State transplant coordinators’ views on influencing factors of the performance of organ donation and transplantation services in Brazil: a qualitative study

A visão dos coordenadores estaduais de transplantes sobre os fatores que influenciam o desempenho dos serviços de doação e transplant de órgãos no Brasil: um estudo qualitativo

Claudia Affonso Silva Araujo¹
Marina Martins Siqueira²

Abstract
Despite their prominent role in organ donation and transplantation (ODT) results, studies aimed at state transplant coordinators’ managerial views are lacking. This qualitative study explores their perspective on facilitators and barriers to the performance of ODT services. Semi-structured interviews were conducted with coordinators of state transplant centers from 15 out of 27 Brazilian states. Content analysis was applied to identify key themes and organize the perceived factors affecting performance. The factors identified relate to services’ internal management, organizational characteristics of state transplant centers and hospitals performing ODT activities, the socioeconomic, political, and regulatory context surrounding services, and the interface with the general population. A major factor identified is the use of indicators as a critical management tool to locate inefficiencies, guide decision-making, and ground the dialogue with stakeholders. Other factors mentioned are the relationship with

¹ PhD in Administration from Universidade Federal do Rio de Janeiro - Instituto de Pós-Graduação e Pesquisa em Administração (UFRJ - COPPEAD), Rua Pascoal Lemme, 355, Cidade Universitária da Universidade Federal do Rio de Janeiro, Rio de Janeiro - RJ, CEP: 21941-918. E-mail: claraujo@coppead.ufrj.br
Orcid: https://orcid.org/0000-0003-0290-4807

² PhD in Administration from Universidade Federal do Rio de Janeiro - Instituto de Pós-Graduação e Pesquisa em Administração (UFRJ - COPPEAD), Centro de Estudos e Promoção de Políticas de Saúde do Einstein (CEPPS - Einstein), Rua Pascoal Lemme, 355, Cidade Universitária da Universidade Federal do Rio de Janeiro, Rio de Janeiro - RJ, CEP: 21941-918. E-mail: marina.martins.siqueira01@gmail.com
Orcid: https://orcid.org/0000-0002-2749-8086
hospitals, the state's political stability, the coordinators' interpersonal traits, and relational skills. This article offers practitioners and researchers an overview of the multiple factors influencing the performance of ODT services, intending to enrich the practice and management literature in this relevant health field and stir future research. Based on identified aspects, a list of managerial recommendations is proposed.

Keywords: Qualitative Research. Transplant Coordinators. Organ Donation and Transplantation. Brazil.

Introduction

Resumo
Apesar de seu papel de destaque nos resultados de doação e transplante de órgãos (DTO), faltam estudos voltados para a visão gerencial dos coordenadores estaduais de transplantes. Este estudo qualitativo explora a perspectiva dos coordenadores sobre facilitadores e barreiras para o desempenho dos serviços de DTO. Foram realizadas entrevistas semiestruturadas com coordenadores de centros estaduais de transplantes de 15 dos 27 estados brasileiros. A análise de conteúdo foi aplicada para identificar temas-chave e organizar os fatores percebidos que afetam o desempenho. Os fatores identificados dizem respeito à gestão interna dos serviços, às características organizacionais dos centros estaduais de transplantes e hospitais que exercem atividades de DTO, ao contexto socioeconômico, político e regulatório que envolve os serviços e à interface com a população em geral. Um fator importante identificado é o uso de indicadores como ferramenta crítica de gestão para localizar ineficiências, orientar a tomada de decisões e fundamentar o diálogo com as partes interessadas. Outros fatores mencionados são a relação com os hospitais, a estabilidade política do estado, as características interpessoais dos coordenadores e as habilidades relacionais. Este artigo oferece aos profissionais e pesquisadores uma visão geral dos múltiplos fatores que influenciam o desempenho dos serviços de DTO, com a intenção de enriquecer a prática e a literatura de gestão neste relevante campo da saúde e de estimular pesquisas futuras. Com base nos aspectos identificados, é proposta uma lista de recomendações gerenciais.

For thousands of patients with a vital organ impairment, transplantation is the best or unique option for survival and quality of life, replacing financially and socially costly therapies like dialysis (Axelrod et al., 2018; Jarl et al., 2018).

In Brazil, the National Transplantation System (SNT) represents the larger public organ transplant program globally, and the country is only behind the United States in the absolute number of surgeries. Every Brazilian that needs a transplant has the right to receive an organ through the Unified Health System (SUS), and around 90% of transplant activities are publicly funded, from required exams to the post-transplant follow-up (Nothen, 2020).

