Supportive Care Network: Evaluation of Its Impact on the Performance of a Urology Department

Rede Nacional de Cuidados Continuados: Avaliação do Seu Impacto no Funcionamento de Um Serviço de Urologia

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ABSTRACT

Introduction: Hospitals are dealing with patients who may have clinical discharge but cannot return to their home due to non-medical issues.

Material and Methods: Cross-sectional analysis of all the cases referred to the Integrated Care Network during the year 2016. Evaluation of waiting times, typology, reason for referral and clinical parameters. IBM SPSS 24.0 software was used for all statistical analyses.

Results: In the evaluated period, 2294 patients were discharged from our department. Of these, 55 were referred to Integrated Care Network. The mean length of hospitalization of the patients referred to the network was 20.6 ± 11.4 days, and the mean overall length of hospital stay in the period analyzed was 4.8 ± 0.9 days. The mean time between hospitalization and referral for continuing care was 10.7 ± 7.2 days. The time between referral and discharge of the hospital was 10.0 ± 8.7 days. Thirty-nine (70.9%) patients were hospitalized for oncological diseases. The most common referral was to Palliative Care units (n = 16; 29.1%). Patients referred to Palliative Care units showed the largest waiting times between the referral for the network and the hospital discharge, 12.2 ± 10.51 days. We observed 289 hospitalization days with patients who had no need of specialized urological care.

Discussion: In order to reduce time between referral to the network and hospital discharge, there is a need for enhanced cooperation and coordination among doctors, nurses and social workers.

Conclusion: Early identification by physicians and nurses of patients who will require care after discharge will provide a better response from social workers and increased hospital performance.

Keywords: Geriatrics; Length of Stay; Palliative Care; Referral and Consultation; Urology

RESUMO

Introdução: Os hospitais deparam-se cada vez mais com doentes que, tendo alta clínica, não têm condições de ordem não clínica para regressar imediatamente ao domicílio.

Material e Métodos: Estudo transversal dos casos referenciados para a Rede Nacional de Cuidados Continuados Integrados durante o ano de 2016 no nosso Serviço de Urologia. Foram avaliados os tempos de espera, tipologia, motivo de referenciação e os parâmetros clínicos. Análise estatística realizada com recurso ao *software* IBM SPSS 24.0.

Resultados: No período analisado, 2294 pacientes tiveram alta hospitalar no nosso serviço. Destes, 55 foram referenciados para a Rede Nacional de Cuidados Continuados Integrados. O tempo médio de internamento dos pacientes referenciados foi de 20,6 ± 11,4 dias enquanto o tempo médio global de internamento foi de 4,8 ± 0,9 dias. O tempo médio entre o internamento e a referenciação para a Rede Nacional de Cuidados Continuados Integrados foi de 10,7 ± 7,2 dias. O tempo entre a referenciação e a alta hospitalar foi de 10,0 ± 8,7 dias. Trinta e nove (70,9%) pacientes foram internados por patologias oncológicas. A referenciação mais frequente foi para unidades de cuidados paliativos (n = 16; 29,1%). Os pacientes referenciados para cuidados paliativos foram os que apresentaram os maiores tempos de espera entre a referenciação e a alta hospitalar efetiva, 12,2 ± 10,51 dias. Foram despendidos 289 dias de hospitalização com pacientes que não precisavam de cuidados urológicos especializados.

Discussão: Para que o tempo entre a referenciação para a Rede Nacional de Cuidados Continuados Integrados e a alta hospitalar sejam diminuídos, é necessário que haja uma otimização da cooperação e coordenação entre médicos, enfermeiros e assistentes sociais.

Conclusão: A identificação precoce dos doentes que necessitarão de apoio após a alta clínica permitirá uma resposta mais atempada por parte dos assistentes sociais e uma consequente melhoria do desempenho dos serviços hospitalares e satisfação dos doentes.

Palavras-chave: Cuidados Paliativos; Encaminhamento e Consulta; Geriatria; Tempo de Internamento; Urologia

INTRODUCTION

In Portugal, responsibility for health care is assigned to the Ministry of Health, which coordinates and finances public health care, develops health policy and supervises and evaluates its implementation and regulates the Portuguese National Health Service (SNS). It is also the responsibility of the Ministry of Health to regulate, audit and inspect private providers of health services. Integrated care, both as a concept and in practice, has received increasing attention from politicians and health professionals over the last decade.

