

# Italian out-of-hospital Centers for Cognitive Disorders and Dementias: a survey of members of the Italian Society of Geriatrics Hospital and Territory

Maurizio Gallucci,<sup>1,2</sup> Mariagiovanna Cozza,<sup>3</sup> Ciro Manzo,<sup>4</sup> Alberto Castagna,<sup>5</sup> Filippo Fimognari,<sup>6</sup> Lorenzo Palleschi<sup>7</sup>

<sup>1</sup>Memory Clinic, Giovanni XXIII Hospital, Monastier di Treviso; <sup>2</sup>Foundation for Interdisciplinary Geriatric Research, Treviso; <sup>3</sup>Unit of Intermediate-Long Term Care, Integration Department, Budrio Hospital, Local Health Unit of Bologna; <sup>4</sup>Department of Internal Medicine and Geriatrics, Regional Health Authority, Naples 3, Naples; <sup>5</sup>Department of Primary Care, Health District of Soverato, Provincial Health Company of Catanzaro; <sup>6</sup>Unit of Geriatrics, Department of Medicine, Annunziata Hospital, Cosenza; <sup>7</sup>Unit of Geriatrics, Medical Department, San Giovanni Addolorata Hospital, Rome, Italy

## Abstract

The Italian Society of Geriatrics Hospital and Territory conducted a survey regarding the Centers for Cognitive Disorders and Dementias in which territorial geriatricians work. The main char-

acteristics of these centers were considered. Particular attention was given to the composition of the work teams and the integration between the various professional figures. Critical issues concerning mainly the scarcity of resources were also exposed. Finally, special emphasis was given to the major challenges of the immediate future, especially concerning the recent approval for the use of lecanemab to treat patients with early-stage Alzheimer's disease.

Correspondence: Mariagiovanna Cozza, Unit of Intermediate-Long Term Care, Integration Department, Budrio Hospital, Local Health Unit of Bologna, Via George Byron 30, 40128 Bologna, Italy. E-mail: mariagvzster@gmail.com

Key words: out-of-hospital geriatrician, centers for cognitive disorders and dementias, dementia, comprehensive multidimensional assessment.

Contributions: all the authors made a substantial intellectual contribution, read and approved the final version of the manuscript, and agreed to be accountable for all aspects of the work.

Conflict of interest: the authors declare that they have no competing interests, and all authors confirm accuracy.

Ethics approval and consent to participate: not applicable.

Informed consent: not applicable.

Patient consent for publication: not applicable.

Availability of data and materials: data and materials are available from the corresponding author upon request.

Funding: none.

Received: 17 December 2024.

Accepted: 1 April 2025.

Publisher's note: all claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article or claim that may be made by its manufacturer is not guaranteed or endorsed by the publisher.

©Copyright: the Author(s), 2025  
Licensee PAGEPress, Italy  
Geriatric Care 2025; 11:13460  
doi:10.4081/gc.2025.13460

This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0).

## Introduction

Dementia is a chronic degenerative disease, the natural history of which is characterized by the more or less rapid progression of cognitive deficits, behavioral disorders, and loss of functional autonomy in activities of daily living, all of which result in increasing disability and loss of autonomy to the point of bedriddenness and death.

Population aging is leading to a dramatic increase in the prevalence of most age-related chronic diseases, including dementia.<sup>1-3</sup> To date, more than 1 million individuals affected by dementia (including 600,000 subjects diagnosed with Alzheimer's disease) live in Italy.<sup>4</sup>

In 2000, in Italy, about 500 Alzheimer's Evaluation Units [then called *Unità di Valutazione Alzheimer*, and now Centers for Cognitive Disorders and Dementias (CCDDs)] were established by the Ministry of Health in all Italian regions to coordinate the complex process of caring for people with dementia. To date, nearly 2000 health professionals (neurologists, geriatricians, psychiatrists, psychologists, rehabilitators, social workers, nurses, and administrative staff) work in CCDDs. These centers currently play an increasingly central role in the network of health and social services dedicated to dementia.<sup>1</sup> In addition to these meritorious initiatives, several relevant issues negatively affect the management of the "dementia" problem in Italy. There are deep disparities in terms of resources and services available in individual Italian regions, resulting in a substantial lack of national standards. As a result, centers of clinical excellence coexist with services in need of strengthening interventions.<sup>1</sup>