The number of solid organ transplants in Brazil has increased 52% in between 2009 and 2019, from 6,045 to 9,188. However, the SARS-COV-2 pandemic has had a negative impact on organ donation and transplantation (ODT) activities, especially in 2020, and even though the data indicates a recovery trend, the number of solid organ transplants dropped to 7362 in 2021. From December 2019 to December 2021 the number of patients on the transplant waiting list raised from 39,469 to 48,673, and from 12,215 potential donors in 2021, only 3,207 (26%) turned into effective donors (RBT, 2021). Also, studies indicate a low level of efficiency in the ODT process (Siqueira & Araujo, 2018; Messias et al., 2017; Costa, Balbinotto & Sampaio, 2014; Marinho & Cardoso, 2007). In this regard, SNT faces several managerial problems, like incomplete information systems, lack of material and human resources, besides infrastructural, logistical, and geographical challenges (Siqueira & Araujo, 2018; Almeida et al., 2021; Soares et al., 2020; Lopes et al., 2019; Gómez, Jungmann & Lima, 2018).

There is no extensive literature focused on understanding management problems and practices in the human-intensive and technically complex field of ODT (Tong, Morton & Webster, 2016). Previous studies have investigated specific initiatives to improve the ODT process in Brazil, like implementing hospital Quality Management Programs (de Andrade & Figueiredo, 2019) and the existence of full-time organ donation teams in hospitals (Sarlo et al., 2016). Also, a systematic review mapped the indicators used in the literature to assess the ODT performance (Siqueira et al., 2016), and some articles focused on the scope of work of hospital transplant coordinators worldwide (Teixeira et al., 2014; McNatt, 2008).

Even though there is well-established evidence that a vast array of social, economic, behavioral, and environmental factors impacts health services outcomes, the performance of ODT services is often assessed solely by quantitative clinical indicators such as the number of transplants, graft failures, or post-transplant survivals (Schold, Phelan & Buccini, 2017;
State transplant coordinators’ views on influencing factors of the performance of organ donation and transplantation services in Brazil: a qualitative study

Wijesinha et al., 2019; Alexandrine et al., 2019); not fully accounting the complexity and heterogeneity of aspects internal and external to the service management that can impact results.

In this scenario, a broad analysis of factors influencing ODT services performance is deemed relevant. This study aims to answer the following question: How can ODT services management be improved in Brazil? More specifically, we intend (a) to identify what factors are perceived as enablers or obstacles for ODT services performance and (b) based on the identified factors, to propose a list of managerial recommendations.

This analysis is done considering the perspective of state transplant centers (STC) coordinators. Each Brazilian state has an STC managed by a respective coordinator, whose work scope includes synchronizing all elements that encompass ODT activities at the state level, maintaining quality and ethical standards in transplant services (Elizalde & Lorente, 2006). Their goal is to improve the ODT performance (Teixeira et al., 2014; McNatt, 2008; Blumenthal, 2007; Falvey, 1996). The coordinators' perspective was chosen considering their attributions and relevance for Brazil's ODT services. Their position's unique characteristics demonstrate a potential contribution to the body of knowledge under examination and suitability to the research objectives (Miles & Huberman, 1994; Anderson, 2010).

Considering that substantial public resources are directed to ODT activities in Brazil, the examination of managerial issues affecting ODT results aims to, ultimately, contribute to strengthening the public health policy.

Conceptual Framework

In the absence of conceptual models focused on the ODT process, this study borrows contributions from the health management literature concerning the various factors that can affect health organizations and services' performance (Williams, Brown & Healy, 2018; Valaitis et al., 2018; Oner et al., 2016; Taylor et al., 2015; Mosadeghrad, 2014a; Mosadeghrad, 2014b; Afsharkazemi et al., 2013; Liu & Itoh, 2013; Vincent, Taylor-Adams & Stanhope, 1998). Rather than considering these models as independent and competing, we intended to recognize their complementarities, encompassing dimensions otherwise neglected in isolated models. We grouped the factors that emerged from the literature into four groups, in a non-exhaustive list of the aspects identified:

1. Internal management:
State transplant coordinators’ views on influencing factors of the performance of organ donation and transplantation services in Brazil: a qualitative study

- **Financial management**: Budgetary constraints, payment and financing system, technology investments.
- **Resource management**: Physical infrastructure, availability, and allocation of material and human resources; investments in technology.
- **Relationships management**: Relationships and collaborative approaches with stakeholders and partners, communication mechanisms.
- **Performance assessment**: Investments in information systems, self-assessment processes, goals, and indicators monitoring.
- **Quality management**: Availability of information to the public on the cost-effectiveness of treatments, patient safety, evidence-based practices, use of clinical protocols, etc.
- **Staff management**: Staff turnover, training, payment, motivation, physical and mental health; Optimization of employees’ scope of practice; Skills, knowledge, personal/professional needs, and motivation; Ethical and social considerations on the impact of the health services; Number and mix of employees, workload, work shift, administrative and managerial support.
- **Communication and team management**: Mechanisms of verbal and written communication, processes of supervision and feedback; team management, work in interdisciplinary teams.

