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Medical desertification and National Recovery and Resilience Plan in Italy: Focus on Inner Areas

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Abstract:
The shortage of doctors and nurses runs through all of Italy, but in peripheral inner areas it takes on the contours of "medical desertification." To what extent does the National Recovery and Resilience Plan (NRRP), in providing for Community Homes (CHs) and Community Hospitals (HHs), along with ad hoc funds for health personnel [1], respond to this critical issue? What are the prospects for inner areas? The risk is that the problem will not be solved by the funds made available by the NRRP; in fact, only 16-17% of Community Homes and Hospitals will be built in these areas. This means that the future of peripheral and ultraperipheral inner areas in Italy is at stake. The detailed analysis, conducted in Italy by Cittadinanzattiva, is part of the European project AHEAD [2], "Action for Health and Equity: Addressing Medical Deserts," funded by the EU4Health program to find solutions to these " medical deserts."

Keywords: Medical desertification, NRRP- National Recovery and Resilience Plan, access to care, patients' rights, civic participation, "AHEAD-Action for Health and Equity: Addressing Medical Deserts", EU4Health, Inner Areas, health inequalities.

INTRODUCTION

The Inner Areas, despite being characterized and tried by demographic weakening and the lack of multiple services, especially in the areas of education, health and mobility, constitute a peculiar and vibrant part of our country. In fact, they represent about 53% of Italian municipalities (4261), are home to 23% of the Italian population, i.e., more than 13.54 million inhabitants, and occupy a portion of territory that exceeds 60% of the national surface [3].

The "National Strategy for Inner Areas" (NSIA) has had the merit of putting the issue of inner areas on the political agenda and addressing, with method and vision, the interventions affecting them [4].

Limited to the health needs of communities living in inner areas, there is no doubt that over the years the health issue has been one of the historical dividing factors of these areas (to the point that distance from health centers constitutes an index of peripherality for the purposes of the NSIA). Thus, it can be affirmed that the implementation of the National Recovery and Resilience Plan (NRRP) will be a key test case for improving life in the inner areas. Even without bringing up telemedicine, which requires, in order to provide an effective service, an adequate digital culture of the target population (these areas are mainly populated by the elderly), the most promising interventions are those concerning the reform of territorial medical care, where the Community Houses envisaged by "DM 77"-to which, among other things, Cittadinanzattiva has devoted much attention by putting forward proposals [5] and engaging in an initial civic mapping on the state of progress of the aforementioned Houses - could actually make a difference for territorial medicine, which has been reduced to the brink by years of health policies aimed at merging every health facility into large hospital hubs [6].

METHODOLOGY

The analysis conducted by Cittadinanzattiva-using official data provided by the Ministry of Health for 2020 and ISTAT for 2022-has identified, as the first stage of the research, 39 provinces and 9 regions where the imbalances, between the number of professionals and citizens, are most pronounced: Lombardy (Bergamo, Brescia, Como, Lecco, Lodi, Milan) and Piedmont (Alessandria, Asti, Cuneo, Novara, Turin, Vercelli) lead with six provinces, followed by Friuli Venezia Giulia (Gorizia, Pordenone, Udine, Trieste) and Calabria (Cosenza, Crotone, Reggio Calabria, Vibo Valentia) with four provinces. They are followed by Veneto (Treviso, Venice, Verona), Liguria (Imperia, La Spezia, Savona) and Emilia Romagna (Parma, Piacenza, Reggio Emilia) with three provinces each, Trentino Alto Adige (both the autonomous provinces of Bolzano and Trento) and Lazio (Latina and Viterbo) with two provinces.

The second phase of the research - described in detail in the pertinent report - brings together the characteristics of the municipalities and the detailed analysis of the actions planned on the territory under Mission 6 Health - Component C1 of the NRRP: proximity networks, facilities and telemedicine for territorial health care (all of which were merged into the Operational Plans of the CIS/Institutional Development Contracts [7] for the execution and implementation of direct investments, signed by the Regions and Autonomous Provinces with the Ministry of Health in May 2022). In this regard, it is necessary to keep in mind that Italian municipalities are classified by distinguishing centers and inner areas. Centers are classified as follows: (A): Pole (Pole); (B): Intermunicipal Pole; (C): Belt. Inner areas are classified as follows: (D): Intermediate; (E): Peripheral; (F): Ultraperipheral (Ultraperipheral).