To improve the complex process of dementia care by addressing these issues, the first "national dementia plan" was formulated in October 2014 by the Italian Ministry of Health in close collaboration with the Regions (health and social sectors), the National Institute of Health and the three major national associations of

patients and caregivers (www.alzheimer.it; www.alzheimer-aima.it; www.alzheimeruniti.it).<sup>1,5</sup>

The plan established four goals: promote health and social care interventions and policies, create/strengthen the integrated network of dementia services based on an integrated approach, implement strategies to promote appropriateness and quality of care, and improve the quality of life of people with dementia and their families by supporting empowerment and stigma reduction.<sup>1</sup>

Unfortunately, the plan did not include any dedicated funding to achieve these goals but entrusted the Italian regions to identify economic resources within their usual funding.

As a result, over the past decade, improvements in the network of diagnosis, treatment, and care of dementia patients have been limited and supported largely by the passion, dedication, and generosity of all the health professionals who have worked and are working at CCDDs.

More recently, the *Piano Nazionale Italiano di Ripresa e Resilienza*, derived from the Next Generation EU program,<sup>6</sup> as a response to the COVID-19 pandemic crisis, has provided some funding to CCDDs (*Fondo per l'Alzheimer e le Demenze*, GU 2022 30<sup>th</sup> March) but mostly relative to materials, tools, professional upgrading but, *de facto*, not for new recruitment of health personnel of which Italian CCDDs are lacking.

The Italian Society of Geriatrics Hospital and Territory (SIGOT) Scientific Committee recently sponsored a survey aimed at photographing the clinical and organizational activities of CCDDs.

This paper concerns the Italian out-of-hospital geriatric physician working, full- or part-time, at CCDDs. The purpose is to illustrate and discuss the main results of this survey.

## Materials and Methods

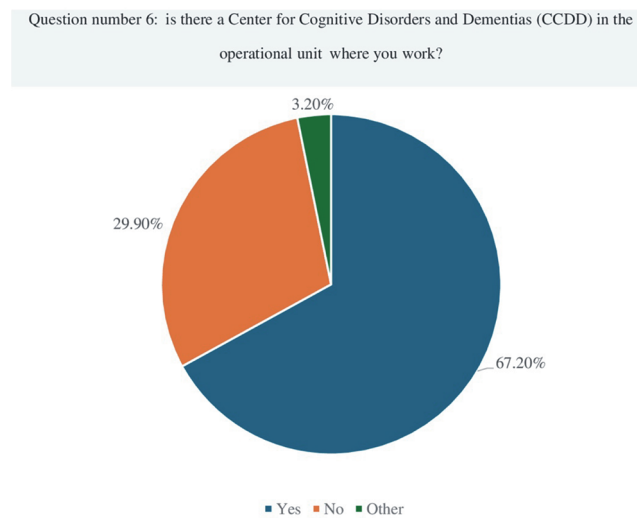
The survey was written considering best practices in conducting and reporting survey-type research.<sup>7-10</sup> An online survey, to collect information on CCDDs where Italian out-of-hospital geriatric physicians who are members of SIGOT work, was conducted. The survey was formatted with Google Forms and sent in June 2024 to all SIGOT out-of-hospital geriatricians *via* e-mail. The survey was available from: <https://docs.google.com/forms/d/117pdZPQsXd-kTRiJHiAQuG4hjn-VEe7JDIWzIdxAlkc/edit>, until September 15, 2024. The full questionnaire, translated into English, is available in the *Supplementary Material* file. Filling out the survey took only a few minutes. All quantitative variables were expressed as percentages (%).