2. Organizational characteristics:
- **Health service characteristics**: Medical specialty, service volume, service mix, case-mix.
- **Organization characteristics**: Size, location, ownership, organizational structure.
- **Institutional Strengths and Constraints**: Internal policies, power relations, and top management support.
- **Strategic decisions**: Organizational goals and vision, including acquisitions and mergers.

3. Environment:
- **Political-regulatory context**: Political interest, cooperation with interest groups, services regulation.
- **Socioeconomic context**: Economic incentives and climate; External competition, market demand, supplier power.
• **Demographic context**: Characteristics of the country, region, or health system where the service is.

4. **Interface with patients and the general population**:

• **Patient-provider relationship**: Patients' needs, socio-personal dimensions, subjective considerations; health status.

## Methodology

We applied a qualitative approach because it allows in-depth information on complex and scarcely explored subjects, being suitable to address "how" and "why" questions even when the academic topic is in its early stages of development (Smelser & Baltes, 2015; Mack & Woodsong, 2005).

We collected data through semi-structured interviews, allowing interviewees to speak freely, providing rich and detailed responses (Smelser & Baltes, 2015; Mack & Woodsong, 2005). To triangulate evidence and better understand the ODT process, we also looked at the SNT and STCs’ websites, laws, technical regulations, official documents, and news related to ODT activities in Brazil.

Two pre-test interviews with ODT practitioners occupying managerial positions were conducted to verify the interview script's adequacy, leading to minor changes. Next, a standardized e-mail was sent to all 27 Brazilian STCs, informing the research objectives and the research team, and an invitation for voluntary participation. Fifteen coordinators agreed to participate in the study. The number of interviews attained allowed theoretical saturation (Rhiry-Cherques, 2009).

A single semi-structured protocol was used for all interviewees (I1-15) and covered the influencing factors of health services performance emerged from the literature, organized into four main groups: Internal management; Organizational characteristics; Environment characteristics; Interface with patients and the general population. Interviews lasted between 60-80 minutes.

The coordinators interviewed work at the four Brazilian regions, representing states with distinct socio-economic realities and ODT services experience. They represent the states of Pernambuco, Alagoas, Sergipe, Piauí and Bahia (Northeast); Amazonas, Pará, Acre and Rondônia (North); São Paulo and Espírito Santo (Southeast); Santa Catarina and Rio Grande do Sul (South); Mato Grosso and Mato Grosso do Sul (Midwest). The interviewees are mostly physicians (n = 7) and nurses (n = 5), in addition to a psychologist and a social worker. Their
time in the coordinator position varies from 2 to 15 years. The majority has a full-time dedication to this position (n = 11), while some interviewees are part-time state transplant coordinators (n = 4). Most coordinators are women (n = 12), with a few male coordinators (n = 3).

Given the research geographical scope, the interviews were conducted and recorded via Skype. Interviews' transcriptions were examined individually by each researcher, seeking a consensus in the analysis. Content analysis was applied to identify perceived key factors affecting ODT performance, also looking for convergencies or divergencies regarding coordinators' perception and the literature reviewed (Miles & Huberman, 1994). As an exploratory qualitative study, this study does not intend to quantify, accept, or reject theoretical propositions previously hypothesized. The thematic coding was performed using Microsoft Excel.

The Research Ethics Committee approved this research at the Federal University of Rio de Janeiro [Protocol number 3.159.250]. All participants provided written informed consent.

Results

4.1 Internal Management Factors

Regarding communication and team management, the coordinators' position requires a solid relational component. According to the interviewees, social skills help articulate political and hospital environments and benefit the ODT process. Also, relational and people management skills help recognize and motivate all relevant partners to favor ODT results.

Coordinators affirmed spending a significant amount of time in relational activities such as meetings and training. They described interactions to raise awareness and solve doubts of private companies, schools, neighborhood associations, chronic disease associations, medical and nursing universities, medical councils, among others. It is also common to give radio or television interviews and participate in events with media coverage. Such activities are seen as a way of disseminating ODT activities' results and social relevance, raising the general population's familiarity with the subject.

Concerning staff management, professional challenges derive from the absence of standardized training. Some of the interviewees had the self-initiative of seeking courses, but they have to learn "in practice" how to deal with management challenges within their work.
Another issue is the lack of recognition and compensation for professionals involved in the ODT process. Unlike other hospital procedures, physicians in public hospitals do not receive specific monetary compensation for transplant surgery. The same happens for neurologists responsible for the complementary tests of brain death diagnosis. There is also no remuneration for a hospital coordinator position – those professionals working within hospitals to assist processes that allow the donation, procurement, and transplantation of organs.

