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Geriatric-led transitional care for older adults discharged from the emergency department: impact on hospital readmissions and disability. Protocol for the controlled prospective quasi-experimental study LASUITE

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Abstract

Background Even when older people are discharged directly home after an emergency department (ED) visit, the risk of deterioration of health status and loss of independence persists. We hypothesize that among older adults discharged from the ED, hospital-community transition care provided by geriatric mobile teams (GMTs) may reduce the early readmission rate and level of disability. Such approaches have rarely been evaluated and cannot be generalized yet. Providing evidence of the positive impact of these strategies may influence public health policies.

Methods We will conduct a national, multicentre, prospective, controlled, quasi-experimental study. All participating centres have an ED and a GMT, some of which provide transitional care. Participants recruited from hospitals where GMT provide transitional care form the "intervention group", whereas participants recruited from hospitals where GMT provide standard in-hospital management are the "control group". Inclusion criteria are age ≥ 75 years, returning to personal home after the ED visit (exclusion of nursing home residents) and having a significant risk for early readmission and/or loss of independence after discharge according to a Triage Risk Screening Tool score ≥ 2. The primary objective of this study is to compare hospital ED readmission rates within 30 days. Among secondary objectives, disability scores at 3 and 6 months will be compared between groups. We estimated that 1322 participants, i.e., 661 per group, is required for the main analysis.

Discussion By conducting this study, we aim to provide more evidence of the effectiveness of transitional care on reducing ED readmissions for older adults, and particularly highlight determinants and effects of hospital-community GMT-led interventions. These strategies can be cost-effective while preserving independence and quality of life. We

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expect that the results will provide a basis to generalize effective strategies to address the challenges of demographic ageing for healthcare systems.

Trial registration The study protocol was registered on ClinicalTrial.org (ID NCT05814328 Date 20230414).

Keywords Transitional care, Emergency department, Geriatric mobile team

Background

Older adults have high incidence of emergency department (ED) visits. The specificities of this population challenge organizations of care in the ED, and older adults are at risk of negative outcomes following an ED stay. Even when discharged directly home after an ED visit, older adults face an increased risk of health deterioration and functional decline, as evidenced by the high rate of one month ED readmissions [1]. Early readmissions contribute to ED overcrowding, are more frequently followed by hospitalization [2] and are associated with a high risk of loss of independence [3]. Functional decline and disability have been identified as key risk factors for early ED readmission [4]. Evidence suggests that up to one in four early readmissions may be preventable [5].

Many interventions have been developed to enhance the quality of care for older adults discharged from the ED. These interventions are inherently interdisciplinary, bridging emergency and geriatric care. Systematic reviews highlight the wide range and complexity of discharge interventions, which can be broadly categorised into three main types: hospital-based interventions, community-based interventions, and transitional interventions initiated in the ED and continued in collaboration with community-based primary care professionals. Studies indicate that interventions limited to either hospital or community settings have minimal impact on reducing early unscheduled readmissions [6]. Interventions combining multiple strategies and a transitional hospital-community approach have been less frequently evaluated but appear to be more beneficial, with a positive impact in terms of costs and mortality [7]. However, these findings cannot be generalised due to the limited number of studies, heterogeneity of interventions and methodological limitations [6–10].

Transitional care for older patients in EDs should start with the identification of patients at risk of readmission by the emergency team. Geriatric Mobile Teams (GMTs) can then step in to perform comprehensive assessments during ED stays. This interdisciplinary evaluation leads to personalized care plans tailored to the patient's needs and adapted to the local healthcare settings. Strategies bridging hospital and primary care services are diverse, and may include discharge planning, case management with home visits or telephone follow-ups, or therapeutic education [8]. They are implemented by multidisciplinary teams, such as GMTs, led by experienced healthcare professionals who provide individualized recommendations based on geriatric assessment [11].

In France, most EDs collaborate with GMTs to enhance the quality of care for older patients. French GMTs are dedicated to individuals aged 75 years and older. They provide expert guidance on patient management, mitigating the risks associated with hospitalisation, and facilitating appropriate care pathways [11]. While all French GMTs operate within an in-hospital framework, a minority chose to extend their field to transitional care, experienced to be more effective for patients. These GMT-led transitional interventions for older adults discharged from the ED have not yet been evaluated in France. However, they are expected to benefit both patients and the healthcare system by better stabilizing the patient's health and autonomy and therefore reducing unplanned hospital readmissions. Providing evidence of the positive impact of these strategies may influence public health policies.

