

# Clinical trial units and clinical research coordinators: a system facing crisis?

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## ABSTRACT

We are currently witnessing an increase in procedural and managerial complexities within the field of clinical research, which require greater human and infrastructural resources as well as imply the need for a greater skill set and expertise on the part of professionals. Within this frame of reference clinical trial units and clinical research coordinators play a vital role in the design and conduct of clinical trials in Italy. There is a current recruitment and retention crisis for this specialist role due to a complex set of factors, most likely to have come to a head due to the lack of recognition at the Italian institutional level, that lead to precarious work contracts, lack of identity, and excessive turnover at experimental sites. This article, led by the Italian Group of Clinical Research Coordinator (GIDMcr), presents some of the issues and ways in which national stakeholders may be able to address this.

**Keywords:** Clinical Research, Clinical Research Coordinator, Clinical Trial Management, Clinical Trial Unit

## Background

COVID-19 emergency has led to a collective awareness of the importance of promoting and supporting clinical research, in order to allow the development of new innovative therapies, as well as to improve the appropriateness of existing treatments (1,2). Treating and innovating has therefore become a primary need for both patients and the scientific community.

At the same time, especially in the last decade, clinical research has evolved and changed both from a regulatory and methodological point of view. In fact, we are currently witnessing an increase in procedural and managerial complexities

within the field of research, which require greater human and infrastructural resources as well as imply the need for a greater skill set and expertise on the part of professionals (3,4).

In this context, the centers that conduct clinical trials found themselves having to face this increased complexity which, from their point of view, is characterized by three main factors:

- increased quality standards required by the regulatory agencies, both toward the research centers and toward the promoters (both profit and nonprofit) (5,6);
- increased bureaucratization of processes, with a consequent increase in the document production at trial sites as requested by sponsors and stakeholders (7);
- increased complexity of study designs, with the introduction of innovative designs, such as platform and/or adaptive studies, often characterized by a Bayesian statistical basis. This increased complexity compared to traditional trials calls for greater efforts from clinical centers, in terms of procedures to be implemented and time to be dedicated to research activities, especially as a consequence of potential interim analysis and the dynamics of ongoing development of the study protocol (8).

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In order to adequately face these challenges, over the years, the research centers have therefore had to increase the workforce assigned to clinical research, including clinical research coordinators (CRCs) and research nurses. At the same time, it was necessary to implement and adapt their infrastructures through the creation of clinical trial units (CTUs) responsible for the management and coordination of the various activities required both in profit and academic/nonsponsored clinical research contexts (9,10).

Currently, human resources and clinical research support infrastructures represent the two cornerstones necessary for the correct conduct of clinical research.

### **The difficulties that trial centers are facing: infrastructures and human capital**

Although the added value of clinical research for patients, research institutions, and the National Healthcare System (NHS) is now scientifically recognized (it is estimated that for every euro paid by the pharmaceutical company/sponsor to the experimental sites for the conduct of a clinical study, the NHS saves 2.77 euro for costs not incurred (11)), over the years, institutional support has often lacked on the two pivotal fronts of experimental centers: professionals dedicated to clinical research and support infrastructures.

Until now, there has been no reference guidelines or shared institutional indications setting a standard model or organization system for experimental centers in order to ensure the conduct of profit and nonprofit clinical trials according to the required standards. This lack of coordination and institutional support has therefore led to a heterogeneous development of research centers across the State, both in terms of geographical distribution and in terms of the establishment and development of the organizational apparatus in support of clinical research (12).

A confirmation of this is the fact that many of the CTUs formed within the research centers are not formally recognized at an institutional and organizational level, often resulting in functional but not institutionalized operating units (13,14).

The institutions' reluctance to provide any support has ultimately led to the impossibility, especially on the part of public research structures, to guarantee a stable contractual status to those professional figures specifically dedicated to clinical research (primarily research coordinators and research nurses), causing as a result a strong turnover within the clinical centers' staff.

### **The role of the CRCs**

In the context of current clinical research, the figure of the CRC is now unanimously recognized as a fundamental element in order to guarantee the management and coordination of clinical trials according to the required quality standards (13,15,16).

Over the years this professional figure has evolved, acquiring specific technical and managerial skills that represent a strong added value for the clinical trial centers. These are professionals, who have achieved a bachelor's degree in scientific subjects and gained valuable and essential skills during their postgraduate training. These skills are certainly useful to coordinate and conduct clinical studies promoted by

pharmaceutical companies. It's also important to underline their key role in the drafting, planning, and project management of academic trials, and ensuring the compliance of the center with current legislation and structural and organizational requirements.