Another negative factor is staff turnover, compromising efforts in training and relationship building. One interviewee exemplified that a change in a hospital direction can replace several healthcare professionals, undermining months of awareness and training efforts on ODT activities.

Concerning financial management, because STCs are part of their respective State Health Secretariat, they have no financial or executive autonomy. Besides, there is an absence of cost-effectiveness analysis of expenses per patient, hospital, or along the ODT process. Problems also underlie the resource management topic, with bureaucratic and slow processes for bidding or purchasing products and contracting services.

Regarding relationships, interviewees highlighted cordial interactions with other coordinators as a positive aspect. Some coordinators cited on-site visits to states with superior ODT results to benchmark good practices and learn with problems already overcome by these states. In addition to face-to-face contacts, there is WhatsApp communication. The coordinators have a WhatsApp group where they openly ask questions, express opinions, exchange experiences, and keep informed about legislation. The channel allows coordinators to seek guidance on exceptional cases already witnessed by other states, debate colleagues' understanding of new ordinances, and share articles about ODT advancements. It is worth mentioning that most interactions occur by coordinators' self-initiative.

On performance assessment, all interviewees cited as essential the use of result indicators as a managerial tool that guides decision-making in several aspects, including the need for new investments and training and education initiatives. Longitudinal performance analysis allows monitoring goals in the long term and favors identifying structural changes, such as new public policies, that may have contributed to processes improvement. Indicators are also employed for evidence-based argumentation with government representatives, hospital managers, donation teams, among others. Indicators also quantify the effectiveness of specific actions – such as awareness campaigns - enabling positive feedback to successful efforts. Indicators are considered adequate when they point out inefficiencies and allow the
implementation of corrective measures. One example is hospital donation teams’ training for performing family interviews, acknowledged by many coordinators as effectively reducing rates of family refusals to organ donation.

Most coordinators believe that in recent years managerial reports have improved in terms of data coverage and reliability. This is especially relevant once STCs monitor ODT results using both data generated internally and collected externally at hospitals, medical laboratories, etc. However, it was evident in the interviews the existence of contrast among states regarding the development of databases and sophistication in analyzing information. In most STCs, data input, tabulation, and consolidation are made manually in a Microsoft Excel worksheet, with great susceptibility to human failures.

Due to the involvement of several people in data collection, all STCs perform manual data checks, verifying the data received and/or comparing it with other sources. In coordinators' perception, data control is facilitated by the proximity to the professionals responsible for collecting the information within hospitals.

Although interviewees recognize the relevance of reliable and standardized ODT information, few coordinators reported using software or data analysis tools or having an employee trained and dedicated to data management. Overall STCs work with a limited number of employees and deal with several problems that require immediate resolution. This lack of human resources hampers the development of a more elaborate ODT database, and efforts for improving the indicators' system are often postponed.

STCs also use indicators for establishing and tracking goals at different aggregation levels. There are goals agreed with the Ministry of Health and the State Department of Health. They are also elaborated internally at the STCs or by the donation and transplantation teams. The results are compared with previous periods or national and regional averages, observing international benchmarks like Spanish and relevant literature. If a state presents a small ODT volume, it may need to work with more aggregated data as pluriannual or annual results, while high-volume centers can also analyze weekly or monthly data.

Most interviewees mentioned only monitor the indicators mandatorily sent by hospitals, since gathering and analyzing data for new indicators relies on employee's availability at the STCs. As a result, complementary indicators are scarce and sporadically used.

Although coordinators portrayed a continuous effort to raise hospitals' awareness towards data collection and documentation of ODT activities, examples of hospitals sending delayed and inconsistent information to their respective STC are plentiful.
Within the *quality management* topic, coordinators cited variables that should ideally be included in the list of mandatory indicators foreseen in the Brazilian legislation, sent from hospitals to their respective STC and the SNT system. These variables refer to the quality of ODT services and the reasons why families refuse to donate. Another data gap refers to the quality of care received by patients and their families, which influences families’ decisions to donate. The criteria for selecting transplant recipients could also benefit from qualitative data, covering medical aspects and the support network that a transplanted patient requires.

According to interviewees, more detailed information on death causes within would allow a better estimation of the potential donor pool of each hospital or geographic area. It could also help identify inefficiencies in the identification and clinical maintenance of potential donors.

Other relevant information frequently mentioned is the transplantation follow-up, such as patients’ survival and quality of life, re-transplantation, graft rejection episodes, adherence to immunosuppressive treatment, and return to social and work activities. This information is an important proxy for the quality of transplants and should ideally be considered for re-accreditation of transplant teams.

### 4.2 Organizational Characteristics Factors

Regarding *institutional strengths and constraints*, interviewees mentioned that an overly conservative approach towards non-absolute contraindications to donation at hospitals performing ODT can result in low organ utilization rates.

