are especially grateful to Laura Raimondo for her encouragement and commitment in supporting this research. Our gratitude also to Simona De Luca, for her role as editorial co-ordinator of the publication, to Franca Acquaviva for her help to the print make-up of the document and to all the Referees for their helpful comments and suggestions.
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Contents

I. Introduction

Urban and rural issues are of considerable importance for government. European, national and regional grants are given to ensure urban and rural development. Despite this significance, governments have failed to accept a definition of what constitutes rural and urban. There is, however, general agreement in defining a Rural Area in terms of dispersed population, an often agricultural-based economy, distance from major urban centres, and, as a direct consequence, lack of access to major services.

Three main issues are increasingly characterising Rural Areas in developed countries: aging population, difficulties in accessing services, and gender inequalities in entering the labour market. Today, development in Rural Areas means creating opportunities that ensure all rural people have access to land, infrastructure, social and financial services, and other assets that raise their standard of living and quality of life. Rural Areas are characterized by an increasing rate of migration, especially by young people, and as a result population aging is becoming "the" issue. Although this can be considered a general trend in Italy, in certain areas it has become a chronic tendency. Improving access to services for people in Rural Areas is of fundamental importance for achieving sustainable rate of growth and improving the quality of life.

The objective of this paper is twofold. On the one hand we want to map Umbria Region in terms of rural and urban areas, defining within Rural Areas different tipologies such as periurban, intermediate and remote Rural Areas. This allowed us to characterise Rural Areas from the economic and the socio-demographic perspective. After obtaining the map of Rural Umbria we want to analyse the degree of avaiblabilty of two basic services (access to child care system and access to health services), based on the effective needs individuated by the socio-demographic and economic analysis. Recalling that the governance of those social services stands still at the regional level in Italy, and that effective experiences of common intra-regions services delivery is rare.

This paper seeks to analyse the conditions that could improve daily life in the Rural Areas of a middle-income region, characterized by an aging population and declining rates of female participation in the labour market. Specifically, we investigate the existing conditions of access to the main social services by targeted population group (elderly, women, and children) in rural Umbria. This analysis montains a level approach.

Population aging - the rise in the proportion of persons aged over 60 – and the low rate of female participation to labour market represent the most significant demographic and

socio-economic trends in the Umbria region, and they have become chronic in Rural Areas. This reveals how life in Rural Areas is more difficult for those targeted populations. It was therefore decided to concentrate on health services and childcare services, taking into consideration the needs of two important segments of the population in Rural Areas: older persons and young women. The elderly are becoming a dominant feature of the population, especially in lagging Rural Areas. Women tend to stay out of the labour market, probably to make up for the absence of efficient social and health service policies in the country. A lack of child care, together with the need to take care of older[1] relatives, may prevent rural women from participating the labour market. Rural Areas are likely to be more adverse environments for women, with fewer employment opportunities or resources, such as child care or extended education opportunities. The need to improve child-care services has also been recognised by the European Strategy for Employment, which establishes a target for all European countries: the provision of child care by 2010 to at least 33 per cent of children under 3 years of age.

The paper focuses on analysing the policies, and their corresponding governance, applied by the region with regard to health and childcare services, while providing some, but not exhaustive, information on public investment. Our analysis revealed the existence of two distinct models: on the one hand, health policy is more sensitive to the issue of supplying services in lagging (or remote) areas, with an attempt being made to develop innovative solutions; on the other, child-care policy is quite inefficient and no specific attention is paid to the issue of supplying services in an environment of low concentrated demand and dispersed population.

Finally, this paper provides a methodology of spacial analysis to measure, "ex ante", the supply, delivery and accessibility of a number of services for different types of Rural Areas. Sound spacial analysis reperesents an important tool that can be used by policy makers, when designing policies for Rural Areas. Very often, in fact, rural development policies are based on sectoral analisys, rather than territorial ones. This methodology is applied to the Umbria region in Italy, but could be easily adapted to other regions.

[1] Population aging is a generalised process that occurs when the median age of a country or region rises. Generally it has been recognised that the sources of population aging lie in two (possibly related) demographic phenomena: rising life expectancy and declining fertility. Of these two forces, declining fertility is the dominant contributor to population aging in the world today.

As Italy has not conducted a specific survey of the rural population, we make use of municipal-level data available from different institutions (National Institute of Statistics, regional databases, statistics from official municipal documents). We decided to gather first-level data through surveys to match and complement official second-level statistics.

II. The economic and demographic characteristics of Rural Areas in Umbria

II.1 A new methodology of rural classification

Rural Areas vary across countries, within countries and, in particular, within regions. Recalling that the aim of this paper is to understand if different types of Rural Area have different needs in term of service supply and delivery, and if present policies take such different situations into consideration, our first step was to draw a map of rural Umbria, grouping Rural Areas into:

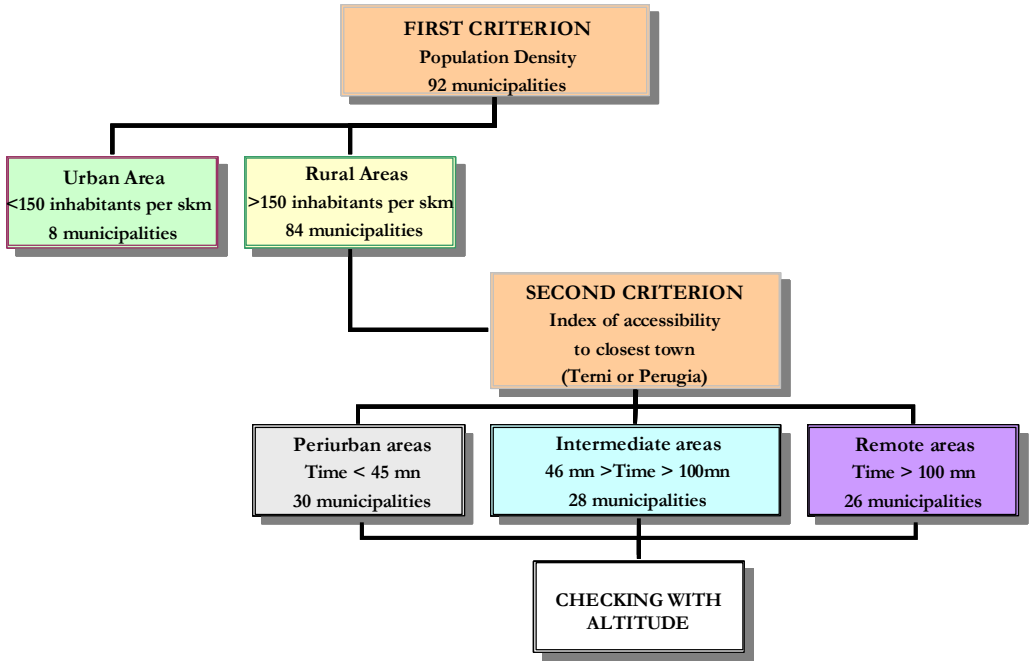
- Peri-Urban Rural Areas
- Intermediate Rural Areas
- Remote Rural Areas

We used two rules to classify rural municipalities. The first criterion, in accordance with the OECD, identifies Rural Areas on the basis of population density. If population density is lower than 150 inhabitants per square kilometre then the municipality is considered rural. On the basis of this standard, we obtain 8 urban municipalities and 84 rural municipalities.

To deepen the analysis of the rural municipalities, we have used a second criterion to distinguish between three categories of Rural Areas: predominantly urban, intermediate, and remote areas. To do this, we supplemented the analysis by using OECD methodology to compute an accessibility indicator[2].

[2] OECD, Regions at a Glance 2005.

Figura II.1 Mapping rurale Umbria



Source: UVAL based on ISTAT data

We do not adopt an "agricultural" criterion to classify a region as rural. Rather, we make use of the concept of low population density and accessibility to services and resources that are often available only in large economic centres, using a modified model of the OECD methodology. Although we already know, from OECD calculations, that Umbria has been classified as a rural region, we deepen the territorial analysis by mapping rural and urban municipalities within Umbria. This exercise enables us to investigate whether the lack of access to major services within a rural region is greater in remote areas with a contextual concentration of resources and services surrounding the major urban centres.

Each Italian region is divided into provinces and each province is divided into municipalities. Each region, in addition, has a capital city. Umbria has two provinces: Perugia (which is also the capital city of Umbria) and Terni.

The sample consists of 92 municipalities, of which 59 are in the province of Perugia, and 33 in the province of Terni. Belonging to one or the other of the two provinces is only partly a matter of geographic proximity.

The accessibility indicator summarizes the travel time needed to reach the closest major town, where access to services and resources is assumed to be greater. We have selected the two main towns of the two provinces, Terni and Perugia, as these major centres[3].Given the geographic characteristics of Umbria, and the fact that a municipality may be closer to a major city that is not in its province, we have computed the distance in time to each of the two main towns and choose the lowest distance as the reference parameter. The threshold value for travel time is summarized in the following Table[4].

Table II.1 Classification of Umbria's rural municipalities: distance in minutes to the closest major town

Category	Distance in minutes	No. of Municipality
Peri-urban area	1 - 45	30
Intermediate area	46 - 100	28
Remote area	+ 100	26

Source: UVAL

If travel time to one of the provincial centres is less than 45 minutes, the municipality is considered a peri-urban area (or predominantly urban). If travel time to a major town is between 46 and 100 minutes, the area is considered intermediate. Remote areas have a travel time to a major town of more than 100 minutes. The accessibility indicator has been calculated as the average of two distinct time-distance values. The first is the time needed to reach the main towns of the two provinces by car. Time distance was calculated taking an average speed of 80 km/h for national roads and minor roads[5]. The second is the time needed to reach the main towns of the two provinces by train. In this case, we have added the time needed to get to the closest train station by car (if a train

[3] Italy is characterised by significant alternation between towns, villages and green areas. Althought proximity to other mid-sized towns could matter in terms of services accessibility, we decided to apply the accessibility indicator only to the region's two major towns for two main reasons. Firstly, provinces are also involved in policy design and management. Secondly, the other towns are quite small and would count in this study only if they had a hospital (see the section on survey results).

[4] We decided to put these threshold levels to have balanced sample between the three types of Rural Areas. We tried different threshold values until individuating those who were reflecting thecharacteristics of Rural Umbria.

[5] 70 km/h is the speed limit for non-urban roads in Italy and 90 km/h for state highways in Umbria (the general limit for state highways is 110 km/h).

station was not available in the municipality) plus the average time[6] of the train trip to the two provincial capitals from a given municipality.