We hypothesise that, among older adults discharged from the ED, GMT-driven hospital-to-community transitional care may reduce early readmission rates and prevent disability.

Methods/Design

Study aim

The aim of this study is to compare hospital ED readmission rates within 30 days and disability scores at 3 and 6 months in older adults discharged from the ED of hospitals where GMT provides transitional care or standard in-hospital management only.

This study also intends to describe the patterns and results of ED-based and GMT-led transitional care interventions in intervention group.

Study design

This is a national multicentre, prospective, controlled, quasi-experimental study. All participating centres have an ED and a GMT, some of them providing transitional care. Participants recruited from hospitals where GMT provides transitional care form the "intervention group", and participants recruited from hospitals where GMT provide standard in-hospital management compose the "control group".

Settings

The study will take place in twelve hospitals, seven providing transitional care (intervention centres) for older adults discharged from the ED and five providing standard care (control centres) (Table 1).

All 12 centres meet the same criteria for standardized in-hospital management during the ED visit, including (i) identification of patients at risk by the ED team, based on clinical characteristics or screening tools with a procedure for reporting to the in-hospital GMT; (ii) a multidisciplinary GMT working in the ED and providing a standardized geriatric assessment; and (iii) a discharge procedure with at least a medical report and referral to the general practitioner (GP).

- Intervention centres: seven centres, including three university hospitals and four regional hospitals where GMTs are organised to provide transitional care interventions. We defined transitional interventions as (a) necessarily multidisciplinary, (b) always initiated by a phone call to the patient, relatives or carers within a week following ED discharge, (c) with an incremental follow-up and the possibility of home visits, and (d) based on a community-hospital collaboration. Community-hospital collaboration matches at least one of the following criteria: joint clinical meetings and/or joint home visits and/or a shared professional and/or a shared information system. Each GMT intervention has specific components that are taken into account in the description of each team.
- Control centres: five centres not implementing transitional care with two university hospitals and three regional hospitals. After identifying the patient at risk, the in-hospital GMT provides standard management and recommendations at the time of the ED visit, without home-based intervention or coordination with community actors.

The principal investigator and the scientific committee will check once a year that centres meet the criteria of the group to which they are allocated. If the criteria of the centre change during the study, there will be a 6-month washout period with no inclusion before allocation to the new group.

Participants

Participants will be included just before they are discharged from the ED. The inclusion criteria are age ≥ 75 years, return to home after an ED visit, and a Triage Risk Screening Tool (TRST) score ≥ 2 indicating a high risk for early readmission and/or loss of independence after discharge [12]. The exclusion criteria are living in a nursing home, being under legal guardianship or incapable of providing consent. All participants provide written consent after receiving oral and written information. Participants with language barriers or severe cognitive or psychiatric disorders may be included if a relative is physically present at the time of the ED visit and consents to the study.

Geriatric mobile team interventions

Following inclusion, the participants will benefit from the usual care specific to the inclusion centre they are admitted to.

In both groups, the standardized intervention consists, in the ED, of medical ED care, risk identification by the TRST, and a comprehensive geriatric assessment (CGA) with tailored recommendations reported during discharge planning. The minimal CGA assesses at least comorbidity, medication, social status, and functional, cognitive and nutritional status.

In the intervention group, the initial in-hospital GMT intervention is followed by a systematic telephone call to the patient and/or his/her caregiver and/or GP between day 1 and day 6 after discharge. Since then, the intervention of the GMT and the out-of-hospital management strategy is deliberately not standardized to assess the specific transitional care pattern provided by each GMT via a pragmatic approach. The characteristics of these interventions will be described.

Endpoints and measurements

Data describing the centres will be collected and updated once a year. These data include the number and qualifications of GMT professionals, the annual number of patients supported in the ED and in transitional care, the number of ED visits for adults of all ages and for adults aged 75 or older, the home discharge-to-hospitalization ratio, the readmission rate, and GMT intervention components, as described in Table 1.

Clinical data will be collected at baseline and during follow-up at three (M3) and six (M6) months, the participants' health trajectories in the 6 months following the ED visit will be described (Fig. 1).