Some interviewees cited the importance of having active donation teams operating within hospitals to support ODT activities. Another desirable practice is a commitment term between hospitals and the respective STC for monitoring hospitals' ODT results on agreed goals.

STCs present distinct approaches for dealing with hospitals and their donation teams. The interactions tend to increase when a sharp drop in ODT numbers is observed in a given hospital and might include phone calls, on-site visits, courses, lectures, and meetings with hospital directors/managers, and health professionals directly or indirectly working with ODT. Such interactions are meant to set goals and raise awareness regarding ODT's social and ethical relevance. However, there is no formal hierarchy requiring that hospitals follow the proposed STC's practices.
In the *strategic decisions* topic, some coordinators stated that public-private partnerships (PPPs) could help with the resource scarcity faced by many public hospitals, which translates into overloaded doctors, unmotivated and poorly trained healthcare professionals, crowded ICUs, failures in the humanization of care, and healthcare process delays. The partnerships could improve the availability of staff training, healthcare professionals, ICU beds, equipment, procedures, and tests required for timely fulfilling ODT challenges. However, this requires an attractive remuneration for ODT procedures performed through PPPs.

### 4.3 Environment Factors

Regarding *political and regulatory context*, interviewees reported that it is essential for a coordinator to possess technical knowledge on the rules and legislation of SUS and SNT and its political peculiarities at state and municipal levels. Keeping up to date with new laws, ordinances, and technical regulations ensures acquaintance with fundraising possibilities, financing mechanisms, and legal operating requirements regarding ODT services.

Interviewees frequently mentioned that legal and bureaucratic questions are inherent to the state coordinators’ daily work. The involvement with supporting documentation, memos, bidding processes, among others, means less time devoted to strategic issues. Political skills are highly desirable to build a good relationship between the STC and the State Department of Health, facilitating partnership projects and fundraising agreements.

Regarding the *socio-economic context*, Brazilian states' heterogeneity is reflected in ODT results, mainly when public health investments do not target the large inequalities across the country. One interviewee noted that prominent STCs tend to be located in wealthier states, with more government funding to health.

### 4.4 Interface With Patients and the General Population Factors

Investments in education and media campaigns on ODT were cited as a positive factor, given its potential to demystify organ donation and portray it as an act of empathy. In turn, interviewees brought to light the lack of knowledge regarding brain death and the dissatisfaction with the healthcare services provided for its negative impact on the family's decision to organ donation.
### Discussion

#### 5.1 Factors Related to the ODT Services Performance

Addressing the first specific objective of this study, Table 1 conveys depicts the main factors identified for its impact on ODT services performance. The model presents the influencing aspects that emerged from the analysis of interviews and were distributed according to the literature's topics (first column), together with interviewers' quotes that help to illustrate the impact of the identified aspects within each topic (second column). It is possible to draw a clear parallel between issues that emerged from literature and interviews – with all aspects brought by coordinators fitting into one or more subcategories present in the literature examined. In turn, not all aspects raised from the literature were quoted by interviewees.

<table>
<thead>
<tr>
<th>CATEGORY OF ANALYSIS</th>
<th>INTERVIEWEES' QUOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal management</strong></td>
<td><strong>Financial Management</strong></td>
</tr>
</tbody>
</table>
| - Lack of detailed analyses of expenditures and resource needs.  
- No variable remuneration linked to the attainment of ODT goals.  
- No specific remuneration for ODT procedures as transplant surgery and confirmatory tests for brain death diagnosis at public hospitals. | I10: “We don't have access to money. If a computer breaks, I have to file a formal purchase order. It is a real journey to replace it.” |
| **Resource management** | **Resource Management** |
| Slow and inflexible process for purchasing, bidding, and approving projects with State Health Secretariats. | I2: “We rely on government resources to execute things. If I plan a training project, it may take a year to transit and be approved in the State Health Secretariat. By then the project is already outdated.” |
| **Relationships** | **Management** |
| - A good relationship among coordinators allows sharing challenges and success cases, technical or managerial doubts.  
- A good relationship between STCs and hospital staff helps to raise awareness of ODT relevance and data compliance within the hospital structure. | I15: “The data coming from hospitals depend on the adherence of the staff working there, who are not paid to collect and send us the data. And it’s something that requires time and motivation. So, we need to explain the importance of monitoring ODT results.” |
| **Performance Assessment** | **Performance Assessment** |
| - Indicators are a basic management tool, used in managerial reports and to guide decision-making (e.g., new investments, educational initiatives, training or dismissing employees, tracking goals over time). They help to motivate and provide an evidence-based argumentation with the government, ODT teams, and hospitals.  
- Need for a broader set of mandatory indicators that hospitals and ODT teams must send to the STCs. They would allow more detailed monitoring of activities.  
- Need for investments in software and data analysis tools.  
- Scarce time for implementing new indicators, as a result of insufficient staff in STCs.  
- STCs receive data from different institutions, so it is important to adopt standard processes of collection and consistency checks. | I3: “The indicators give us valuable information to know where the problem is; if in a specific hospital or city, at the family interview stage, in the brain death report. From there we can discuss strategies and track results.”  
I7: “The numbers are the basis for arguing with hospitals and the government about what needs to be done and the quality of what is being done. They are the embodiment in numbers of what we do.”  
I8: “There is a lot of information that would be interesting to monitor, as the
Quality management
Gaps on epidemiological and qualitative data at different stages of the ODT process (e.g., hospitals' specific causes of deaths and donation pool, reasons for family's refusal to organ donation, quality-of-life, and adherence to immunosuppressive treatment of transplanted patients).