## Results

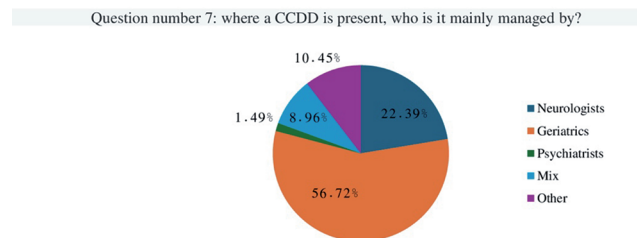
A total of 67 out-of-hospital geriatricians responded to the survey, accounting for 61% of the 110 estimated SIGOT out-of-hospital geriatricians.

Respondents work mainly in northern Italy (44.8%), but also in central Italy (23.9%) and southern Italy and islands (31.3%). Most of the respondents are over 50 years old (56%). 41.8% are physicians employed by the National Health System (NHS), while 16.4% are outpatient specialists affiliated with the NHS. 67.2% of participants responded that there is a CCDD in their work geriatric settings (Figure 1). The predominant medical specialist, in the CCDDs mentioned, is geriatrician followed by neurologist and psychiatrist (Figure 2). The predominant medical specialization is non-geriatric in about a quarter of the cases (Figure 2). 46.2% of respondents said their CCDDs were surveyed in the latest survey by the National Institute of Health (Figure 3). 50% of respondents said they do not

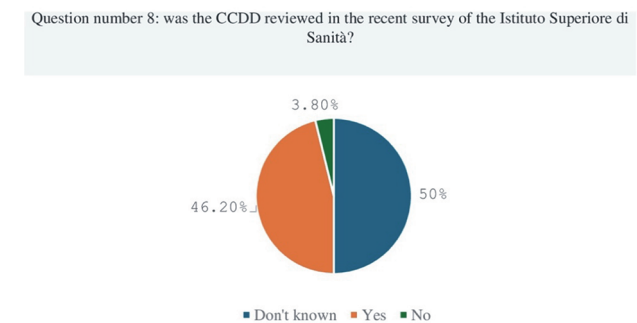
know this data. In CCDDs, the neuropsychologist is present in only half of the cases (52.2%) while the nurse is present in three-quarters of the cases (77.6%). The welfare worker assists the patient in dementia-related social pathways in half of the CCDDs. The physical therapist and occupational therapist are present in 26.9% and 13.4% of CCDDs, respectively (Figure 4). Physicians with different specialties (geriatricians, neurologists, psychiatrists) work in one-third of CCDDs (Figure 4).



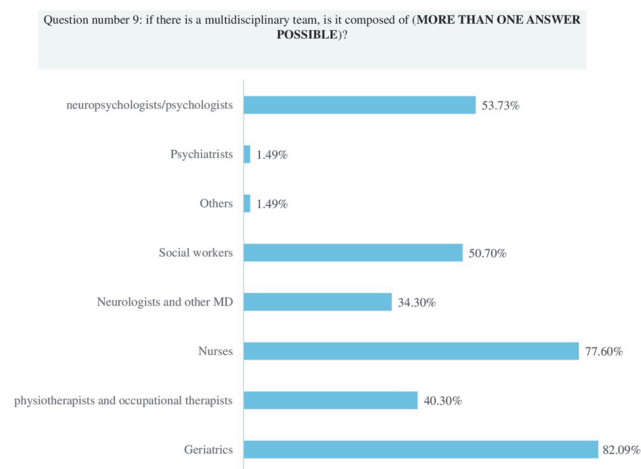
**Figure 1.** This graphic highlights the wide diffusion of out-of-hospital Centers for Cognitive Disorders and Dementias in the Italian territory.



**Figure 2.** This graphic represents the typology of professionals present in the Italian Centers for Cognitive Disorders and Dementias.



**Figure 3.** This figure illustrates the reduced knowledge of the recent survey of the Istituto Superiore di Sanità by the Center for Cognitive Disorders and Dementias staff.



**Figure 4.** This graphic describes the distribution of the multidisciplinary team in the Italian Centers for Cognitive Disorders and Dementias. MD, medical doctor.

## Discussion

CCDDs are fairly present in geriatric care settings (67.2%), responding to the other prevalence of dementia in older people.