BOX A - In-depth analysis of the accessibility indicator

The accessibility indicator is calculated as the average time needed to reach the closest major town (Terni or Perugia) by train and by car. The indicator is therefore the average of two components: the time distance by car (IAC) plus the time distance by train (IAT).

$$IA_i = \frac{1}{2}\left(IAC_i + IAT_i\right)$$

The first is the weighted average time needed to reach the major town by car.

$$IAC = \sum_{i=1}^{92} a_i\left[\left(X_i * 90km/h\right) + \left(Y_i * 70km/h\right)\right]$$

where:

IAC is the accessibility indicator by car

X_i is the number of kilometres on state highways needed to reach the major town

Y_i is the number of kilometres on normal roads needed to reach the major town

i is the index of municipalities (from 1 to 92)

The second component is the time needed to reach the closest major town by train. Provided that not all municipalities have a train station, we have computed the IAT as the sum of two separate measures. For each municipality, IAT is equal to the time needed to reach a major town, if the municipality has a train station, plus the time by car needed to reach the closest train station, if the municipality does not have one.

$$IAT = \sum_{i=1}^{92} a_i\left[TR + TT\right]$$

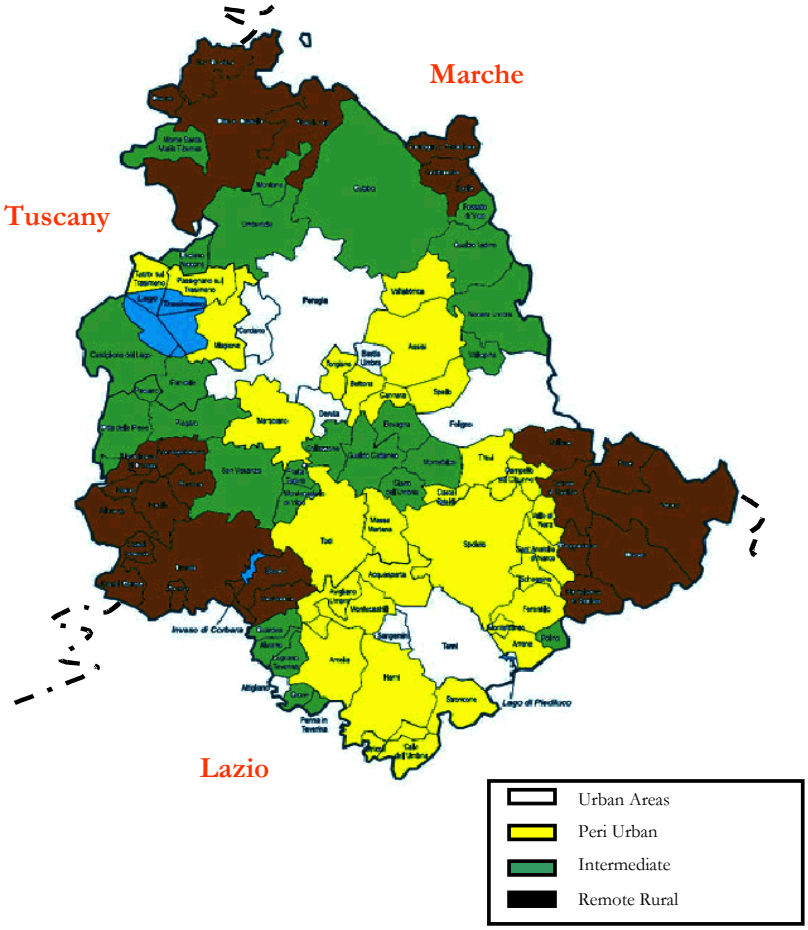
where: $TR = \sum_{i=1}^{92} a_i\left[\left(X_i * 90km/h\right) + \left(Y_i * 70km/h\right)\right]$ and $TT = \frac{\sum_{i=1}^{92} t}{f}$

TR= is the time needed to reach the closest municipality with a train station by car
TT= is the time needed to reach the major town from the train station of a municipality
t= is the time needed to travel by train from the train station in municipality *i* to the major town
f=is the frequency of trains from the main train station to the major town on a business day
i is the index of municipalities (from 1 to 92)

[6] The average train time was computed by taking the average time all the different types of train needed, on a business day, to reach one of the two provincial capitals.

Once the accessibility indicator has been computed in terms of the time distance to each provincial capital, we take the lowest value to identify a municipality as peri-urban, intermediate or remote, on the basis of the thresholds indicated above. For the spurious cases, i.e. when a municipality is classified as peri-urban based on the distance to one provincial centre and as remote for the other centre, we have supplemented the analysis with altitude. If the altitude of a municipality is greater than 500 metres then it is classified as follows: from peri-urban to intermediate; from intermediate to remote. Distance to an airport was not taken into consideration, because this is not considered a discriminating factor in relation to the supply of basic services.

Figure II.2 The map of rural Umbria



Source: UVAL

II.2 The socio-economic characteristics of different Rural Areas

In 2001, Umbria had a total population of 825,826. Umbria's population in 1991 was 811,831, 2 per cent less than 10 years later. Of the total, 43 per cent of the population live in urban areas and the remaining 57 per cent is distributed among the classes of Rural Areas. In particular, the closer the urban region, the more populated are rural municipalities. In fact, 26 per cent of Umbria's rural population lives in peri-urban areas, while 17 per cent and 14 per cent live, respectively, in intermediate and remote Rural Areas (Table II.2).

Taking 150 inhabitants per square kilometre as the threshold for distinguishing between urban and Rural Areas, there appear to be 1.6 times less inhabitants in the three categories of Rural Areas taken together than in urban areas. In particular, comparing peri-urban and remote areas, the latter have 1.5 fewer less inhabitants per square km than the former. Remote Rural Areas, furthermore, seem to be less populated. The population, therefore, is more agglomerated in urban areas where the index of residential nucleus is 166 in urban areas compared with about 257 in the rural types.

Table II.2 Demographic behaviour of different Rural Areas

	Peri-Urban	Intermediate	Remote	Urban	Perugia	Umbria	Italy
Total area (sq. km)	86.19	86.81	90.02	137.42	449.92	8,456.04	301,328.4
Population density	76.21	59.97	49.65	304.38	331.45	98	189
Residential nucleus	290	278	202	166	38	936	36,580
Per cent of population to total population in Umbria	26%	17%	14%	43%	18%	100	
Population growth rate (annual average 1971-2001)	4.1	-0.7	-8.2	26.9	14.8	6.5	5.3
Natural population balance birth-death (1991-2001 average annual rate)	-4.0	-3.9	-6.5	-1.7	-1.1	-3.0	-0.3
Migration rate (1991-2001 average annual rate)	3.0	1.9	1.0	5.1	2.7	2.5	n. a.
Birth rate (2001)	6.9	6.0	5.8	7.0	8.1	6.7	7.7
Population >65 (%)	28.3	24.3	26.8	24.4	20.8	22.7	18.7
Population <14 (%)	15.2	11.8	11.2	14.6	12.5	12.2	14.2
Population 0-3 (%)	3.19	2.97	2.93	3.39	3.36	3.16	3.69
No. elderly per child	5.09	5.64	7.04	4.29	4.21	4.81	3.39
Ageing index	1.97	2.07	2.80	1.68	1.67	1.86	1.31
Dependency ratio	56.13	59.66	65.06	50.50	49.90	53.93	49.02

Source: UVAL based on Istat Population Census, 2001

Rural Areas, particularly lagging Rural Areas, display characteristic demographic behaviour. The most important evidence is that people are leaving lagging Rural Areas, and those that stay are mainly older persons. Looking at the average annual rate of population growth, a very different pattern characterizes the three classes of Rural Area between 1971 and 2001. There is a large decrease in population in remote areas and a slight decrease in intermediate Rural Areas, whereas population increased in peri-urban and urban areas.

In terms of age composition, the four areas are characterized by a distinct pattern denoting an ageing population. About 27 per cent of the population in peri-urban and remote areas is older than 65 years old, compared with close to 21 per cent in urban areas. This value is considerably higher than the national level (an average of 18 per cent). The percentage of young people declines the more remote an area is, although the value is nevertheless lower than the national level (14 per cent) in all areas. While there are 3.4 old people for each child in Italy as a whole, in lagging Rural Areas of Umbria the ratio is almost double. Dependency ratios, i.e. the ratio of working age people to those not of working age, are higher in all Rural Areas and worsen as the level of accessibility declines[7]. Umbria is definitely affected by an ageing population and the impact is greater the more remote is the Rural Area.

The average population growth rate for the period from 1971 to 2001 was positive for the region (Table II.3). In the long term, less accessible Rural Areas are loosing people, in favor of more accessible Rural Areas and urbanised areas. The situation in peri-urban Rural Areas is quite dynamic. In these areas, population growth rates are quite high across the whole period, but even more importantly they have increased in more recent decades. These figures confirm the impression that in more recent years many people have decided to live in more accessible Rural Areas[8].

Table II.3 Evolution of population growth rate

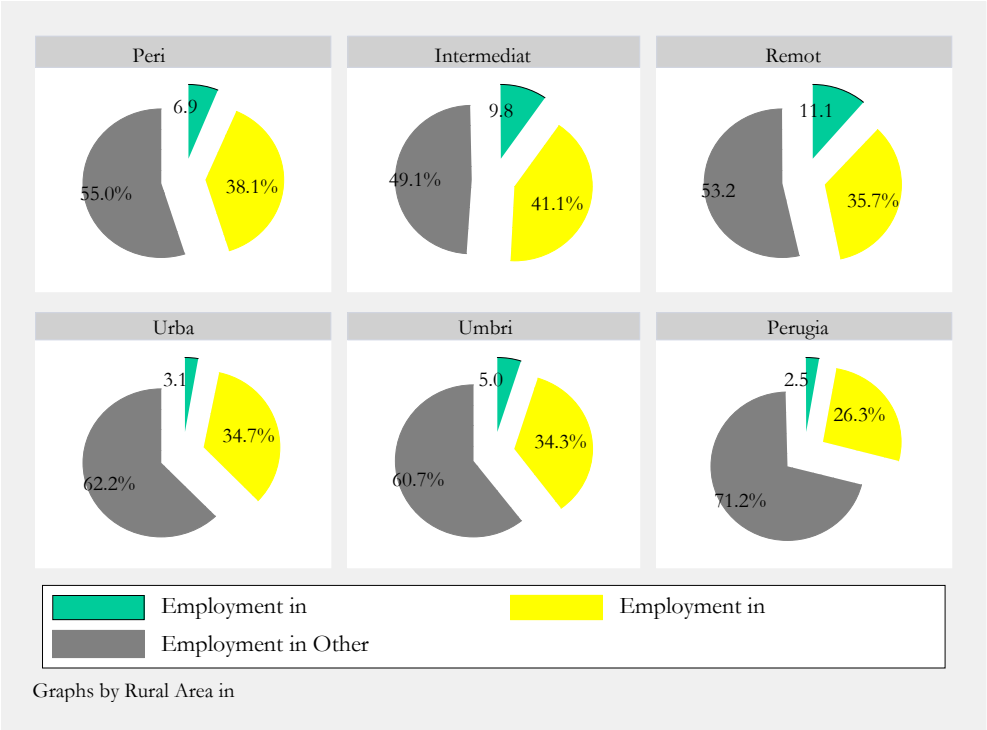
	Peri-Urban	Intermediate	Remote	Urban	Perugia	Umbria	Italy
Var % 1971-1981	-0.05	-3.05	-7.33	13.29	9.57	4.10	4.47
Var % 1981-1991	0.96	0.07	-0.91	4.84	1.67	0.53	0.39
Var % 1991-2001	2.68	1.93	-1.71	5.10	3.04	1.72	0.38
Var % 1971-2001	4.13	-0.72	-8.15	26.93	14.78	6.45	5.28

Source: UVAL based on Istat Population Census 2001

[7] See Annex 2.
[8] This is partially explained by lower rents in these areas.