Staff management
- The coordinator position lacks standardized training covering managerial activities and specific ODT challenges.
- Previous experience/training with ODT and health services management brings greater work confidence to coordinators.
- To take the position the coordinators not rarely forsake less challenging and better-paying opportunities such as medical practice.
- Relevant knowledge for the coordinator position includes the operation of the Health System, the processes, physiology, and legislation of ODT services, and state-level peculiarities.
- The interpersonal profile of a coordinator should be compatible with ODT activities, including traits of empathy and proactivity.
- The extensive work demand combined with a reduced staff number requires personnel to get involved in many operational and bureaucratic functions, with little time left for staff assessments.
- Staff turnover at hospitals and ODT teams requires new efforts of the STCs to train and motivate all actors involved with ODT.

Communication and team management
Desirable relational, political, and human resources skills for state transplant coordinator position, aimed to form, motivate, and train efficient teams, as well as to present interlocution to interact with a wide network of actors and institutions.

Organizational characteristics
Health services characteristics
The positive reputation of SNT, as SUS public policy that is backed by transplant laws and reliable institutions, ensures its sustainability.

Organizational characteristics
Prominent STCs tend to present greater expertise in managing ODT services and building relationships within the SNT.

Institutional Strengths and Constraints
Hospitals’ approach towards non-absolute contraindications to donation and top management support towards ODT activities can impact its potential donor pool.

Strategic Decisions
Public-private partnerships could lead to improved capacity and infrastructure of the Brazilian hospital network. This requires the National Health System’s reimbursement for ODT activities to be attractive for private hospitals.

External context
patient quality of life after transplant. But if it's not mandatory, hospitals won't send it to us.”

I10: “If there is a large number of brain death tests and a small number of donations, a problem in the diagnosis or maintenance of potential donors may be happening. Sometimes the hospital or its organ procurement team simply do not take data collection seriously... so we need to reason with them.”

I8: “My training is in the medical field, but my position also requires managerial skills. I took some management courses which gave me the tools to be a better coordinator and live up to my work demands. But this was self-initiative, no one told me I would need it.”

I3: “The STC has few employees, so everyone has to do everything, including bureaucratic tasks, and we have limited time to work on strategic issues.”

I6: “We solve doubts of the general public and patient associations on our website, by e-mail, phone calls. We help to organize promotional material and events on ODT themes”.

I9: “A coordinator has to be tactful. We deal with executive and legislative government representatives, hospital directors, doctors, patient associations, other coordinators, journalists, patient families from all economic levels...”

I7: “SNT has a great reputation, as a serious system in the procurement and distribution of organs for transplants, and those working in the field have to maintain that.”

I9: “Bigger STCs have much to contribute so that the less experienced ones don’t repeat the mistakes overcame by others.”

I5: “We keep frequent contacts with hospitals so that everyone - doctors, nurses, donation teams, top management - understand the relevance of ODT activities. They are not paid by us, but we need them to achieve good results in our state.”

I11: “Doctors are not paid for the transplant surgery in public hospitals, even though is a complex procedure, and private hospitals have little motivation to perform these surgeries given how much SUS pays for the surgery.”
State transplant coordinators’ views on influencing factors of the performance of organ donation and transplantation services in Brazil: a qualitative study

Political & Regulatory context
- Political instability at health secretaries demand efforts to rebuild relationship networking with the state government.
- Since ODT services are closely regulated, there is a great work demand involving legal and bureaucratic issues, leading to reduced time for strategic planning.

Socioeconomic context
- Concentration of hospital infrastructure within capital cities requires that patients on the waiting list travel to perform the mandatory pre-transplantation exams.
- Socioeconomic inequalities among Brazilian states and regions commonly translate into different degrees of public investment and hospital infrastructure for ODT.