The full Report, which also contains specific regional focuses, can be downloaded from Cittadinanzattiva's website [8]. It was presented on January 19, 2023 in Rome at the European Commission Representation in Italy during the event "Health needs in inner areas, between medical desertification and NRRP."

Tab. 1 - Italy: Community Homes (CH) & Community Hospitals (HH) in Inner Areas

WHAT THE PNRR PROVIDES FOR	Tot. CH	CH in Inner Areas		Tot. OC	Tot. HH	HH in Inner Areas		Municipalities in Inner Areas		Population in Inner Areas	
		(D)	(E-F)			(D)	(E-F)	(D)	(E-F)	(D)	(E-F)
Piemonte	82	10	1	43	27	3	0	241	131	378.090	76.192
Valle d'Aosta	4	1	0	1	1	0	0	28	13	23.860	9.191
Liguria	33	4	0	16	11	4	0	82	36	178.500	24.867
Lombardia	199	22	20	101	66	15	5	254	225	733.774	356.947
Trentino Alto Adige	20	5	7	10	6	1	0	80	138	259.747	303.429
Veneto	95	8	2	49	35	6	2	70	43	288.508	93.373
Friuli Venezia Giulia	23	6	1	12	7	2	0	39	43	105.527	38.947
Emilia Romagna	85	18	14	45	27	6	5	82	79	708.151	284.228
Toscana	77	16	10	37	24	3	4	67	97	498.648	389.879
Umbria	17	2	4	9	5	1	0	33	15	148.330	92.745
Marche	29	5	1	15	9	1	0	63	42	152.458	109.512
Lazio	135	23	7	59	36	7	1	157	58	753.849	197.205
Abruzzo	40	8	12	13	11	3	2	89	113	247.838	212.490
Molise	13	3	8	3	2	1	1	33	71	48.589	152.863
Campania	172	19	17	65	48	8	10	125	165	512.298	458.775

Puglia	121	36	24	40	38	11	8	90	58	1.013.336	426.499
Basilicata	19	2	15	6	5	0	5	24	95	126.614	306.661
Calabria	61	25	12	21	20	6	9	149	131	485.416	341.709
Sicilia	156	48	62	50	43	9	17	119	191	1.151.185	1.160.822
Sardegna	50	14	16	16	13	2	5	103	162	245.009	337.073
TOTAL	**1431**	**275**	**233**	**611**	**434**	**89**	**74**	**1928**	**1906**	**8.059.727**	**5.373.407**

Source: Elaboration of Cittadinanzattiva-Civic Evaluation Agency on data:
CIS-Contratti Istituzionali di Sviluppo [9], 2022 and ISTAT- La geografia delle aree interne nel 2020 [10]

RESULTS

The table shows the number and location of Community Homes (CH) and Community Hospitals (HH) and, for completeness, also Operational Centers (OC) as provided for in the Socio-Institutional Development Contracts, in which some regions have included, in addition to facilities to be built/restructured with NRRP funds, additional facilities to be built/restructured with other funds.

Only a few territorial health services are provided in inner peripheral and ultra-peripheral areas:

- in Valle d'Aosta, where there are 13 municipalities classified as such for 9.191 resident inhabitants, there is neither a Nursing Home nor a Community Hospital. The same goes for the 36 municipalities in the inland peripheral and outermost areas of Liguria, where more than twice as many people reside: 24.867.
- a total of 654.883 Italians residing in the inner peripheral and ultra-peripheral areas of 7 regions have no Community Hospital: these are Piedmont, Liguria, Valle D'Aosta, Trentino Alto Adige, Friuli Venezia Giulia, Umbria and Marche.
- Friuli Venezia Giulia, Marche and Piedmont will each count one Community House for the peripheral and outermost inland areas of their regional territory. Going into detail:
- there will be 1 Community House for the 43 Friulian municipalities in these areas, home to about 39.000 inhabitants;
- only 1 Community House will be available for the nearly 110.000 inhabitants of the 42 municipalities in the Marche region in the inner peripheral and ultra-peripheral areas;
- 1 Community House is planned for the approximately 76.000 people living in the 131 municipalities of Piedmont located in these areas.
- On the other hand, the regions most benefited by the NRRP in terms of the number of Community Homes and Hospitals are, in order, Lombardy (199 Homes and 66 Hospitals), Campania (172 and 48) and Sicily (156 and 43). Of these three regions, only Lombardy is among those with the greatest imbalance between people and health personnel examined.

Fig. 1: Official logo of the EU Project AHEAD

COMMENTS

Inner areas: 508 Homes and 163 Community Hospitals planned in these areas.