The lack of neuropsychologists in half of the CCDDs is a weakness in the dementia diagnosis and treatment network in Italy. The psychologist is important for the much-needed assessment of cognitive function and behavioral disorders, as well as for insights into suspected language deficits.

A fine differential diagnosis cannot be completed without the cooperation of a good neuropsychologist. It is only possible to fill this gap by equipping each CCDD with at least one neuropsychologist through a dedicated economic investment. The neuropsychologist will then have to be trained in performing test assessments guided by the available history, and clinical and neuroimaging data. The neuropsychologist will then have to work closely with the physician. Indeed, the simple and sole administration of neuropsychological tools is not sufficient.<sup>11-13</sup>

One-third of the CCDDs have mixed medical teams, consisting of geriatricians, neurologists, and psychiatrists, and in one-quarter of the respondents' CCDDs, the predominant figure is the neurologist.

We believe that this model of integration between different specializations present in the same CCDD team should be implemented and extended to the totality of CCDDs.

In the past, geriatric CCDDs were very much concerned with the social and welfare aspects of the patient, delegating the fine differential diagnostics to the more neurological CCDDs, the latter historically devoted more to pathophysiological aspects and fine differential diagnostics.

This structural and operational dichotomy is part of "Silos logic",<sup>14,15</sup> a system that separates different types of physicians and their activities. This results in barriers that hinder collaboration and communication between physicians, reduce efficiency and counteract the flow of information.

The quality and performance of modern healthcare systems are increasingly improved by using integration between different healthcare professionals to jointly achieve process goals.<sup>16,17</sup>

In CCDDs, geriatricians need to acquire neurological skills regarding the differential diagnostic endpoint, and neurologists

need to acquire geriatric skills such as multidimensional assessment and the frailty construct.

In the area of cognitive impairment assessment, expertise must be integrated and common to ensure an effective and quality diagnostic and care flow.<sup>18,19</sup>

The welfare workers, physical therapists, and occupational therapists should have a greater presence in CCDDs to ensure good quality standards of care throughout Italy.

The *Istituto Superiore di Sanità* (ISS) conducted a national survey throughout Italy from 2021 to 2023, surveying the characteristics of substantially all CCDDs, amounting to 536 major CCDDs with their 167 secondary sites. 50% of respondents say they do not know they were involved in the survey.<sup>20</sup> This information shows a lack of information and suboptimal communication between central institutions such as the ISS and those who directly deliver care and assistance to patients with dementia.

Our survey has some limitations. It did not cover the utilization of diagnostic services such as neuroradiology and nuclear medicine units. The use of cerebrospinal fluid biomarkers and genetic testing was not included in the survey. These limitations may be partly justified because the questions regarding CCDDs were part of a body of questions in a more general survey covering all settings in which Italian geriatricians registered with SIGOT work.

## Conclusions

In summary, it can be argued that CCDDs should be adequately funded by increasing funding, especially for the healthcare personnel involved in the delicate process of diagnosing, treating, and monitoring dementia patients. This need is urgent because of the increasing demographics of Italy's old population and the prevalence and incidence of even early-onset dementias (<65 years of age) that are registered with CCDDs.

Last but not least, the recent approval of the drug lecanemab for the treatment of Alzheimer's disease by the Committee for Medicinal Products for Human Use of the European Medicine Agency poses an epochal change in the challenge against Alzheimer's disease (<https://www.ema.europa.eu/en/medicines/human/EPAR/leqembi>).<sup>21</sup>

Sophisticated differential diagnostics will be a necessity for the proper allocation of resources that will be made available for the purchase and administration of the drug.

Not only the diagnosis but also the follow-up of Alzheimer's patients under treatment will need dedicated medical and health personnel, and the implementation of economic resources is also necessary for the increase of neuroimaging diagnostics.