Despite the centrality of this professional figure, to date the figure of the CRC is not yet recognized at an institutional level in Italy. This lack of recognition has made it impossible over the years to include these professionals on a permanent basis within the NHS, mainly proposing scholarships, Consultancy contracts subject to Value Added Tax (VAT), and fixed-term contracts for CRC (13).

Although in recent years many different attempts have been made, the Italian system has not yet managed to find a definitive solution to contractual precariousness: the classification of staff within the researcher pyramid (which is limited to IRCCS) has in fact resulted in the chronicization of a contractual precariousness with no long-term and open-ended prospects (17). On this note, the classification of CRCs in category D within the administrative/technical sector does not in fact allow the enhancement of these professionals both in terms of intracompany growth and salary upgrade (especially based on the professional's training and technical-scientific skills).

### **Lack of identity and job description**

The lack of institutional recognition of the figure of the CRC explains the absence of a consistent professional job description at the national level: the tasks attributed to the CRC may differ from one clinical research center to another, also based on the latter's internal organization and procedures. As a consequence of this, the actual activities carried out by the CRCs may vary significantly: from the management of regulatory and start-up procedures to data entry, management and processing of experimental biological samples to the management of experimental drugs.

The lack of a well-defined identity for this figure therefore represents an element of further professional destabilization that is added to the contractual framework and which ultimately hinders, even in the perception of the scientific community, the full recognition of skills and added value given to the clinical centers.

### **Excessive turnover**

The lack of institutional recognition, lack of a permanent position within the Italian NHS, and lack of enhancement both at a contractual and competence level make it difficult for clinical centers to retain CRCs especially if experienced with strong technical skills.

CRCs with strong skills and experience can easily find job opportunities in pharmaceutical companies and contract research organizations, drawn by a better contractual status, the greater recognition of their skill set, as well as the opportunity for professional growth and salary upgrade.

After investing in the training of high-level professionals in the world of clinical research, the centers are therefore faced with high rates of outbound turnover, putting a strain on efficiency and organization (18).

In fact, there are several aspects that CTUs have to face as a result of excessive turnover, which, although common and



acceptable below a certain threshold, become unsustainable beyond a certain staff turnover rate:

- It is difficult to find a new resource to be included in the workforce who accepts the contractual and working conditions proposed, in spite of the possibilities offered by the market.
- In the case of public structures, any CRC must be identified through comparative procedures or public tenders that imply very specific and lengthy technical timelines. As a result, it is impossible to replace staff quickly, thus leaving the CTUs one unit short and the missed opportunity for a direct handover of ongoing activities between the outgoing and the incoming professionals.
- Loss of expertise and the need to consider a transition period for the incoming professional to complete specific training on internal procedures and processes.
- Loss of steadiness in the management of clinical trials with the need to update specific staff documentation, perform study-specific training, and the implementation of new profiles for any IT systems used.
- Continuous review of organizational charts and company training programs.

The excessive turnover of CRCs, certainly resulting from all the issues discussed so far, affects clinical centers and undermines the quality and efficiency of the work, indirectly increasing the workload and work-related tension within the staff of the CTUs.

### Future and possible solutions

Investing in research, both presently and in the future, implies multiplying one's investments guaranteeing benefits and positive outcomes for citizens and patients, as well as direct and indirect advantages for the NHS and for related activities deriving from clinical research itself. Supporting clinical research would trigger a win-win mechanism, with benefits extended throughout the country in terms of health experience, quality of services offered, and resource optimization.

In order to accomplish this, it will be necessary to break the ongoing latency of the institutions on this matter, placing clinical centers (regardless of their nature as research institute/IRCCS, hospitals, university hospitals, etc.) at the center of a plan for restoration and investments aimed at the enhancement of human capital and institutionalization and optimization of infrastructures dedicated to clinical research.

These investments, therefore, also involve institutional recognition and contractual enhancement of the figure of the CRC, as well as the definition of a job description to be included in the National Health System.

Furthermore, the formal recognition of the CTUs, standardizing the paths and requirements at a national level, represents a necessary step in order to allow research centers to keep up with the increasingly global and competitive clinical research setting, particularly since the bar of infrastructural and quality requirements is continuously rising.

The institutional recognition of the CTUs would guarantee a better defined organizational structure, providing them with a budget and objectives that would facilitate their activity by optimizing the available resources.

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