In all Rural Areas, services are the main employment sector, although agriculture is quite important in intermediate and lagging Rural Areas (Figure II.3). Analysing the provinces of Perugia and Terni separately, the situation is quite similar (See Annex 4). Activity rates in Rural Areas are lower than in urban areas (Figure II.4). This means that in Rural Areas people in working age tend to stay out of the labour market; this is particularly true for woman and young woman (See Figure II.5). Employment rates are slightly lower in Rural Areas, with no particularly difference between different types of Rural Areas.[9] Unemployment rates are quite similar between different areas.

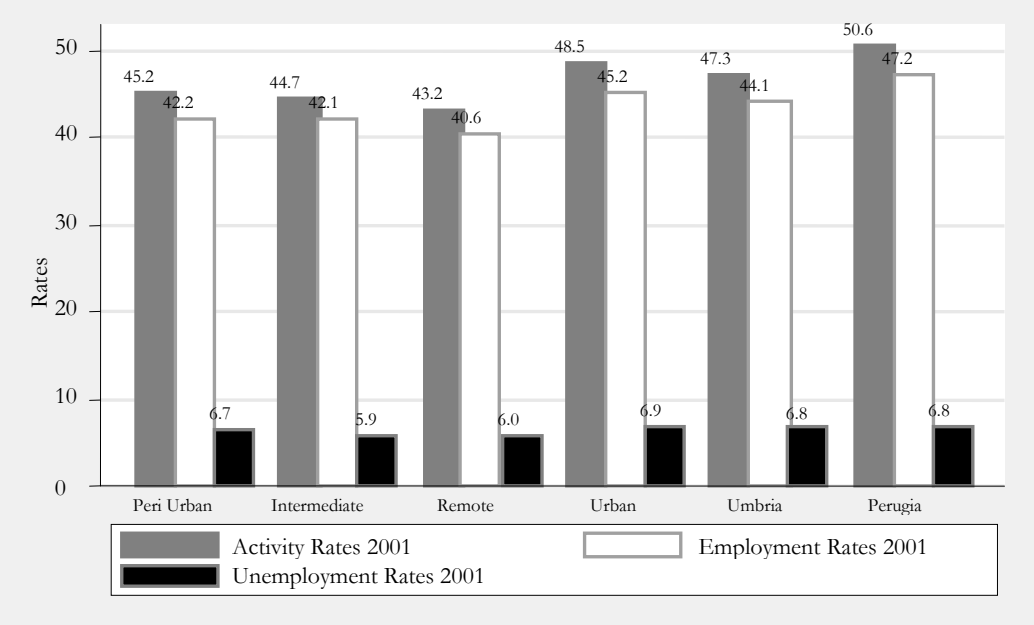
Figure II.3 Employment sectors in different Rural Areas



Source: UVAL based on Istat Population Census 2001

[9] With the exception of lagging Rural Areas, where employment rates are the lowest. The situation is also quite different between women and men.

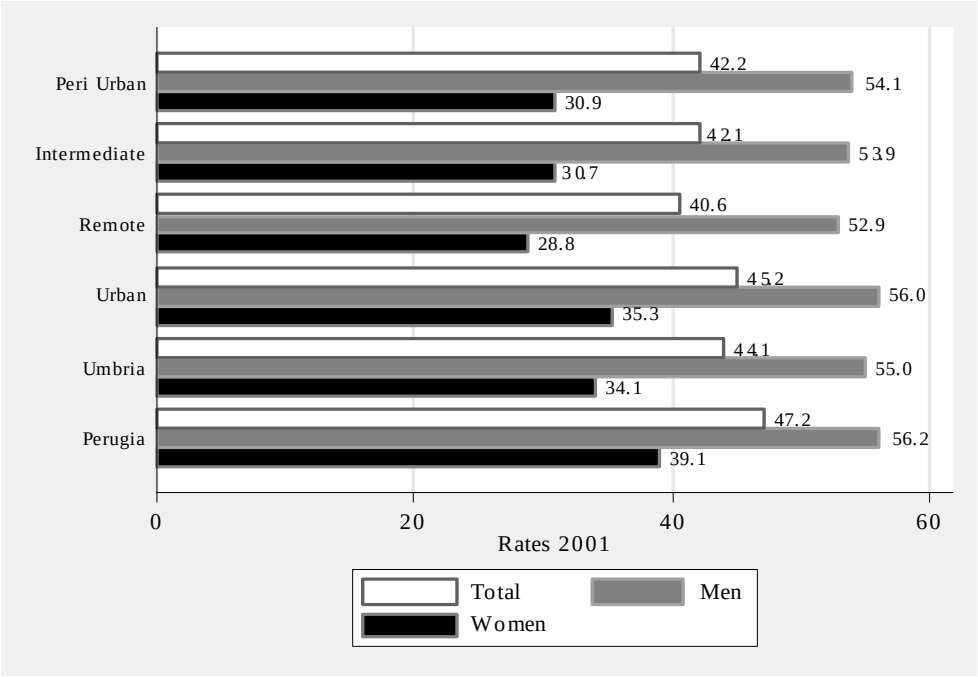
Figure II.4 Activity and employment rates in different Rural Areas – 2001



Source: UVAL based on Istat Population Census 2001

Looking at labour statistics for women and men, there is a clear gender issue in Umbria, one that is increasingly chronic the more remote an area is. The female employment rate, which is about 40 per cent in Perugia, falls to 28 per cent in lagging Rural Areas. The gap between male and female employment performance, which is already quite significant at the regional level, is all the wider the more remote a Rural Area is (Figure II.6).

Figure II.5 Employment rates for women and men in Rural Areas

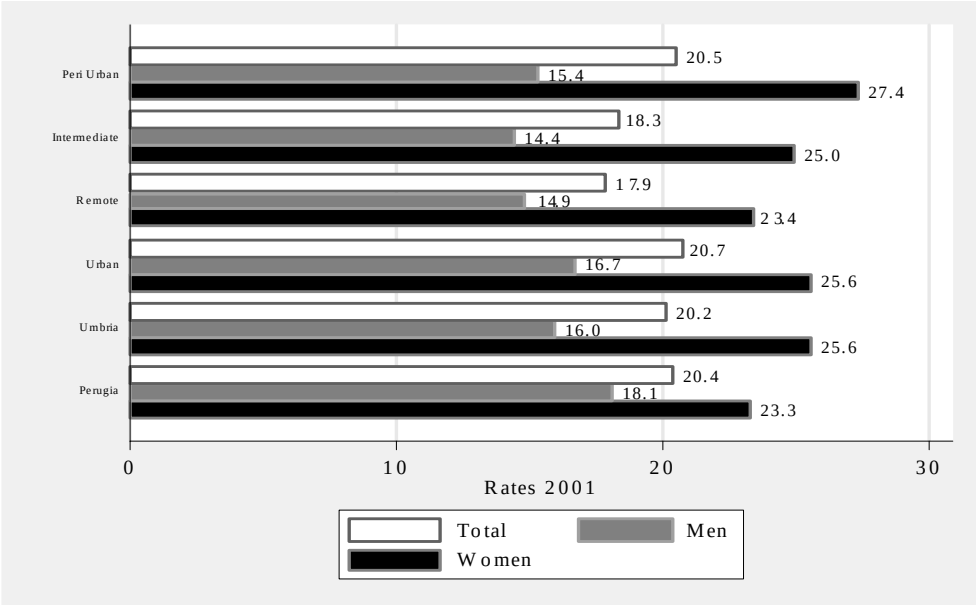


Source: UVAL based on Istat Population Census 2001

Figure II.6 Working-age women - activity and unemployment Rates

Source: UVAL based on Istat Population Census 2001

Figure II.7. Unemployment rates for young men and women



Source: UVAL based on Istat Population Census 2001

In short, Rural Areas are facing a number of major challenges: aging and particularly high dependency rates; remote and intermediate Rural Areas are losing population; there is a clear gender issue in Umbria's Rural Areas, with women facing serious problems in accessing the labour market.

III. The supply of health and child-care services

Considering the socio-economic situation in the Rural Areas in Umbria, we decided to focus our analysis on two important segments of the population in Rural Areas: the elderly and women. Since population ageing is one of the most significant phenomena in these areas, it was decided to analyse the governance and supply of *health services* in Rural Areas. Particular attention was devoted to *home health care services* (*ADI*), which are a key service in less accessible areas. At the same time, *child-care services* were also analysed, taking into account low female activity rates in Rural Areas and the high level of youth unemployment.

Research on this topic reveals that while in the urban areas most mothers of pre-school children (children under 5 years of age) try to send their child to an adequate child-care centre, many rural families rely on relatives to care for their children. In fact, when child-care services are not available or they do not cover a full-time working day, child care provided by relatives turned out to be the second best solution.

Access to child-care centres is a challenge in Rural Areas. The number of child-care suppliers in Rural Areas is not only limited but also widely scattered. In addition, the practice of relying on informal arrangements with family and friends is a common feature in these areas. There are also cultural concerns that influence the willingness of families to send children to a child-care facility. Leaving children with family and friends is perceived as being a better solution because these caregivers are thought to give more attention to the children in their care. This preference for relying on families can have an impact on the willingness, tendency and effective capacity of women to access or even try to access the job market.

The private child-care system can be an alternative in these areas, although regulatory issues remain. Such caregivers may not be licensed, lack formal training or be less reliable. A certification system, with public regulation of licences and minimum quality standards established at the regional level, is taking hold in different Italian regions.

This analysis, using a number of indicators to examine the state of service provision in different types of Rural Areas, could also be applied to other services. The lack of information and statistics at the municipality level and the need to use surveys made it necessary to select a small number of services. The following analysis is based on a direct survey, and new statistics have been created, grouping information from two main sources: phone interviews of the parties involved and deep use of Internet websites[10].

III.1 Governance of health services in Umbria

The governance of health services in Italy involves three levels of responsibility: central government, regions and local health authorities (ASLs).

Minimum health standards and total allocations are decided at the central level[11], but each region has its own health governance and organisation system. The Regions-State Conference deals with the relationship between central government and regional government in a range of matters, of which health is one of the most important. Regions manage health policy with the Regional Health Plan, the most important programming tool, through which they allocate resources to different local health authorities, which inturn are responsible for the actual organisation and management of the delivery of health services at the local level.

[10] See Annex 2 on used and the Methodology .
[11] Notably the Health Ministry; the Government and Parliament.