Baseline data

The data are collected at the time of the ED visit (D0) by the GMT. Prior to inclusion, a TRST is performed by the ED team as part of care to confirm that the patient is at high risk for readmission. Clinical assessment is based on the patient's anamnesis and medical records. If necessary, the GMT may also rely on information transmitted by a relative or the GP to crosscheck the information. The baseline data are:

- Sociodemographic data including age, sex, level of independence in activities of daily living (ADL) and

Table 1 Characteristics of the 12 study centres

Study group	TRANSITIONAL CARE							CONTROL				
Centre	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Hospital characteristics												
University Hospital	+				+	+		+	+			
Regional Hospital		+	+	+			+			+	+	+
Emergency Department	+	+	+	+	+	+	+	+	+	+	+	+
In-hospital Geriatric Mobile Team	+	+	+	+	+	+	+	+	+	+	+	+
Geographic area characteristics												
Urban	+		+		+	+	+	+	+	+	+	
Rural		+		+								+
Standardized intervention during the ED visit												
Screening for risk of readmission	+	+	+	+	+	+	+	+	+	+	+	+
Comprehensive Geriatric Assessment	+	+	+	+	+	+	+	+	+	+	+	+
Discharge procedure (medical report)	+	+	+	+	+	+	+	+	+	+	+	+
Transitional care: standardized intervention								No Transitional Care				
Telephone call between day 1 and day 6	+	+	+	+	+	+	+					
Multidisciplinary team	+	+	+	+	+	+	+					
Home-visits if necessary	+	+	+	+	+	+	+					
Structured hospital-community coordination	+	+	+	+	+	+	+					
Other possible interventions components												
Personalized care plan elaboration	+			+	+							
Educational intervention					+							
Monthly meetings with primary care settings	+			+	+	+						
Shared professional with primary care settings	+											
Supportive intervention for family caregivers				+	+		+					
Shared home-visits with primary care members	+	+	+									
Day-hospital evaluation	+	+		+	+		+					
Computerized shared information system					+							