## References

1. Di Fiandra T, Canevelli M, Di Pucchio A, et al. The Italian dementia national plan. *Ann Ist Super Sanita* 2015;51:261-4.
2. Alzheimer's Disease International. World Alzheimer Report 2009. Available from: [www.alz.co.uk/research/world-report-2009](http://www.alz.co.uk/research/world-report-2009).
3. World Health Organization. Dementia: a public health priority. 2012. Available from: <https://www.who.int/publications/i/item/dementia-a-public-health-priority>.
4. Alzheimer cooperative valuation in Europe. ALCOVE Project. Available from: [www.alcove-project.eu](http://www.alcove-project.eu).
5. Italian Government. Provvedimento 30 ottobre 2014. Accordo, ai sensi dell'articolo 9, comma 2, lett. c) del decreto legislativo 28 agosto 1997, n. 281, tra il Governo, le regioni e le province

- autonome di Trento e di Bolzano, le province, i comuni e le comunità montane sul documento recante: “Piano nazionale demenze. Strategie per la promozione ed il miglioramento della qualità e dell’appropriatezza degli interventi assistenziali nel settore delle demenze”. (Rep. atti n. 135/CU). In: Official Journal n. 9, 13/01/2015.
6. European Union. Next Generation EU. Available from: [https://next-generation-eu.europa.eu/index\\_en](https://next-generation-eu.europa.eu/index_en)
  7. Kelley K, Clark B, Brown V, et al. Good practice in the conduct and reporting of survey research. *Int J Qual Health Care* 2003;15:261-6.
  8. Boynton PM, Greenhalgh T. Selecting, designing, and developing your questionnaire. *BMJ* 2004;328:1312-5.
  9. Hochberg CH, Eakin MN. Keys to successful survey research in health professions education. *ATS Sch* 2024;5:206-17.
  10. Wu M-J, Zhao K, Fils-Aime F. Response rates of online surveys in published research: a meta-analysis. *Comput Hum Behav Rep* 2002;7:100206.
  11. Del Bene VA, Gerstenecker A, Lazar RM. Formal neuropsychological testing: test batteries, interpretation, and added value in practice. *Clin Geriatr Med* 2023;39:27-43.
  12. Korthauer LE, Gemelli ZT, O’Shea D, et al. Association between neuropsychological assessment and amyloid status in a clinical setting. *Neuropsychology* 2024;38:337-46.
  13. Shaikh KT, Bolton K, Shaikh U, et al. Evaluating functional abilities within the context of memory assessment: a practice survey of neuropsychologists. *Clin Neuropsychol* 2024;38:557-87.
  14. Hofstetter JS, De Marchi V, Sarkis J, et al. From sustainable global value chains to circular economy-different silos, different perspectives, but many opportunities to build bridges. *Circ Econ Sustain* 2021;1:21-47.
  15. Asiiimwe R, Lam S, Leung S, et al. From biobank and data silos into a data common: convergence to support translational medicine. *J Transl Med* 2021;19:493.
  16. Salampessy BH, Portrait FRM, van der Hijden E, et al. On the correlation between outcome indicators and the structure and process indicators used to proxy them in public health care reporting. *Eur J Health Econ* 2021;22:1239-51.
  17. Anell A, Glenngård AH. The use of outcome and process indicators to incentivize integrated care for frail older people: a case study of primary care services in Sweden. *Int J Integr Care* 2014;14:e038.
  18. Jacobs AH, Emmert K, Baron R, et al. Neurogeriatrics-a vision for improved care and research for geriatric patients with predominating neurological disabilities. *Z Gerontol Geriatr* 2020;53:340-6.
  19. Galvin JE, Valois L, Zweig Y. Collaborative transdisciplinary team approach for dementia care. *Neurodegener Dis Manag* 2014;4:455-69.
  20. Bacigalupo I, Giaquinto F, Salvi E, et al. Permanent table of the national dementia plan study group and the CCDDs study group. A new national survey of centers for cognitive disorders and dementias in Italy. *Neurol Sci* 2024;45:525-38.
  21. Cummings J, Apostolova L, Rabinovici GD, et al. Lecanemab: appropriate use recommendations. *J Prev Alzheimers Dis* 2023;10:362-77.

---

Online supplementary material:

Supplementary Material. The full questionnaire, translated into English.