Interface with patients and the general population
- Poor familiarity with the functioning and benefits of ODT impacts families’ consent to donation. This requires education investments, awareness campaigns, and media coverage on the theme.
- The poor infrastructure and lack of resources at hospitals and families’ dissatisfaction with the care provided negatively impact the decision to donate.

The results concerning the working scope of coordinators meet previous evidence (Teixeira et al., 2014; McNatt, 2008), indicating a lack of requirements for STC’s educational and professional training. Despite the relevance and complexity of their work, coordinators struggle due to a lack of managerial training for their position. Professional certification could partially address this issue, verifying the qualification to perform a job. Yet, efforts to certificate the Transplant Coordinators profession are sparse, with isolated initiatives in Europe, United States, and United Kingdom (Teixeira et al., 2014). Additionally, there is little evidence on the optimal staff number and skill mix required for ODT services. This lack of standardization hampers the definition of good practices and a clear delimitation of the work scope for coordinators (McNatt, 2008).

Their multidisciplinary work requires dealing with many stakeholders, including hospital directors, doctors, IT specialists, social workers. By coordinating a complex, highly regulated, and publicly visible health service, they also deal with the media and government representatives (Teixeira et al., 2014; Hauff, 2007).

At large, coordinators need to work together with all those involved with ODT in their states and monitoring ODT results at the hospital, municipal, and state levels constitute a relevant task for seeking continuous improvement (Teixeira et al., 2014). Also, the position requires constant updating of technical and legal knowledge to act under the current rules.

Table 1 - Influencing factors of performance on Brazilian state services of ODT
* SNT = National Health System; STC = State Transplant Center. ODT = Organ Donation and Transplantation. Source: Elaborated by the authors

| Political & Regulatory context | 112: “Political changes compromise our work. When a new Health Secretary comes in, we need to rebuild relationships and acquaintances, to show the relevance of our work before asking for help.” |
| Socioeconomic context | 114: “We sent a social worker to check a patient’s living conditions and found that he lived with ten people in a one-room house, in a street that floods when it rains. The post-transplant would not be safe, so we found him a new home before surgery, through the “My Home my Life” housing project.” |
| Interface with patients and the general population | 115: “It’s hard to raise awareness on ODT amongst overloaded professionals. The families (of potential donors) feel as they are not a priority, and their refusal to organ donation might be related to the unsatisfactory care delivered...” |

The results concerning the working scope of coordinators meet previous evidence (Teixeira et al., 2014; McNatt, 2008), indicating a lack of requirements for STC’s educational and professional training. Despite the relevance and complexity of their work, coordinators struggle due to a lack of managerial training for their position. Professional certification could partially address this issue, verifying the qualification to perform a job. Yet, efforts to certificate the Transplant Coordinators profession are sparse, with isolated initiatives in Europe, United States, and United Kingdom (Teixeira et al., 2014). Additionally, there is little evidence on the optimal staff number and skill mix required for ODT services. This lack of standardization hampers the definition of good practices and a clear delimitation of the work scope for coordinators (McNatt, 2008).

Their multidisciplinary work requires dealing with many stakeholders, including hospital directors, doctors, IT specialists, social workers. By coordinating a complex, highly regulated, and publicly visible health service, they also deal with the media and government representatives (Teixeira et al., 2014; Hauff, 2007).

At large, coordinators need to work together with all those involved with ODT in their states and monitoring ODT results at the hospital, municipal, and state levels constitute a relevant task for seeking continuous improvement (Teixeira et al., 2014). Also, the position requires constant updating of technical and legal knowledge to act under the current rules.
(McNatt, 2008). Besides, health systems’ budget constraints intensify the pressure for managerial efficiency in this position (WHO, 2011).

Consistent with this study's results, previous empirical studies also emphasized the relevance of organizational/managerial factors for ODT performance in Brazil. A hospital in Rio de Janeiro state noted process improvements on the ODT process after implementing a Quality Management Program, leading to more excellent learning capability for errors detection and behavior correction (Araújo et al., 2015). Rio de Janeiro also experienced a sharp increase in the referrals of potential donors, donor conversion rates, and donation rates in the years following the implementation of full-time organ donation teams in the structure of selected hospitals (Sarlo et al., 2016). Santa Catarina achieved similar improvements after articulated ODT initiatives in the state's hospitals (de Andrade & Figueiredo, 2019). Yet, several other aspects discussed during interviews remain scarcely investigated in ODT literature.

Factors discussed during interviews focus mainly on human resources, relational dimensions, and performance measurement. The first one refers to the interactions among relevant actors, such as other coordinators, government representatives, and hospitals performing ODT. The second refers to the staff management on STCs and hospitals, involving practices that aim to promote ODT activities.