Umbria has the same kind of organisation. The primary objective of the Umbria Regional Health System is to prevent illness, to treat and to rehabilitate sick citizens with the aim of assuring uniform levels of protection and health assistance, on the basis of policy programmes and the available resources. The main policy tool is the Regional Health Plan, prepared and implemented by the region over a three-year period. It is supplemented by local application plans at the local health authority level (See Annex 1)[12]. Local application plans set specific and measurable objectives for each local health authority. This is the most important policy tool at the local level, which local health authorities use to establish their strategy to meet the public's needs. Each local health authority has a territorial catchment basin and operates through districts and health centres. The local application plan is the tool used to implement national and regional health priorities at the local level and to allocate responsibilities between the regional and local levels.

Local health authorities and hospitals are the actual organisers and managers of the supply of health services at the local level. In recent years, Umbria has rationalised the total number of hospitals present in the region. The idea was to maintain a small number of major specialised hospitals, with health centres taking on the job of delivering ordinary medical assistance at the local level. At present, Umbria has seven specialised hospitals dedicated to treating serious health problems.

The supply of local health services is delivered through districts, health centres and hospitals. Each district has its programme of territorial activities and is composed of different health centres. Health districts seek to organise health policy and the delivery of services to meet the diverse needs of local situations. Health centres and service delivery points, which are the bodies closest to the public, are a key element of this approach. For this reason our survey is mainly focused on health centres, although other important services for remote areas are also considered, as in the case of home health care services (See Box B). These structures manage a number of services, such as general medical care, specialist medical care, family consulting services, home health care services and others. As described in chapter IV this study uses a methodology based on specific indicators to measure and evaluate the delivery of these services to urban and Rural Areas

[12] Local health authorities operate in conjunction with hospitals.

BOX B - Home health care services

Home health care services (ADI, Assistenza Domiciliare Integrata) are conceived to provide support for totally or partially non-self-sufficient people. This system makes it possible to supply health, medical and social services at home, avoiding hospitalisation. These services are only provided within the framework of individual care plans, coordinated and run by the health centres. This service is intended to serve people with serious socio-medical needs, the disabled and the non-self-sufficient, enabling them to live within a familiar environment. Those covered are mainly elderly. General practitioners ask health centres to provide the service, but other interested persons or relatives may also make a direct request for assistance. Health centres and districts evaluate applications and decide how to distribute the service within their territories.

General practitioners are responsible for the operational organisation of the service and, in collaboration with social assistants, nurses and other social service experts, prepare care plans specifying medical visits, medicines and any other necessary tools. The service can be particularly important in Rural Areas, especially remote rural locations, where commuting for people needing frequent assistance represents a significant hardship.

III.2 Governance of child-care services in Umbria

This section deals with the governance of the delivery of the following child-care services in Umbria: nurseries, services to integrate nurseries (centre for children; centre for children and families), and innovative services (See Box C). Responsibility for the general programming of policy belongs to the regional government, with municipalities – individually or through horizontal collaboration - planning and managing the nursery system at the local level. The Childhood Services Plan, which is the programming tool governing child-care policy, is approved at the regional level over a three years period. It establishes general development objectives for service supply and quality; general criteria for setting essential quality standards and for the organisation of these services in different areas; ratios between caregivers, trainers and total children; and general criteria for financial allocations.

Box C – Child-care services

Nursery schools are a public or private social and educational service, providing care for children aged between 3 months and 3 years old. Nurseries are committed to the education, socialisation and harmonic development of children. The maximum day length is 10 hours. In our analysis, we also consider private nurseries, including so-called babyparking services.

Supplementary nursery services encompass education, play and social aggregation. They are open to all children, who may also be accompanied by adults (parents, relatives etc.). These services are subdivided into:

Centres for Children: These are similar to nurseries, but the maximum day length is 5 hours. They also include catering and space for resting.

Centres for Children and Families: These centres admit all children accompanied by an adult (parent or other adult). They are intended to foster socialization between children and also between adults. The maximum day length is 3 hours.

Innovative Services: Include play spaces, recreational centres, nurseries integrated with kindergartens, parent support, and the business or inter-business nurseries

In Umbria, each year the regional government approves the total allocation to individual municipalities, or groups of municipalities, for expenditure on child-care services. Municipalities are responsible for managing the actual delivery of services at the local level, authorising both public and private services in their territories and monitoring to ensure that minimum quality levels are complied with. Municipalities are responsible for the map of child-care services in their territories, as well as for the various fees charged to consumers. This means that each municipality has to respond to different local needs in terms of services, but under constraint of budgetary limitations established both at the national and regional levels. The more general accreditation system is run by the regional government, which establishes general criteria for authorisation, licences and minimum quality standards for new service (private or public) to begin operations. Additional quality standards are also established at the regional level. This governance structure is a mix of past arrangements and a new commitment by Umbria towards these services. New legislation was recently approved, clarifying the responsibilities of municipalities and the regional government, especially as regards authorisation and accreditation systems. The establishment of a centre to monitor the supply of services and the expansion of new experiences at the local level are also under way. In fact, a

number of spontaneous initiatives (private; private-public) are spreading around the region in response to local needs[13].

IV. A new methodology to measure the supply of services in Rural Areas

This section addresses the measurability of the supply of services and, if possible, service quality in the three different Rural Areas. A methodology for the territorial evaluation of health and social policy is proposed, with the simultaneous use of spatial analysis and measurement tools such as indicators.

Considering the relative importance of rural and urban areas, - and of different Rural Areas peri-urban; intermediate; lagging - in terms of total population (with particular attention to specific population segments such as the elderly and children) and total surface area, the indicators seek to provide policy-makers with better knowledge about Rural Areas. This evaluation methodology can be an important tool for policy-makers dealing with Rural Areas.

IV.1 The definition of supply, accessibility and quality indicators

Three main classes of indicators have been identified: supply indicators; accessibility/coverage indicators and quality indicators. Supply indicators measure the effective existence of a service in an area. Accessibility/coverage indicators help to go further and understand whether a service, although technically present, is truly accessible and usable. This is a measure of effectiveness: if a service exists but is not easily accessible, this can strongly impact its effectiveness. Quality indicators try to measure the actual standard of a service[14]. Unfortunaltely, at this stage of the work, it was not possible to calculate outcome indicators (such as infant mortality rates; life expectancy, others). Supply, accessibility/coverage and quality indicators have been selected for both health services and child-care services.

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[13] In Forgiano, for example, a number of women have grouped together to organise the Arcobaleno Social Cooperative. This is an interesting case of public/private synergy, although a number of issues concerning the regulation of these services remain.

[14] For example, it is not enough merely to check whether there is a health centre in a given Rural Area. It is also necessary to determine if basic services are actually provided by that centre. The actual opening hours of a nursery can also be considered a quality indicator, together with the presence of organic food.

Supply indicators for health services (see Table IV.1) aim to register the presence in Rural Areas of health service delivery structures such as health centres, hospitals, nursing homes, pharmacies, general practitioners and basic paediatriacians[15].

Table IV.1 Health service indicators

Supply Indicators	Accessibilty/Coverage Indicators	Quality Indicators
1. No. of health centres per area 2. No. of service delivery points per area 3. No. of general practitioners per area 4. No. of basic paediatricians per area 5. No. of pharmacies per area 6. No. of hospitals per area 7. No. of nursing homes per area 8. No. of group residences for the elderly per area 9. No. of assisted homes per area 10. No. of pharmacy booking services per area 11. No. of home health assisted per area	1. Total Surface/No. of hospitals per Area 2. Residential Centres/ No. of Hospitals per Area 3. % of Municipalities with Hospital per Area 4. Total Surface/ No. of Pharmacies per Area 5. No. of Residential Nucleous/No. of Pharmacies 6. No. of health centres/10,000 area residents 7. No. service delivery points/10,000 area residents 8. No. of general practitioners/1,500 area residents 9. No. of basic paediatricians/children 0-14 10. No. of pharmacies /4,000 area residents 11. No. of nursing homes/10,000 area residents > 65 12. No. of group residences for the elderly /10,000 area residents > 65 13. No. of home health assisted /10,000 area residents > 65 14. No. of municipalities with ICT – Sat – ADSL per area	1. No. of service delivery points with basic services per area 2. No. of service delivery points with minimum of 10 services per area 3. No. of service delivery points with minimum of 10 services/Total SDP 4. No. of service delivery points with basic services/Total SDP 5. No. of pharmacy booking services/Total pharmacies

Accessibility/coverage indicators for health services seek to measure the actual capability of existing service supply system to cover potential needs. Other more sophisticated ways to measure accessibility are also possible, such as calculating the average distance of each municipality to the closest hospital or measuring the availability

[15] General practitioners (*Medici di Medicina Generale*) in the Italian health system operate under a special agreement with the National Health System and take care of patients enrolled in this system. Basic paediatricians (*Pediatri di Libera Scelta*) in the Italian system operate under a special agreement with the National Health System and take care of children under 14 enrolled in this system.

of public transport services linking different municipalities to both the closest hospitals or health centres. This approach could be implemented by individual municipalities when designing their policies, especially for isolated areas. In this study, we have used the presence of pharmacy booking services as a proxy for service accessibility. Having a pharmacy booking service in the pharmacies can significantly facilitate access to health services for older persons in Rural Areas. Another proxy of service accessibility is the percentage of municipalities covered by good ICT infrastructure[16].

At this stage of the work, and with limited resources dedicated to field analysis, it was quite difficult to calculate quality indicators. For this reason we could calculate only two quality indicators, namely the presence in the different Rural Areas of health centres providing all basic services[17] and the presence of health centres providing at least 10 services (see section IV.2).

Supply indicators for nurseries register the presence of child-care supply points such as public nurseries, private nurseries and nursery integrating services in the different areas.

Accessibility/coverage indicators measure service availability in relation to potential users (population between 0 and 3 years old)[18] and situation of spacial scattering. The ratio, calculated in each selected area, between available posts and total number of attendees also gives an indication of the under- or over-utilisation of this service.

Quality indicators: the availability of full-day services makes a true difference for women who cannot rely on the family for child-care. Of course, this is as important as the total cost of this service[19]. This is why the availability of full-day care service has been chosen as the most important quality indicator. The ratio of total trainers to attending children provides an important indication of the potential wellbeing of children. As nutrition is a very important aspect of child wellbeing, it was decided to measure the number of nurseries with internal cafeteria[20].

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16 We calculated ICT endowments in terms of the per centage of municipalities, in different areas, served by Asymmetric Digital Subscriber Lines and satellite links. Perugia and Terni are the only municipalities with unbundled local loop access.

17 This indicator counts the number of services delivery points supplying the following essential services: blood testing, emergency services, home health care and vaccinations.

18 Nurseries are open from September to June/July. All children at least 3 months old can be enrolled.

19 Unfortunately, we could not deal with fees issues at this stage of the work, as it would have required a more extensive direct survey effort.