Integrated care is promoted by the World Health Organization as a synonym for coordination of care in various health professionals, services, organizations and sectors involved in diagnosis, treatment, care, rehabilitation

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and health promotion.[1] It is believed services will improve in terms of access, quality, user satisfaction and efficiency[1] and some evidence seems to confirm such expectations.[2,3] Integrated care perspectives, according to the World Health Organization's definition of health, expand the spectrum of network participants to those who provide services related with daily living activities to citizens with temporary or permanently incapacitation of self-care. They act as key points in the care network, providing important services to those in need and their families, increasing efficiency and effectiveness of other caregivers and of the network. Therefore, a holistic approach to integrated care needs to consider not only integration within the health sector,[4] but also the integration of social services and even the involvement of other partners, such as pharmacists and all the society.[5]

With the continuous aging of the population and the increase in survival of cancer patients, hospitals are encountering patients who do not need specialized medical care but are also not able to return immediately to their home. Besides this, modern lifestyle, with increasingly demanding and competitive jobs, leads close relatives having less availability to provide care and support to these patients. In this sense, the National Network of Integrated Continuing Care (RNCCI – *Rede Nacional de Cuidados Continuados Integrados*) emerged. The RNCCI is a group of public and private institutions that provide continuous health care and social support to people in situations of dependency, both in their home or in specific health centers.

The RNCCI arose from the cooperation between the Ministry of Solidarity, Employment and Social Security and the Ministry of Health and numerous providers of health care and social support. The RNCCI includes inpatient units (continued convalescence care, continued mid-term care and rehabilitation, continued long-term care and maintenance, palliative care), outpatient units, continuing care health and social support teams, and home teams of continuing health care and social support. In integrated care, the dependent person, regardless of age, receives health care and social support. The goal is to help the person recover or keep their autonomy and maximize their quality of life. Although the RNCCI exists, the referral continues to be late and the number of places is insufficient to cater for the demand.[6]

The aim of this study is to analyze our experience with patient referral to the RNCCI during the year of 2016. We intend to assess the impact of the late discharge these patients had on the dynamics, efficiency and costs for the department.

MATERIAL AND METHODS

We performed a cross-sectional study of hospitalized patients at the Urology Department of Coimbra's University Hospital referred to the RNCCI during the year 2016. Data collection was performed by the consultation of the social assistant database and patients' clinical records. We analyzed hospitalization and discharge waiting times, patient origin, care typology requested, reason for referral, clinical parameters (age, urological disease) and estimated costs.

The costs were estimated based on the basic cost of one day of hospitalization in our department. This cost includes bed occupancy, meals and basic medication. Data were expressed as mean ± standard deviation, number (%), or median with interquartile range as appropriate. SPSS 24.0 software was used for all statistical analyses.

RESULTS

During 2016, 2294 patients were discharged from our department. Of these, 55 were referred to the RNCCI. The mean age of patients was 76.8 years (range, 54 - 93 years). Mean length hospitalization of patients referred to the RNCCI was 20.6 ± 11.4 days, and mean length of hospital stay for all patients in the tested period was 4.8 ± 0.9 days. The mean time between hospitalization and referral for the RNCCI was 10.7 ± 7.2 days, and between referral and discharge of the department was 10.0 ± 8.7 days. The majority of patients (n = 39; 70.9%) referred for RNCCI were hospitalized due to oncological diseases. Of these, 17 patients (30.9%) had prostate carcinoma, 12 (21.8%) bladder carcinoma, 4 (7.3%) renal cell carcinoma, 4 (7.3%) upper urothelial carcinoma and two patients (3.6%) had penile carcinoma. The remaining 16 patients were hospitalized due to non-oncological conditions, with the most common diagnoses being complicated urinary tract infection and hematuria. Forty-one patients (74.5%) were admitted from the Emergency Department, 9 (16.4%) were awaiting elective surgery, 3 (5.5%) were transferred from other departments and 2 patients (3.6%) were hospitalized by the outpatient clinic.

Regarding the type of care required, 16 (29.1%) patients were referred to Palliative Care units, 15 (27.3%) for Medium-Term Care and Rehabilitation, 9 (16.4%) for home care teams (ECCI – *Equipa de Cuidados Continuados Domiciliários*), 8 (14.5%) for Long-term Care Units and 7 (12.7%) patients were referred for Convalescent Continuum Care (Fig. 1).