The growing relevance of performance indicators is observed in Brazil and other countries. Data such as the number of notifications of Brain Death and the number of donated and transplanted organs are used by international institutions like the Global Observatory of ODT and several successful transplant services, including the United States, Spain, and Turkey. The indicators allow monitoring and benchmarking results over time and considering different aggregation levels - by hospitals, municipalities, regions, or even countries. A systematic review describing the performance measurement in the ODT field indicated the relevance of indicators as a managerial tool, but also identified a low standardization of measures adopted and measurement gaps in several stages of the ODT process (Siqueira et al., 2016). Such gaps were also recognized during interviews, relative to objective and subjective aspects of the transplant follow-up, the reasons for family refusal to donate, and the quality of services delivered.

Addressing the second specific objective of this research and drawing from aspects identified during interviews, table 2 brings recommendations to enhance the ODT process.
Resources and relationships management:
- Review hospital and professional payment systems for ODT procedures.
- Streamline purchasing and bidding processes at the STCs.
- Promote guidelines for a cordial and steady relationship between STCs and the hospital teams performing ODT.

Performance assessment:
- Promote a broader set of indicators to be mandatorily reported by hospitals, covering knowledge gaps such as post-transplant quality of life.
- Institutionalize data management practices, including standardized data check procedures.
- Public investments in ODT data analysis tools and integrated information systems at the state and national levels.
- Establishment of goals and agreements between hospitals performing ODT and the respective STC, aiming for structured support and accountability for ODT results.

Communication and staff management
- Revise staff dimensioning at hospitals performing ODT and at STCs.
- Promote initiatives to reduce staff turnover at ICUs, ODT teams, and STCs, reducing duplicate training and network efforts.
- Revise financial/non-financial incentives for ODT professionals.
- Establish prerequisites for the state transplant coordinator position, covering:
  a. Formal and standardized training.
  b. Prior experience with ODT processes or health services management.
  c. Up-to-date knowledge on specificities of SUS, SNT, ODT, and its legislation.
- Clarify desirable skills for the coordinator position, covering relational abilities as interdisciplinary teamwork.
- Promote periodic meetings among state transplant coordinators, aiming a benchmark of experiences and practices among states with prominent versus modest ODT results.

Organizational characteristics
- Promote partnerships between SNT and the private hospital network, aiming for better health infrastructure for ODT activities.
- Reassess hospital infrastructure investment needs among states and capitals, aiming to reduce healthcare inequalities.
- Secure a stable political will towards ODT activities, regardless of changes in State Health Secretariats.

Table 2 - Managerial recommendations for improving ODT services performance

* SNT = National Health System; STC = State Transplant Center. ODT = Organ Donation and Transplantation.

Source: Elaborated by the authors

Conclusion

An effective strategy for improving rates of ODT must incorporate different initiatives in both practice and policy (Martin, 2014). Regarding the managerial practice of ODT activities in the state level, this study analyzed multifaceted factors influencing the ODT services performance in Brazil as perceived by the STC coordinators. The results indicate acceptance of the literature evidence that health services performance is affected by internal and external factors encompassing different stakeholders. More specifically, it was observed that the ODT services performance relates to the: a) administration of STCs; b) political and regulatory environment surrounding these services; c) interpersonal relationships and job functions of transplant coordinators; and d) patients, their families, and the general population.

The research contributes to the health management literature by shedding light on a scarcely explored theme, especially in developing countries. As far as we know, this is the
first study investigating multiple factors affecting the ODT services performance from STC coordinators' perspective – those responsible for managing ODT activities at the state level. When brought together, the factors identified take on this health field's managerial complexity, offering a comprehensive framework to be considered for managing and improving ODT services. The results also allowed drawing a set of recommendations. The challenges and opportunities presented are expected to encourage the discussion and updating of managerial strategies and practices applied to ODT. Thus, this study aims to be useful for health managers, policy-makers, practitioners, and researchers, providing a common agenda that considers various aspects not yet jointly addressed in the ODT activity.

Despite its contributions, some limitations are worth mentioning. Interviewees' perceptions about what factors affect ODT services performance often reflect their individual experience rather than a general view. Thus, it does not allow the generalization of results to a larger population. Interviews are also prone to subjectivity and bias due to the interviewer's direct interaction with the study subjects. Also, data collection relies significantly on the researcher's skills and expertise to undertake an interview and interpret its results (Lune & Berg, 2011).

Lastly, this study aims to lay the groundwork for further research, encouraging additional inquiries on the topic. Subsequent studies can examine factors impacting ODT performance in other countries, address other ODT stakeholder's and institutions' perspectives, or deepen the understanding of the factors presented here.

References


State transplant coordinators’ views on influencing factors of the performance of organ donation and transplantation services in Brazil: a qualitative study


State transplant coordinators’ views on influencing factors of the performance of organ donation and transplantation services in Brazil: a qualitative study


Submetido em: 19.06.2023
Aceito em: 19.07.2023