20 In fact the presence of home cooked food is generally well perceived by parents in Italy.

Table IV.2 Child-care service indicators

Supply Indicators	Coverage Indicators	Quality Indicators
1. No. of public nurseries per area	1. No. of Children per Nurseries	1. No. of nurseries with full-day service/total nurseries
2. No. of private nurseries per area	2. Total of nurseries/children 0-3 years	2. Supplementary services/ Total nurseries services
3. Total no. of nurseries per area	3. Total no. of applying children/Total available posts	3. Total trainers/100 enrolled children
4. No. of supplementary nursery services per area	4. No. of available posts/children 0-3 years	4. No. meals supplied/No. enrolled children
5. Total nurseries+supplementary services per area	5. No. of children per Available posts	5. % Trainer shortfall
6. No. of available posts per area	6. Total no. of applying children/total available posts	6. No. of public nurseries with internal cafeteria/No. of total nurseries
7. No. of Public available posts per area	7. Unmet demand (as % of available posts)	7. No. of private nurseries with internal cafeteria/No. of total nurseries
8. No. of Private available posts per area	8. No. of Municipalities without Nursery	8. No. of trainers per nursery
9. No. of Public Applying Children per Area	9. No. of Municipalities without Nursery (%)	
10. No. of private Applying Children per Area	10. Total Surface/Total Nurseries	
	11. Total Residencial Nucleous/Total Nurseries	

IV.2 Survey results

Two surveys were conducted to evaluate the impact on Rural Areas of the health and social policies described in the previous sections[21]. The use of supply, accessibility and quality indicators made it possible to evaluate the supply and accessibility of health and child-care services at the local level. The results reveal sharp differences between the delivery of health services and the delivery of child-care services. This difference has two main explanations. On the one hand, health policy in Italy has traditionally been one of the most important ordinary policies. Governance and the distribution of responsibilities, although constantly changing and evolving, are well structured and total investment is substantial, including at the regional level. This is not the case for other sectors of social policy, which has a weaker tradition, although a major reform in 2001 attempted to reorganise this policy following a major public debate. Figures on total expenditures at the regional level show that while regional budgets have been allocating about 70 per cent of total expenditure for the health system and the delivery of health services, appropriations for social policy (including child care) has been extremely low (0.66 per cent)[22]. Such a big difference is explained by the fact that the vast majority of

[21] Surveys were crucial to gathering data that is currently not available at the municipal level.

[22] Remark that in this case we talk about non consolidated regional expenditures, also including financial flows in favour of other bodies and Institutional levels.The share of total regional health expenditure has been growing in the last eight years, from 61 per cent in 1996, to 70 per cent in 2004. Source: CPT (Regional Public Accounts), Umbria Non-Consolidated Expenditure for Health and Other Social Expenditures.

total health expenditure in Umbria is Regional (about 98 per cent). By contrast, central government and municipalities play a more important role in social services, especially for child-care services. Municipalities in Umbria allocate about 6.4 per cent of their budget to social services, including child care and many other services (migrants, youngs with inclusion problems, social assistance to families in difficulty; drug addiction and others). Average expenditure devoted by municipalities to social services is higher in urban areas (8.1 per cent) than in Rural Areas (5.4 per cent).

As 2002-2004 average, social expenditure by the public sector totalled €538 million in Umbria[23]. However, social expenditure encompasses pensions expendidure, child care and social services expenditure, and others. Having only the aggregated variable, we have taken social expenditure by municipalities as a proxy of expenditure for child care services[24]. Social expenditure belonging to municipalities in Umbria represents less than 12 per cent of total social expenditure, compared with 20 per cent in Italy as a whole.

Comparing social expenditure and health expenditure, we found that Umbria spends €80 per capita for child care, €643 for social services in general and €1600 per capita for health care (see Table IV.3). Although policies for health services are broader and cover a large number of services, the gap between the two is quite important, but the same gap exists also at national level.

Looking at the total per capita amount spent on health services and social services in Umbria for the period 2002-2004, each year Umbria spends about €1600 per person for health services, which is slightly higher than per-capita expenditure on health care in central Italy and Italy as a whole. Annual per capita expenditure for child-care services in Umbria is lower (about €80), corresponding to about 72 per cent of annual per capita child-care services in Central Italy and 80 per cent in Italy (see Table IV.3).

[23] CPT consolidated expenditure is inclusive of all expenditure (from different Institutions and bodies) that took place in Umbria in favour of Health policy and Social policy in Umbria's territory. Each entity is represented as a final expenditure unit by eliminating flows between entities. This process of consolidation generates the total level of expenditure directely carried out in the territory, thereby avoiding double counting.

[24] Although, according to the regional Public accounts, this item includes not only expenditures for child-care, but also for elderly care and for other services.

Table IV.3 Total expenditure for health and social services (average 2002-2004)

	Unit	Umbria	Centre Italy	Italy
Total population		836,143	11,005,469	57,401,019
Public sector social expenditure	' 000 Euro	538,049	6,456,078	29,318,703
of which municipalities (1)	' 000 Euro	66,657	1,180,467	5,965,447
Ratio of municipal expenditure to public total health expenditure	%	12.4	18.3	20.3
Public sector health expenditure	' 000 Euro	1,339,505	16,289,738	87,652,534
Child-care expenditure/population	Euro/person	80	110	100
Social expenditures/population	Euro/person	643	586	511
Health expenditure/population	Euro/person	1600	1480	1530

(1) Social expenditure by municipalities encompasses child care, elderly care and services, and other expenditures
Source: MSE - DPS – UVAL , CPT Regional Public Accounts

On the other hand, health policy in Umbria has been especially sensitive to the need to ensure equal opportunities within different territories. This is also associated with the need to rationalise total health expenditures. Accordingly, the region decided to re-organise the supply of health services by relying on a limited number of big, specialised hospitals, reducing the number of small local hospitals and trying to replace local hospitals with health centres for the most important basic services. This is an ongoing process and in this paper we try to evaluate the impact of the process on Rural Areas.

As reported in Table IV.4, health centres and service delivery points do cover the entire regional territory. With Rural Areas accounting for about 80 per cent of total regional surface area, 91 per cent of Umbria's municipalities and 57 per cent of total population, 64.4 per cent of health centres and 78 per cent of services delivery points are based in Rural Areas. This is quite good, although it is important to bear in mind the fact that hospitals play a key role in the delivery of health services in urban areas, which explains the larger presence of health centres in Rural Areas and the particularly good performance of population coverage indicators.

In fact the presence of hospitals in Rural Areas is weaker than in urban ones. There is one hospital for each 275 square km in urban areas, compared with half that density in both intermediate and lagging Rural Areas. Looking at the percentage of municipalities with hospitals in different selected areas, 38 per cent of municipalities located in urban areas have a hospital, against only 20 per cent in peri-urban areas and 15 per cent in less easily accessible Rural Areas. This means that accessibility to the closest hospital is becoming a major issue in many of Umbria's Rural Areas.

Table IV.4 Supply, spatial and population coverage indicators for general health policy

Health Services Indicators	Peri-Urban	Intermediate	Remote	Urban	Umbria	Perugia
Supply Indicators						
Total regionale surface (%)	30.6	28.7	27.7	13.0	100	5.3
No. of municipalities	30	28	26	8	92	
No. of municipalities (%)	32.6	30.4	28.3	8.7	100	
Total population	216,922	142,809	112,866	353,229	825,826	149,125
Total Population (%)	26.3	17.3	13.7	42.8	100	18.1
No. of hospitals	6	4	4	4	18	2
No. of health centres	11	8	7	13	39	6
Health centres (%)	28.2	20.5	17.9	33.3	100	15.4
No. of services delivery points	38	31	27	27	123	10
No. of services delivery points (%)	30.9	25.2	22.0	22.0	100	8.1
No. of pharmacies	62	50	47	91	250	36
Pharmacies per Area (%)	24.8	20.0	18.8	36.4	100	14.4
Spacial Covering Indicators						
Total surface area /No. of hospitals per area	430.9	607.6	585.1	274.8	8,456	449.9
Residential centres /No. of Hospitals	48.3	69.5	50.5	41.5	52.0	19.0
% of municipalities with hospital per area	20.0	14.3	15.4	35.7	18.5	100
Total surface area /No. of pharmacies per area	41.7	48.6	49.8	12.1	33.8	12.5
No. residential centres/No. of pharmacies	4.7	5.6	4.3	1.8	3.7	1.1
No. of municipalities with ICT - SAT – ADSL (% no of municipolites per area)	46.7	25.0	11.5	75.0	32.6	100*
People Covering Indicators						
No. of health centres/Total population**	0.51	0.56	0.62	0.37	0.47	0.40
No. of services delivery points/Total population**	1.75	2.17	2.39	0.76	1.49	0.67
No. of hospitals/ Total population**	0.28	0.28	0.35	0.11	0.22	0.13
No. of General Practitioners/ Total area's Population***	1.2	1.0	1.0	1.4	1.2	1.3
No. of pharmacies / Total area's population****	2.9	3.5	4.2	2.6	3.0	2.4

* Perugia is covered by SAT+ADSL+ULL; ** Multiplied by 10,000; *** Multiplied by 1,500; ****Multiplied by 4,000.
Source: UVAL based on Istat data, 2001 direct survey(2005)

In this regard, it is quite important to understand whether health services and service delivery points are effectively providing basic health services and if other bodies, like pharmacies, are playing the traditional service delivery role that they have long played in remote Rural Areas. As concerns pharmacies, they seem to be quite well distributed across the region. Virtually all municipalities, regardless of area, have a pharmacy[25]. Although this is quite good in terms of population coverage (there are about 3

[25] Only two municipalities in peri-urban Rural Areas, one in intermediate areas and two in remote Rural Areas do not have a pharmacy.

pharmacies for each 4,000 inhabitants in Umbria compared with 4 pharmacies for each 4,000 inhabitantsin remote Rural Areas)[26], the situation in terms of spatial coverage is quite different: there is one pharmacy for each 12 square km in urban areas, compared with four times that area in Rural Areas. Another way to measure service accessibility is to look at the number of residential centres. The same pharmacy serves slightly less than two residential centres in urban areas, compared with almost 6 centres in intermediate Rural Areas.

Difficult access to pharmacies can be an important issue for aging people. Traditionally, pharmacies have played an important role in rural villages, delivering services other than the sale of medicines, such as measuring blood pressure, providing general advice from the pharmacist and booking medical visits[27]. In fact, if we consider pharmacies offering booking services as an important measure of health service accessibility, it is interesting to note that about 60 per cent of Umbria's elderly are concentrated in Rural Areas and almost 57 per cent of pharmacies with booking services are also concentrated in this areas (See Table IV.5).

[26] In Italy, there must be at list 1 pharmacy each 4,000 inhabitants.
[27] The issues affecting small villages have to be kept in mind for the child-care situation as well.