Patients referred to Palliative Care Units presented the largest waiting times between the referral for the RNCCI and the effective hospital discharge, 12.2 ± 10.51 days (Fig. 2). During 2016, we had 289 hospitalization days with patients who had no need of specialized urological care. These patients remained hospitalized in our department while they awaited a place in the RNCCI unit. Referral for Palliative Care Units was the one that contributed with more days of unnecessary hospitalization, 153 (52.9%). The unit with fewer days of hospitalization after clinical discharge was ECCI (home care teams), which had only 6 days (2.1%) of unnecessary hospitalization. The remaining waiting times between referral and hospital discharge and days of unnecessary hospitalization are shown in Figs. 2 and 3, respectively. Thirteen patients (23.6%) died in the hospital while awaiting a place in the RNCCI. More than half of these patients (53.8%; n = 7) were awaiting

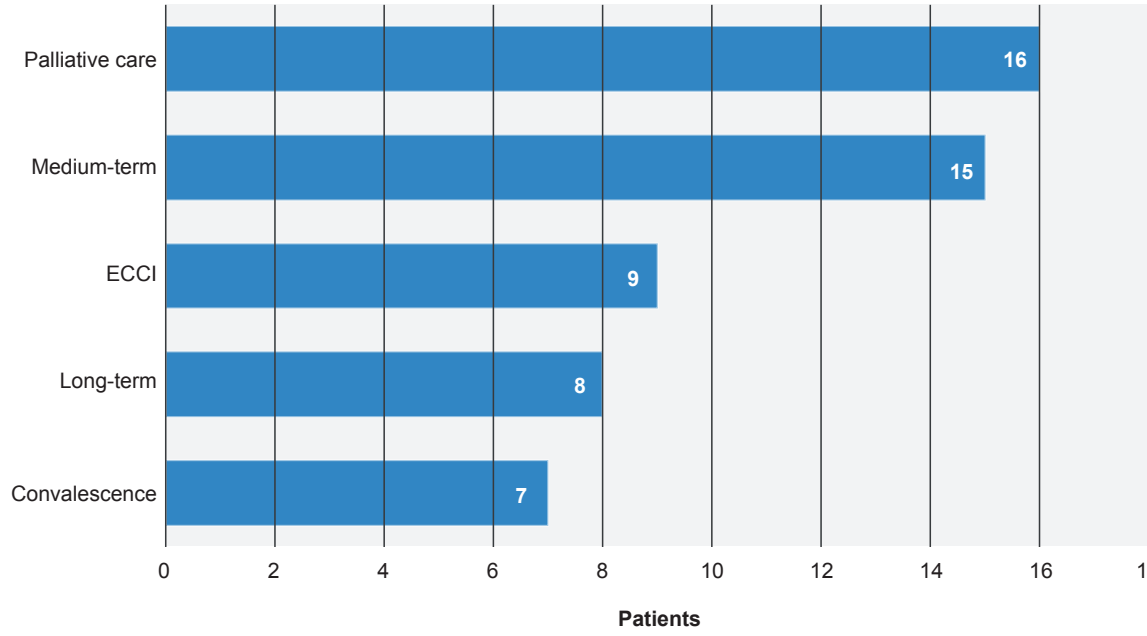


Figure 1 – Distribution by referenced typology

ECCI: home care team

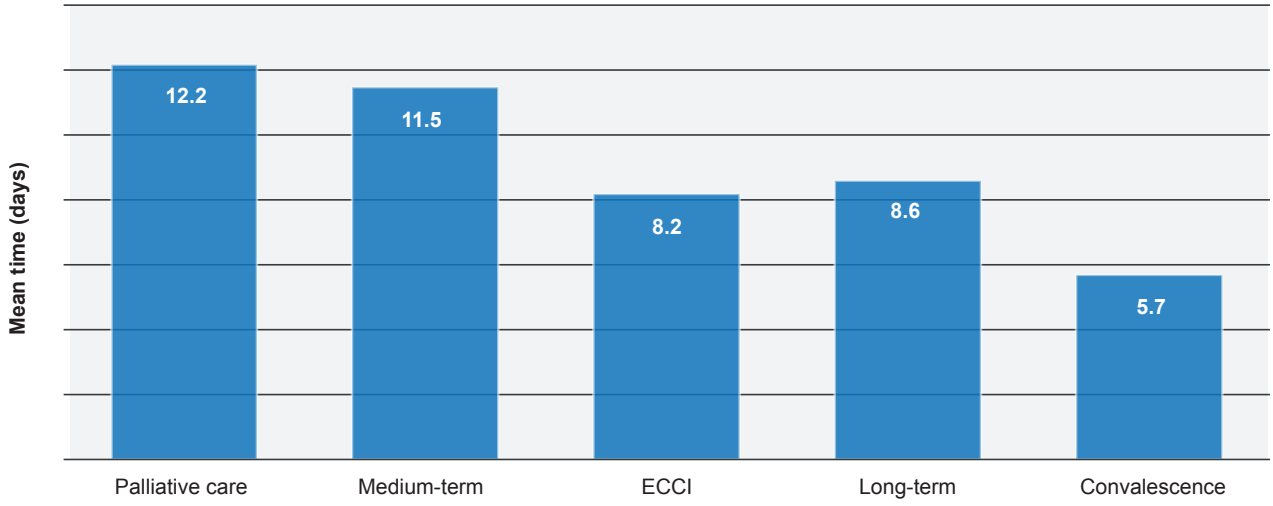


Figure 2 – Mean time (days) between referral for RNCCI and hospital discharge

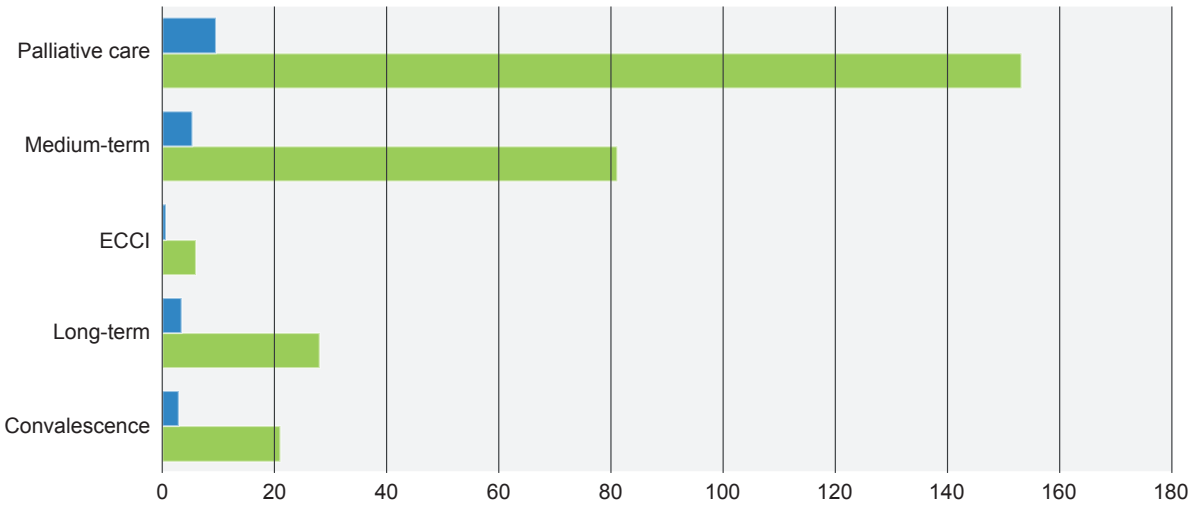
ECCI: home care team

palliative care. Nine patients (16.4%) contracted multidrug resistant infections while waiting for a place in the RNCCI, and required intravenous antibiotic therapy. Of these, six had to postpone their discharge because of the need to complete the antibiotic regimen. We estimated that these unnecessary days of hospitalization had a cost to the hospital of approximately €69 000.

DISCUSSION

Hospitals are dealing with a shortage of places to respond to inpatient needs.[7] In fact, Portugal had fewer hospital beds (3.4) than EU-27 (5.3) per 1000 population in 2010.[8] On the other hand, Portugal was the eighth country with the highest proportion of hospital deaths, in an international comparison.[9] Since 2016, the RNCCI has assisted in the handling of discharges from these patients who do not need specialized medical care. But, despite the close cooperation between physicians and social workers, the RNCCI's response remains inadequate for the institutions' demands. During 2016, 289 days of hospitalization were estimated on patients who needed no specific urological care but who continued in our department while waiting for a place in a RNCCI unit.

The cost of these additional days of hospitalization is estimated to be about €69 000. This value appears to be irrelevant in the global health expenditures for the SNS. However, if we consider that this could be the reality of a vast portion of Portuguese hospitals, the expenses implicit



	Convalescence	Long-term	ECCI	Medium-term	Palliative care
Days per patient	3	3.5	0.7	5.4	9.6
Total	21	28	6	81	153

Figure 3 – Days of hospitalization after clinical discharge according to the type of referral. Mean time per patient and total of days.