The funds and projects included in the NRRP could reduce some historical gaps, such as that of territorial care in some areas of the country. For this reason, Cittadinanzattiva analyzed how many Community Homes (CH) and Community Hospitals (HH) are planned to be built in the inner areas belonging to the 39 provinces where the shortage of health workers is most pronounced. But the results are not encouraging: of the 1.431 Community Houses and 434 Community Hospitals planned in the NRRP, just over a third -- which is 508 Houses, representing 35.5 %, and 163 Hospitals, representing 37.6 % -- will be built in the inner areas. In particular, the greatest risk of depletion is in the ultra-peripheral areas of Liguria and Valle d'Aosta, but looking at the national level, the more than 5 million citizens living in the peripheral and ultra-peripheral areas are at risk of being left almost unprotected: only 16.3 % of the 1431 housing units (i.e., 233) and 17.1% of the 434 community hospitals (i.e. 74) are planned in these areas.

CONCLUSIONS

We envision and desire a Europe in which every citizen has access to sufficient numbers of qualified and motivated health workers, anytime and anywhere. Through work conducted as part of the European AHEAD project "Action for Health and Equity: Addressing Medical Deserts," we aim to help reduce health inequalities by addressing medical deserts in Europe with evidence-based policy solutions.

In Italy, for instance, from the local press and thanks to our daily relationship with citizens and patients, we have information, for example, on the shortage of pediatricians in Cagliari, of general practitioners in Rescaldina and Legnano in the Milan metropolitan area, as well as in Palomonte and Pisciotta in Cilento, of radiologists for reporting Holter examinations in Manfredonia, of gynecologists in the hospital of Mirandola, etc.

Italy lacks reliable, up-to-date and easy-to-find data on the shortage of health professionals, which does not facilitate intervention planning and resource allocation. In fact, the reforms also envisaged by the NRRP will be able to have the hoped-for effects only if the investment in facilities-community homes and hospitals first and foremost-is accompanied by an adequate investment in the workforce. Similarly, it is necessary to dislocate healthcare spaces by strengthening the weak areas of the country, taking into account the nature of the territories and not just an arithmetic logic that looks only at the number of inhabitants. With the aim of prioritizing the issue on the national political agenda, on May 11, 2023 Cittadinanzattiva promoted several initiatives in defense of the National Health Service and for a reform of territorial care that is truly territory-friendly. These included:

1. A national policy dialogue event at the Italian Ministry of Health [11]

Fig. 2: Rome, 11 May 2023, national policy dialogue event at the Italian Ministry of Health

2. A civic mobilization with activists from all over Italy

Fig. 3: Rome, 11 May 2023, citizen mobilization in defence of the National Health Service

3. An online petition

Fig. 4: one of the visuals of the online petition

4. The publication of an updated mapping [12] of health care facilities under the NRRP in partnership with the OpenPolis platform [13]

Fig. 5: cover page of the report on health care facilities envisaged by the NRRP, produced in partnership with the OpenPolis platform

DECLARATIONS

Each of the authors confirms that this manuscript has not been previously published by another international peer-review journal and is not under consideration by any other journal. Additionally, all of the authors have approved the contents of this paper and have agreed to the submission policies of the journal.

AUTHORS' CONTRIBUTION

Each named author has substantially contributed to conducting the underlying research and drafting this manuscript. Additionally, to the best of our knowledge, the named authors have no conflict of interest, financial or otherwise.

CONFLICT OF INTEREST

The authors listed on the first page declare that they do not have any conflict of interest.

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[8] The Report was presented by Cittadinanzattiva on occasion of the **event** "Health needs in inner areas, between medical desertification and NRRP", held in Rome at the European Commission Representation in Italy on January 19, 2023. The Report was edited by Mariano Votta, Head of European Policies of Cittadinanzattiva, in collaboration with his colleagues Maria Vitale, Senior Project Manager, and Bianca Ferraiolo, Head of Cittadinanzattiva's representativeoffice at the European Institutions and Head of the AHEAD Project. Data processing was carried out by Cittadinanzattiva's Civic Evaluation Agency in the persons of Maria Eugenia Morreale and Maria Vitale. Claudia Ciriello,Cittadinanzattiva Project Manager, also collaborated in the data collection. The Report, which also contains specific regional focuses, can be downloaded at this webpage: www.activecitizenship.net/insights/1070-shortage-of-doctors-and-medical-desert-nine-italian-regions-with-the-smallest-workforce.html.html

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