Table IV.5 Supply, spatial and population coverage indicators for health services for the elderly and children

Health Service Indicators	Peri-Urban	Intermediate	Remote	Urban	Umbria	Perugia
Supply Indicators						
Population over 65	51,596	33,756	25,349	77,571	188,272	31,050
Population over 65 (%)	27.4	17.9	13.5	41.2	100.0	16.5
No. of general practitioners	173.0	98.0	75.0	329.0	675.0	133.0
No. of general practitioners (%)	25.6	14.5	11.1	48.7	100.0	19.7
No. of pharmacies with booking services	43	27	36	84	190	36
No. of pharmacies with booking services (%)	22.6	14.2	18.9	44.2	100.0	18.9
Elderly coverage						
No. of general practitioners/population > 65*	33.5	29.0	29.6	42.4	35.9	42.8
No. of home health assisted/population >65*	701.7	588.9	435.7	700.4	645.1	467.3
No. of nursing homes/population >65*	0.0	0.6	0.0	0.6	0.4	1.3
No. of group residences for old people/population over 65*	3.3	3.0	5.1	2.6	3.2	1.9
Child coverage						
Population 0-14	26,467	17,876	13,730	42,999	101,072	18,591
Population 0-14 (%)	26.2	17.7	13.6	42.5	100.0	18.4
No. of basic paediatricians	22	12	18	41	93	16
No. of basic paediatricians (%)	23.7	12.9	19.4	44.1	100.0	17.2
No. of basic paediatricians/children between 0-14**	0.7	0.5	1.0	0.8	0.7	0.7
Spatial coverage						
No. of home health assisted	3,620.7	1,987.9	1,104.57	5,432.8	12,146	1,451
No. of home health assisted (%)	29.81	16.4	9.1	44.7	100	11.9
No. of nursing homes	0	2	0	5	7	4
No. of nursing homes (%)	0	28.6	0	71.4	100	57.1
No. of group residences for old people	17	10	13	20	60	6
No. of group residences for old people per area (%)	28.3	16.7	21.7	33.3	100.0	10.0
No. of pharmacies with booking services	43	27	36	84	190	36
No. of pharmacis with booking services (%)	22.6	14.2	18.9	44.2	100.0	18.9

* Multiplied by 10,000, ** Multiplied by 800

Source: UVAL based on Istat (2001), Ministry of Health database (2003) and on direct survey (2005)

As regards the capability of the regional health model to deliver basic health services even to remote Rural Areas, indicators show good performance in terms of general practitioners (see Table Iv.4), with Rural Areas having a minimum of 1 doctor for every 1,500 citizens[28]. At the same time, urban and peri-urban areas have more doctors than the statutory minimum. This could raise doubts about the quality of services in less

[28] This is the statutory people-doctors ratio for Italy (article 8 D. Lgs 502/92 as modified by D. Lgs. 517/93 and 229/99).

accessible Rural Areas, where doctors tend to have the maximum number of patients allowed by the regulations. General practitioners are quite important for older persons. In fact, in Rural Areas they are the main source of ordinary health assistance. Although Rural Areas account for a large percentage of the total regional population aged over 65 (about 60 per cent), in these areas there are about 30 doctors for each 10,000 old residents, compared with 42 doctors in urban areas (see Table IV.5). This could impact, for example, average waiting times for visits and the quality of the services provided.

Continuing our examination of health and assistance services for the elderly in Rural Areas, home health care services seem significant for areas with accessibility problems (see box B) . While 60 per cent of elderly people live in Rural Areas, only 55 per cent of total home health assisted people come from these areas. In Umbria home health assisted people represent about 6.5 per cent of the total over-65 population (7 per cent in urban and peri-urban area), but this percentage is consistently lower in remote Rural Areas (4.4 per cent). Coverage indicators appear to reveal a form of discrimination against people living in remote and intermediate Rural Areas with regard to this service. If access to health care for non-self-sufficient people is difficult for people living in remote Rural Areas, these figures could reveal a policy failure. But the reasons for this difference between rural and urban areas may also depend on the demand side: it is possible that there are fewer non-self-sufficient people in Rural Areas or families may be reluctant to ask for this service.

Nursing homes are another service for the elderly, providing medical and daily assistance to old people, which tend to be operated privately[29]. Once again, there are very few nursing homes in Umbria, and they are mainly concentrated in urban areas.

Another interesting indicator is that for group residences for the elderly. In general, there are very few group residences in the region (60). This kind of service seem to favour Rural Areas, where 70 per cent of them are located. Overall, however, this form of service is not widespread in Umbria, with only 3.2 group residences for every 10,000 old people, revealing a tendency for Umbrian families to assist the elderly at home, in a family context. If the current strategy of the region is to rationalise the presence of hospitals in the territory and provide basic health services through health centres and service delivery points, it is important to understand if these bodies are effectively delivering basic health services. This consideration has prompted us to introduce quality

[29] This service should be linked to Home health care services. This means that if there are not enough nursing homes, Home health care services should be reinforced.

indicators in order to identify service delivery points providing key services and those providing a minimum of 10 services (see Section IV).

Table IV.6 Health service quality indicators

Quality Indicators	Peri-Urban Rural Areas	Intermediate Rural Areas	Lagging Rural Areas	Total Rural Areas
No. of Services Delivery Points (SDP)	38	31	27	96
No. of Services Delivery Points (% per area)	30.9	25.2	22.0	100
No. of Services Delivery Points with Basic Services	16	9	7	32
No. of Services Delivery Points with Basic Services (% per area)	50.0	28.1	21.9	100
No. of Services Delivery Points with Basic Services/ No. of SDP (%)	42.1	29.0	25.9	33.3
No. of Services Delivery Points with a minimum of 10 services	12	7	5	24
No. of Services Delivery Points with a minimum of 10 services (% per area)	46.2	26.9	19.2	100
No. of Services Delivery Points with a minimum of 10 services/ No. of SDP (%)	31.6	22.6	18.5	25.0
No. of pharmacies with booking services /N. of pharmacies (%)	69.4	54.0	76.6	66.7

Source: UVAL based on direct survey(2005)

Of the total service delivery points serving Rural Areas, only 33 per cent actually offer a full set of basic services - blood testing; emergency services, home health care, vaccinations (see Table IV.6)[30].The percentage of service delivery points supplying at least ten services is even lower (25 per cent). In particular, only 22 per cent of service delivery points based in remote Rural Areas can cover the all basic services. A large majority of high-quality service delivery points is based in peri-urban Rural Areas, with intermediate and lagging Rural Areas clearly being penalised.

As regards the supply of child-care services, the distribution of these services between urban and Rural Areas is markedly unequal. About 65 per cent of nurseries available posts belongs to urban areas, which account for 46 per cent of all children aged 0-3. Statistics on total number of nurseries are quite similar, with urban areas enjoying 65 per cent of them. The distribution of public nurseries is less skewed, with Rural Areas accounting for 42 per cent of total public nurseries in the region, compared with 28 per cent of private ones. At the same time, private nurseries are already playing quite an important role in both peri-urban and intermediate Rural Areas, with a share of about

[30] It is not helpful calculate this indicator for urban areas, since many of these services are provided directly by hospitals.

35-40 per cent of existing nurseries being private (see Table IV.7). The exception is remote Rural Areas, where private nurseries have a very small presence[31]. Supplementary child-care services - mainly innovative structures to facilitate the socialisation of children and parents of different families and/or part-time spot care centres - are completely absent in Rural Areas. This may be partially explained by better socialisation in Rural Areas in any case.

Table IV.7 Supply of child-care services in different Rural Areas

Supply Indicators	Peri-Urban	Intermediate	Remote	Urban	Umbria	Perugia
Total Surface (%)	30.6	28.7	27.7	13.0	100	5.3
Total Children - 0-3 Years (%)	25.3	16.3	12.0	46.4	100	21.9
No. of Public Nurseries	12	8	5	35	60	17
No. of Public Nurseries (%)	20.0	13.3	8.3	58.3	100	28.3
No. of Private Nurseries	7	5	1	34	47	22
No. of Private Nurseries (%)	14.9	10.6	2.1	72.3	100	46.8
No. of Total Nurseries	19	13	6	69	107	39
Total Nurseries (%)	17.8	12.1	5.6	64.5	100	36.4
No. Nurseries Supplementary Services	0	0	0	11	11	4
Nurseries Supplementary Services (%)	0	0	0	100	100	36.4
Nurseris + Supplementary Servicies per Area	19	13	6	80	118	43
Nurseris + Supplementary Servicies (%)	16.1	11.0	5.1	67.8	100	36.4
No. Public Available Posts per Area	320	289	178	1,330	2,117	724
No. Private Available Posts per Area	113	147	20	714	994	467
No of Available Posts per Area (%)	13.9	14.0	6.4	65.7	100	38.3
No. of Public Applying Children per Area*	467	387	196	1,759	2,809	1,171
No. of Applying Children per Area (%)	14.4	13.7	6.4	65.5	100	39.5

Source: UVAL based on Istat figures (2001) and direct survey (2005)

Access to child-care services is a difficult issue in Rural Areas of Umbria. With remote Rural Areas being particularly penalised there is one nursery for every 194 square km in Rural Areas, compared with one for every 18 square km in urban areas - (see Table IV.8). All municipalities in urban areas have at least one nursery. This is not the case in Rural Areas, where the percentage of municipalities without a nursery is unexpectedly high for peri-urban municipalities (60 per cent) and chronic for remote Rural Areas (80 per cent). The dispersed nature of Rural Areas poses a major challenge for the adequate provision of these services. One nursery tends to cover fewer than 3 residential nuclei in urban areas, compared with an average of 23 in Rural Areas.

[31] This can be partially explained by the lower profitability of such operations in these areas.

Table IV.8 Child-care population and spatial coverage indicators

Child-Care Covering Indexes	Peri-Urban	Intermediate	Remote Urban	Umbria	Perugia
People Covering					
Total no. Children - 0-3 Years	7,355	4,732	3,496	13,466	29,049	6,363
Total Children - 0-3 Years (%)	25.3	16.3	12.0	46.4	100	21.9
Total no. Nurseries	19	13	6	69	107	39
No. of Children per Nursery	387.1	364.0	582.7	195.2	271.5	163.2
Total Nurseries/Total Children 0-3 Years*	2.6	2.7	1.7	5.1	3.7	6.1
No. Available Posts/ Total Children 0-3* Years	58.9	92.1	56.6	151.8	107.1	187.2
No. of Children per Available Posts	17.0	10.9	17.7	6.6	9.3	5.3
Total no. of Applying Children**/Total Available Posts**	1.46	1.34	1.10	1.32	1.33	1.62
Unmet demand (as % of available posts)	34	28	12	24	25	38
No. of Available Posts/Total Children 0-3 Years	6	9	6	15	11	19
Spacial Covering					
Total Surface	2,585.6	2,430.6	2,340. 6	1,099.3	8,456	449.9
Total Surface (%)	30.6	28.7	27.7	13.0	100	5.3
No. of Municipalities	30	28	26	8	92	1
No. of Municipalities without Nursery	*18*	*20*	*21*	*0*	*59*	*0*
No. of Municipalities without Nursery(%)	*60*	*71*	*81*	*0*	*64*	*0*
Total Surface/Total Nurseries	136.1	187.0	390.1	15.9	79.0	11.5
Total Residencial Nucleous/Total Nurseries	15.3	21.4	33.7	2.4	8.7	1.0

* Multiplied by 1,000, ** Public nurseries only.