ECCI: home care team

to all these patients will be much more significant. It will be essential to seek ways to optimize patient referrals to decrease the number of avoidable hospital stays.

The analysis of our department data points out that time between hospitalization and referral of these patients is significant. Physicians are still deeply fixated on the clinical reasons that led to the hospitalization, overlooking the entire biopsychosocial background of the patient. We believe that a holistic view of the patient provides earlier identification of those patients who will require any type of care after discharge. This prompt recognition of cases who will demand extended care would provide an appropriate referral to the RNCCI, therefore shortening the number of days of unnecessary hospitalization and even reducing the number of deaths in the hospital.

In fact, Fukui *et al* point out that it is not the duration of the period of home palliative care itself, but rather the earlier and timely referrals to home palliative care units from the hospital, which should be considered as the rule of thumb to enable patients with advanced cancer to die at home.[10] Many other studies have pointed out the need of earlier referrals to home palliative care to allow more patients to be assisted and die at home.[11–14]

Although the time for referral is considerable, we find that the time elapsed between this referral and hospital discharge is also elevated. We highlight that to reduce time between referral and hospital discharge, there is a need for efficient cooperation and coordination among physicians, nurses and social workers. Therefore, we found that referral for home care teams (ECCI) is the typology with the shortest number of avoidable days of hospitalization. However, the number of patients assigned to this typology corresponds to merely 16.4% of the entire number of patients referred to the RNCCI during the year 2016.

Therefore, given the current shortage of inpatient units and the rapid response of the home care teams, physicians and social workers should try to privilege this typology of referral whenever the clinical and social situation of the patient allows it. We also realized that, in the opposite direction, referral for palliative care was the most frequent and the one that had longer waiting times, being responsible for 153 of the 289 days of hospitalization after clinical discharge. This can be a key point in improving the effectiveness of our departments. With the constant aging of the population and the progressive increase of oncological diseases, the SNS cannot provide hospitalization to all these patients who only require comfort care.

Bone *et al* indicate that in England and Wales there have been increases in the proportion of deaths occurring at home and in care homes between 2004 and 2014 (18.3% – 22.9% and 16.7% – 21.2%, respectively).[15] They also report that the rate of hospital deaths decreased during the 11-year period (57.9% – 48.1%) and fell below 50% in 2012, meaning that most people no longer die in hospital. According to the same paper, care home deaths are projected to become the most common place of death by 2040.[15] In the United States, where home care is more developed, a reversal of trends has also already happened.[16] However, in the opposite way, it is estimated that in Portugal the hospital death rates will increase by more than a quarter until 2030.[17] This trend goes against most people's preference, which is to die at home[18-21] and raises questions about the future sustainability of hospital inpatient care. Thus, we believe that implementing measures to develop continued care, coupled with greater

awareness among health professionals of this subject, will lead to a change of scenery with better management of hospital beds and better care for patients.

To our knowledge, this is the first study to analyze the impact of referral of patients to the RNCCI in a medical department and the first to test the impact of referral of patients to palliative care units in a urology department. Our study has some limitations. First, it is not a prospective study which may introduce mis-classification or information bias. Some data regarding patients were missing. Another limitation is related to the sample size. A larger sample would allow a further understanding of referral trends and their impact on the SNS. The estimation done of the costs related with the prolonged hospitalization of these patients also shows limitations. This evaluation was based on the average cost of each day of hospitalization in our department, taking into consideration only the value of bed occupancy, meals and basic medication. However, some of these patients while waiting for placement in a RNCCI unit, ended up requiring additional treatments like antibiotics that add a cost to their stay. These added amounts were not counted. Finally, our study assessed the reality of a single urology department, which may not represent the general reality of the entire hospital or the country. Further research should assess all the cases submitted to RNCCI in all departments of our hospital or in several urology departments in Portugal.

CONCLUSION

Clinicians and social workers should strive to get patients out of hospital as promptly as the clinical situation allows it. Early identification by physicians and nurses of patients who will need support after discharge will allow a prompter response from social workers and improved hospital performance. Conditions should be created so that patients can continue their care at home.

PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication. Patient consent obtained.

CONFLICTS OF INTEREST

All authors report no conflict of interest.

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