Source: UVAL based on Istat data (2001) and direct survey(2005)

Although this service is generally deficient at the regional level – there are fewer than 4 nurseries for every 1,000 children in Umbria - territorial inequality is also evident in population coverage indicators. In fact, in Rural Areas there are slightly more than two nurseries for every 1,000, with remote Rural Areas particularly under-served. There is one nursery for every 195 children in urban areas, and this ratio doubles in Rural Areas. Notably, peri-urban and remote Rural Areas are especially penalised in terms of available posts. We have also attempted to gauge the extent of unmet demand by comparing applications with available posts at nurseries for the 2004-2005 school year. This was possible only for public nurseries, as private nurseries do not collect this kind of information. Both peri-urban and intermediate Rural Areas have quite a high percentage of unmet demand, higher than urban areas.

In general, the provision of child care in Umbria is quite low. Assuming that all available posts are covered[32], the provision of child care in the Region is equal to 11 per cent of

[32] This is certain for public nurseries. The assumption cencerns private nurseries.

total children aged 0-3. Although Umbria child care provision is significantly below the European Employment Strategy Target (33 per cent), it is higher than the average national performance (9 per cent in 2003)[33]. But what is particularly important from this study perspective is that the coverage of child care in urban areas is double that in Rural Areas (15 per cent, against 7 per cent).

Looking at quality indicators, full-day service has been considered an important factor for working woman (see Table IV.9)[34]. A large majority of the region's nurseries is able to provide full-day service. Performance is excellent in urban and remote areas, but weaker for peri-urban and intermediate Rural Areas. The fact that supply in remote areas is almost entirely public explains these results.

Another important quality indicator is the number of trainers caring for children. While both urban and peri-urban areas have about 1 trainer for every 5 children, the situation in intermediate and peri-urban Rural Areas is a source of concern. These areas would need to increase existing staff by about 30 per cent to comply with this minimum quality level in terms of the child/trainer ratio (1 trainer every 5 children). An internal cafeteria with a cook preparing fresh meals for children is found in about 68 per cent of nurseries in the Umbria region. This quality characteristic is mainly a feature of public nurseries, with private nurseries preferring external catering services.

[33] Source: Istat 2005, "La prima indagine censuaria sugli interventi e i servizi sociali dei Comuni". Year 2003.
[34] With the threshold being a closing time of 4:30 pm. This is one of the main reasons for which mothers did not send kids to nurseries in Umbria in 2005 (22.2 per cent for lack of nursery in the municipality; 15 per cent for lack of available posts; 30 per cent for expensive fees; 17 per cent for not enough timing provision in nurseries). Istat, Indagine Campionaria sulle nascite, Rapporto Annuale 2005.

Table IV. 9 Quality indicator for the supply of child care

Quality Indicators	Peri-Urban	Intermediate	Remote	Urban	Umbria	Perugia
No. of nurseries with full-day service / total nurseries (%)	82	77	100	87	86	100
Supplementary services / total nurseries	0	0	0	0.18	0.11	0.12
No. of trainers per nursery	4.8	4.9	4.3	6.6	5.9	7.0
Total trainers /100 available posts	19	15	13	20	18	20
% trainer shortfall*	6	27	34	2	8	0
No. of public nurseries with internal cafeteria/No. of total public nurseries	91.7	87.5	80.0	94.3	91.7	100.0
No. of private nurseries with internal cafeteria/No. of total private nurseries	20.0	40.0	0	30.8	29.7	35.33
No. of nurseries with internal cafeteria/No. of total nurseries	70.6	69.2	66.7	67.2	67.6	68.0

* per cent of trainers needed to reach a ratio of 1 trainer for every 5 children

Source: UVAL based on Istat data and direct surveys

V. Conclusion

Development policies for Rural Areas need to be based on sound and rigorous territorial analysis. While it is possible to discuss different alternative methodologies for designing a map of the Rural Areas of a region, this sort of analysis is a key tool for understanding the true needs of Rural Areas. In this paper, we have used territorial analysis with a spatially-based approach to investigate the supply of health and social (child care) services in different categories of Rural Areas in Umbria.

We have constructed a methodological framework that can be extended and replicated in different sectors[35]. By putting together information available from different datasets and sources, we can conduct a territorial assessment of policy needs at the territorial level.

Our study found that the implementation of regional health policy in recent years has focused on all areas, even the more remote ones. Although at this stage of our research we cannot assess the impact of those policies in terms of personal satisfaction (such as the share of successful treatment of people in different areas), we do, however, find properly distributed governance of health services across the region, with health centres and service delivery points covering almost all the area of Umbria. This result has been achieved with per-capita public health investment in line with the Italian average. Nevertheless, the accessibility of

[35] For example, to examine the importance and structural characteristics of agriculture in different Rural Areas, the main logistic points within a region reorganise agro-food product market flows etc.

health services seems to matter, especially with regards to hospitals. This means that while people, even in Rural Areas, have access to basic services and general practitioners, the elderly (who represent a very significant share of the rural population) with health problems that need specialist support can find it especially difficult to access hospitals on a regular basis. In addition, the number of home health care arrangements is surprisingly lower in Rural Areas. Finally, the entire picture is clouded by the findings of the quality indicators. In fact, only 33 per cent of total service delivery points serving Rural Areas offers a full set of basic services.

The state of the supply of child-care services is quite different. The entire region suffers from a lack of child-care services, with only about 11 per cent of children aged 0-3 years covered (15 per cent in urban and 7 per cent in Rural Areas). However, this study reveals an important territorial divide, with Rural Areas having only about 35 per cent of total regional nurseries, while at the same time they account for 54 per cent of Umbria's children aged 0-3 years. This discrimination is particularly high for private nurseries, meaning that there is scope for public policy to make an impact in less accessible Rural Areas.

The problem of the cost of providing child-care services in remote Rural Areas means focusing on innovative solutions (such as more effective use of voluntary group initiatives; multi-family based nurseries; introduction of nursery classes in existing schools etc.), which would require an improved private-public partnership.

At this stage of our work, we cannot analyse women's preferences with regard to the use of nurseries services to facilitate their access to the labour market. But the demand data we gathered (for public nurseries only) show that surplus demand is much higher in Rural Areas than in urban ones[36]. The situation of child-care services in peri-urban Rural Areas is especially serious, with 60 per cent of municipalities lacking a nursery. This could partially explain the difficulty of women of all ages – including those resident in peri-urban areas, where we could expect more job opportunities – in even trying to access the labour market. Policies should address this kind of problem, bearing in mind that these areas are a particularly dynamic magnet for migration.

Although the context analysis conducted in the first section of this study found major socio-demographic challenges for Rural Areas, with clear gender issues also involved, and considerable discrimination against Rural Areas in child-care services, rural development policies have so far not played any specific role in dealing with these issues. Umbria's rural

[36] This could be partially explained by the smaller presence of private nurseries in these areas

development strategy, in particular, retains markedly sectoral orientation[37]. Although regional policy does incorporate a number of interventions in the social policy field, it does not have any specific strategy for Rural Areas.

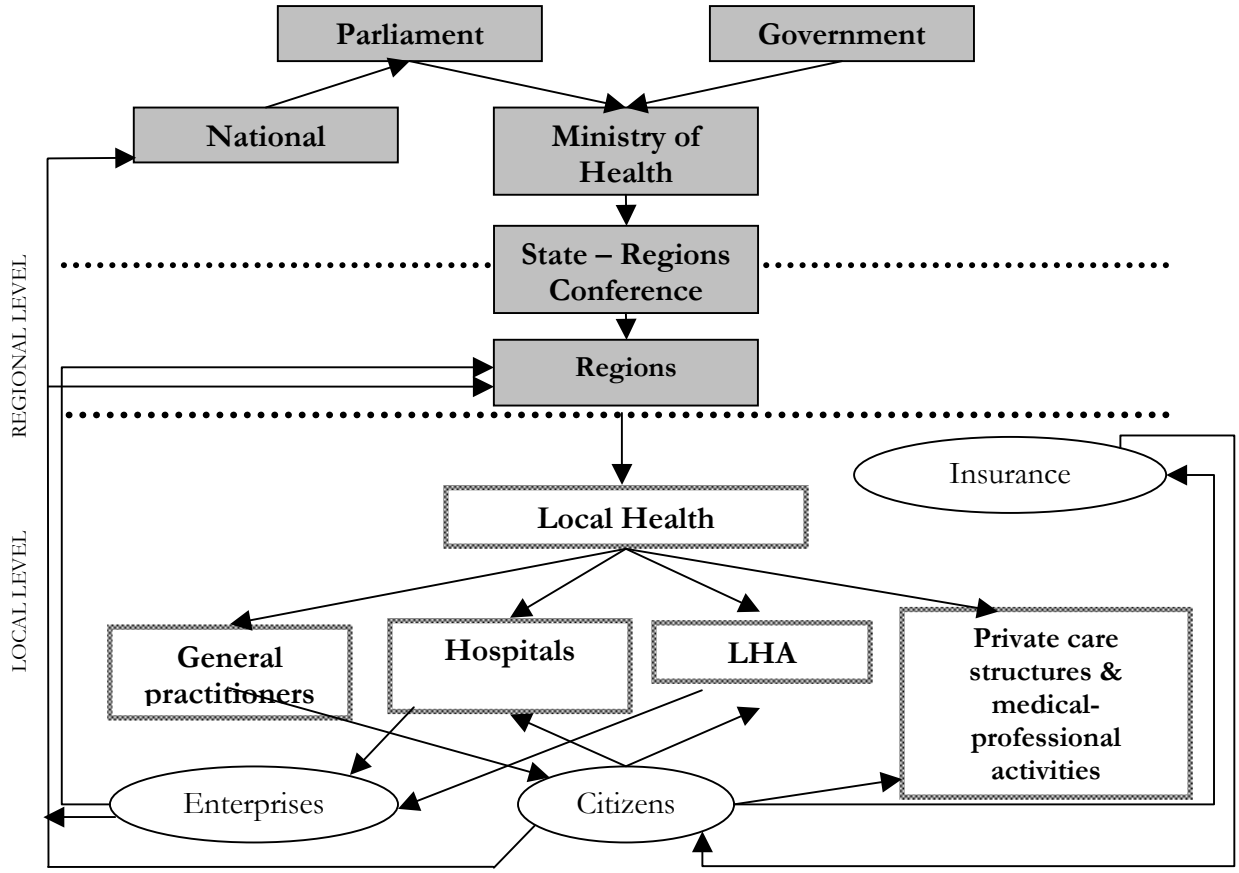
Even programmes in which there could have been space for social and health initiatives, like Leader programme, did not include specific actions in this direction. This can be related to a problem of "voice" vis-à-vis of specific interests groups (young women; old people needing care) that are not represented in common rural social partnership, which is mainly composed by agricultural organisations; SMEs representants and pro infrustructure lobbies.

Finally, sound territorial analysis could help improve integration between different kinds of policies at the regional level. While both health and social policies form part of general public policy in Italy, our analysis clearly shows that there is scope for development policies in favour of Rural Areas to complement more general policies, both as regards boosting access to health services and improving the supply and quality of child-care services. This would suggest enhancing coordination between general policies and development policies in favour of Rural Areas[38].

[37] Mainly targeted at improving agro-business competitiveness.
[38] See Fabrizio Barca, TDCP Chairman's Statement in OECD, The New Rural Paradigm, Policies and Governance, 2006.

Annex 1

Figure A.1 The governance of the health system in Umbria



Annex 2 a

Demographic Indicators

We have selected a set of indicators to enable territorial analysis and identify the demographic characteristics of different types of Rural Areas.

The following Table summarizes the set of variables and their significance in terms of the characteristics of Rural Areas.

Variables/ Indicators	Definition	Results
Total surface area (sq km)	Refers to the total surface area, comprising land area and inland waterways (assumed to consist of major rivers and lakes) and excluding only polar regions and uninhabited islands.	
Population density	**(per sq km):** the number of persons in the total population for a given year per square kilometre of total surface area.	Indicator for defining rural/urban areas: >150 pers./sqm = urban and <150 pers./sqm = rural
Residential nucleus	Nucleus composed by a group of **neighbouring** houses of at least 5 families with roads and squares; the houses are within 30 m of each others.	
Population growth rate (Annual Average 1971-2001)	The rate at which the population is increasing or decreasing in a given year expressed as a percentage of the base population size. It takes into consideration all the components of population growth, namely births, deaths and migration.	Dynamic of population/area
Natural birth-death population balance (1991-2001 average annual rate)	Difference between number of live births and death.	Ageing population
Migration rate (1991-2001 average annual rate)	Difference between the number of inward-migrants and outward-migrants from a particular area during a specified period .	Measures geographical mobility of population. Migration is one of the basic demographic events (birth and death are the others) that directly influence the size of population in an area.
Birth rate (2001)	The ratio of total live births to total population in a specified community or area over a specified period of time. The birth rate is often expressed as the number of live births per 1,000 of the population per year.	
Population >65	Ratio of population aged more than 65 to total population	Ageing population
Population <14	Ratio of population aged less than 14 to total population	
Population 0-3	Ratio of population aged between 0 and 3 to total population	Ageing population
No. elderly per child	Ratio of the number of elderly people to the number of children aged between 0 and 3	
Ageing index	The number of persons aged 65 and over per hundred persons under age 15.	
Dependency ratio	The ratio of "dependent" persons (those aged under 15 *plus* those aged 65 and over) to those in the "economically productive" age group (15-64 years), i.e. the number of persons under 15 *plus* those 65 and over per 100 persons between 15 and 64.	

Annex 2 b

Economic Indicators

We have selected a set of economical indicators to enable territorial analysis and identify the economic characteristics of different types of Rural Areas.

Thee following Table summarizes the set of variables and their significance in terms of the economic characteristics of Rural Areas.

Variables/Indicators	Definition	Results
Labour forces and non-Labour forces	The total labour force, or currently active population, comprises all persons who fulfil the requirements for inclusion among the employed or the unemployed during a specified brief reference period. The non-Labour forces is the part of population which is withdraw from the job (age limits, invalidity and other cause)	OECD
Economically Active people	People aged 16 or over who are either in employment or unemployed.	OECD
Activity rate	The labour force participation rate defined as the ratio of the labour force to the working age population, expressed in percentage	OECD
Employment	Persons in employment comprise all persons above a specified age who during a specified brief period were in the following categories: - paid employment; - self employment.	OECD
Unemployment	The unemployed comprise all persons above a specified age who during the reference period were without work, currently available for work, seeking work.	OECD
Employment rate	The number of people in employment expressed as a percentage of the relevant population.	OECD
Unemployment rate	Unemployed persons as a percentage of the labour force.	OECD
Employment rate for man/women	The ratio of employed man/women to the total civilian population 16 years old or older	OECD
Working age women	The women of the class of age 15-65 years old pertaining to the labour force	OECD
Working age woman activity rate	Women who are economically active as a percentage of the working-age population.	OECD
Working age woman unemployment rate	Unemployed Women as a percentage of the working-age population.	OECD
Young m/f unemployment rate	Young people 15-24 years old unemployed as a percentage of young people (15 – 24 years old)	OECD

Source: ISTAT-OECD Statistical glossary

Annex 3

Methodology used in the two direct surveys

UVAL conducted two surveys for health and child-care services.

Health Services

The survey includes information at the health centre level. The latter were selected as the closest centres to the population taking into account their supply of services.

The survey was implemented in three steps:

- analysis of existing local health websites;
- follow-up with phone calls when the information was not exhaustive;
- collection and organisation of information;

First phone call cycle

We found information on the institutional web sites of local health authorities (ASLs). We then decided to supplement this information with telephone interviews with the directors of medical districts. In Italy and Umbria, ASLs are divided into medical districts, health centres and services delivery points.

We computed the total population and the population aged over 65 for each of the following units

- health districts;
- health centres;
- local governments (or municipalities).

The main official source of data is ISTAT (National Institute of Statistics) – Population Census at January 1, 2005.

As each health centre covers a multi-municipality area, each health centre was attributed to the municipality with the largest population. Data sources are the institutional websites of ASLs and direct telephone surveys.

We collected and systematized the first set of data available on the websites. We then supplemented the set of available data with telephone interviews with the directors of health centres or, if not available, the top officials of each individual service delivery point.

Collection and organisation of information:

Data for 14 services offered by health centres was collected (home health care assistance; in-home nursing assistance; blood testing; emergency services; home visits; vaccinations; family advisory bureau; legal doctors; and other).

We also measured the number of general practitioners and basic paediatricians. Note that information was not always available at the municipal level, so we therefore used the district level. In addition, where data were not available at the municipality level, our selection was made in accordance with the demographic weight of each municipality within a district.

We also measured the number of hospitals through the institutional website of Umbria Region – health sector and through the websites of four ASLs.

We conducted phone interviews with every ASL in order to compute the number of patients over 65 using home health care services.

We calculated the number of pharmacies through the "Yellow Pages" website, and compared it with ASL website data (in this case, the data were outdated).

We also collected data on pharmacies with booking services (pharmacies where it is possible to book a medical examination) through ASL websites, but where information was not available we conducted a telephone interview with the head of the health centre or other employees.

Childcare Services

We collected data on three different types of childcare service:

- Public nurseries,
- Private nurseries (including baby parking),

- Supplementary nursery services such as company nurseries, centres for children, centres for children and relatives.

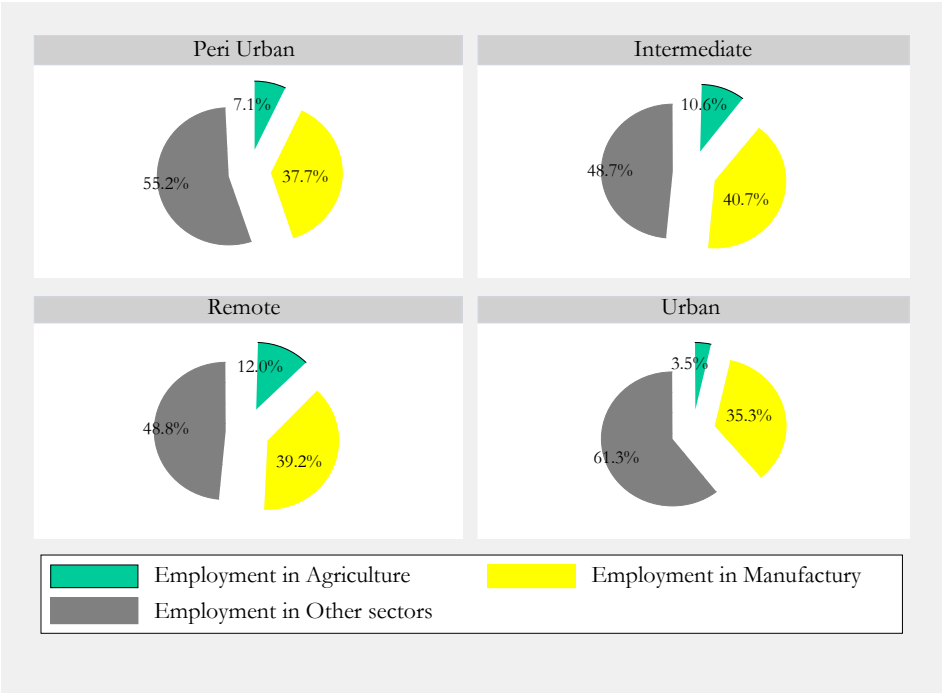
We gathered data on "users age"; "number of children applying"; "number of available posts"; "daily care time Table"; "number of trainers"; "presence of paediatrician support"; "presence of cafeteria"; and "other support staff".

We carried out telephone interviews with the managers of public and private nurseries in each municipality, obtaining responses from 90 per cent of the total sample. As concerns public nurseries, we collected information through institutional websites and official documents. We then supplemented the available data with interviews.

We ended up with a non-response rate of 10 per cent.

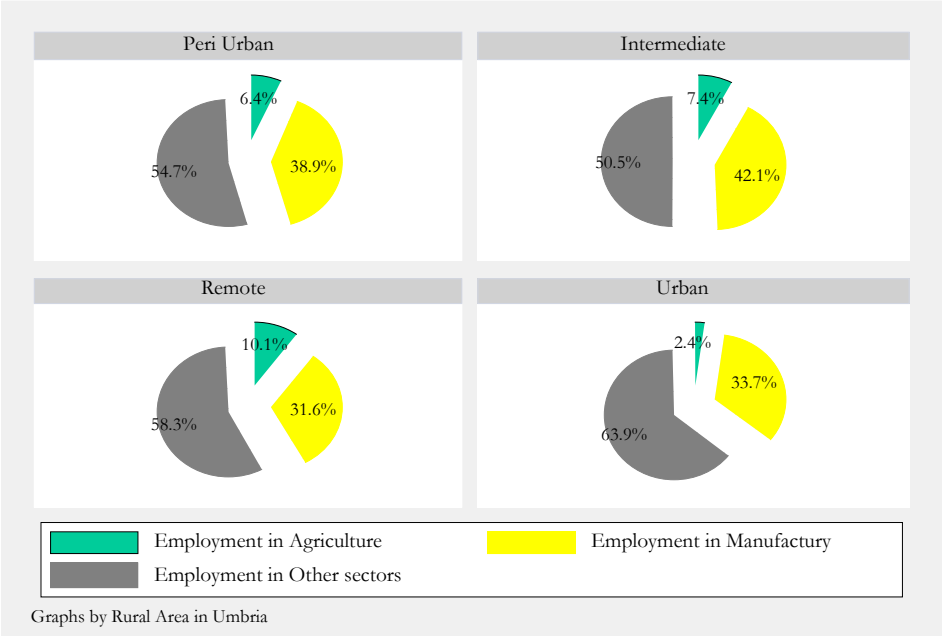
Annex 4

Figure 4.1 Employment Sectors in Different Rural Areas, 2001 – Province of Perugia



Source: UVAL based on Istat Population Census 2001

Figure4.2 Employment Sectors in Different Rural Areas. 2001 – Province of Terni



Source: UVAL based on Istat Population Census 2001

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