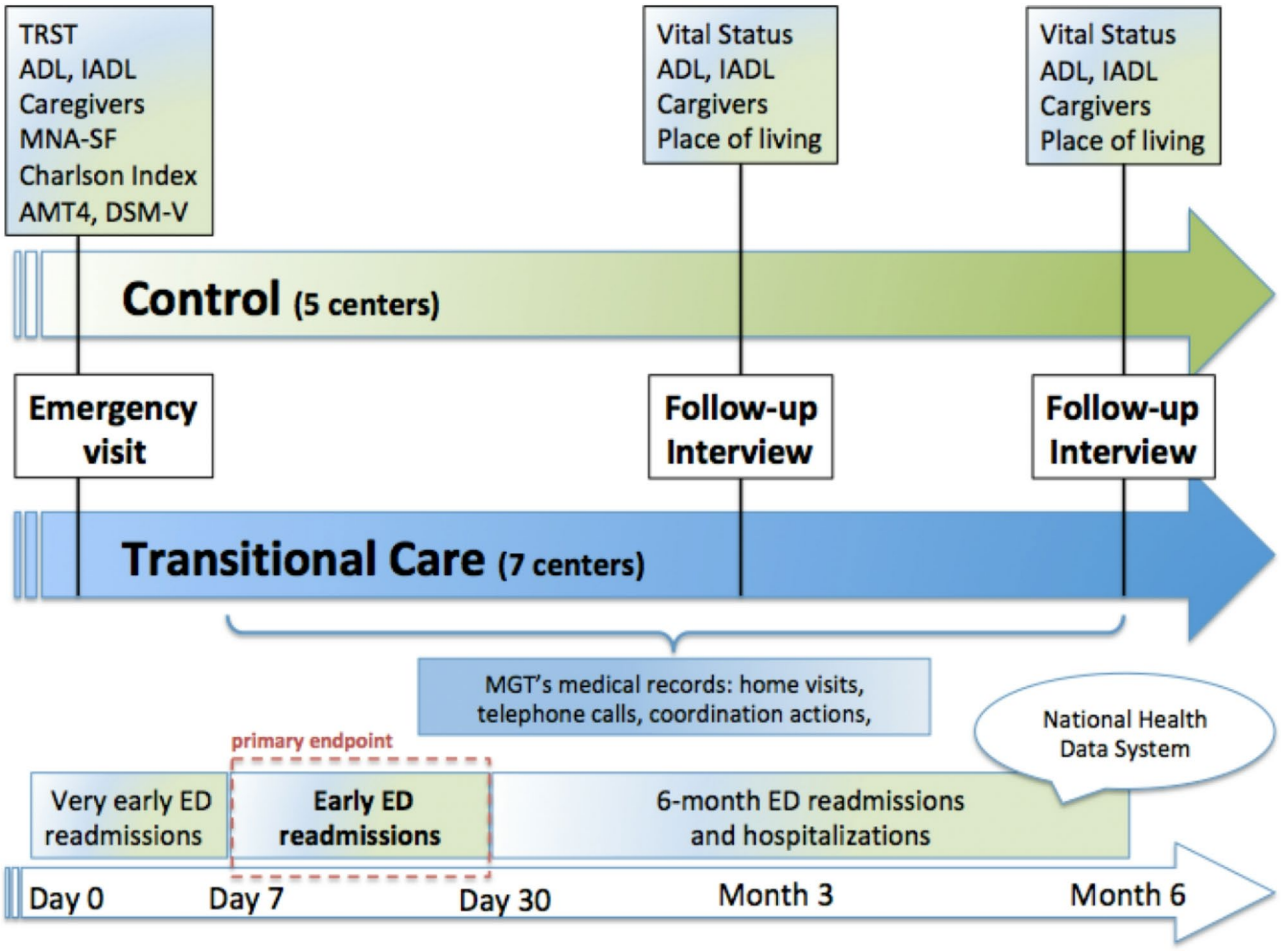

Fig. 1 Study design

instrumental activities of daily living (IADL) the week prior to the ED visit [13, 14], and identification of relatives, family and professional caregivers (healthcare and personal care) before the ED visit, with quantification of weekly time allocated to caring.

- Medical data including comorbidity assessed by the Charlson index [15], number of drugs in the usual treatment, nutritional risk assessed using the Mini Nutritional Assessment - Short Form (MNA-SF) with measurement of calf circumference [16], and screening for cognitive disorders with the Abbreviated Mental Test 4 (AMT4) scale [17] and grading into mild, moderate or severe stages according to the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) criteria.
- ED data: visit duration and main diagnosis.
- Healthcare pathway data including the following: history of regular visits to the GP (at least twice a year), history of ED visits or hospitalizations in the previous month, and history of previous geriatric management (in a geriatric ward, a geriatric outpatient clinic or appointments with a geriatrician).

Primary endpoint

The primary endpoint of the study is the incidence of readmission to any French ED between seven (D7) and thirty (D30) days after discharge from the initial ED visit, regardless of the reason for readmission. Very early readmissions (from D1 to D6) will not be taken into account in the primary endpoint, as the time to initiate the first intervention is a maximum of six days in the intervention group. Moreover, these very early readmissions are most often motivated by a rapid deterioration of the initial pathology, a diagnostic error or a possible side effect of a therapy [18]. Hospital-community transitional care is not intended to avoid this type of very early readmission.

These data will be collected from the National Health Data System (SNDS), allowing the identification of admissions to an ED on a national level and not

exclusively in the centres involved in the study. Readmission to any French ED is localized in different tables of SNDS. ED visits, which are followed by a hospitalisation, will be found in table T_MCOaaB, where *aa* represents for the last two digits of the year of event. ED visits, which are not followed by a hospitalisation, will be found in table T_MCOaaFBSTC if patients are admitted to public centres, or table ER_PRS_F if the ED admission is in private centres. Data from SNDS will be merged with data collected in eCRF using determined pairing method, which was authorized by the French Data Protection Authority, CNIL (CNIL n°DR-2023-080).

Secondary endpoints

These data aim to describe the evolution of the subjects' health trajectories in the 6 months following the ED visit. Quantitative data will be collected in the NHDS, and qualitative data will be collected by telephone interview by an independent investigator at M3 and M6. If a participant cannot be reached by phone or e-mail after 3 attempts at 3 or 6 months, these qualitative data will be considered as missing. However data collected in the NHDS will still be considered until the end of the 6-months follow-up.

Healthcare pathway

Additional data concerning healthcare utilization in the 6 months following ED discharge will be collected from the NHDS: ED visits between D1 and D6 and between D7 and M6, delay to the first ED readmission, the number of ED visits, consultations and outpatient clinic visits, scheduled and unscheduled hospitalizations, cumulative duration of hospitalization until M6, and the number of primary care medical visits. All causes of death will also be collected based on the NHDS.

Evolution of autonomy

An independent investigator will perform follow-up telephone interviews with the patient, caregiver or GP in both groups at M3 and M6. These interviews will assess the place of residence (home, nursing home), independence in ADLs and IADLs, number of professional and informal caregivers and weekly time allocated to caring.

Transitional care description

GMT actions will be identified at M6 after discharge from the ED based on the medical records. These data are the number of telephone calls or email exchanges, home visits, multidisciplinary staff, interactions with community professionals (such as joint home visits, medical appointments, rehabilitation care, requests for social workers), the total duration of follow-up and the reasons for interruption of follow-up (refusal, death, lost to follow-up).

Data collection

Data available in the participating ED and GMT will be collected using electronic case report form (CleanWeb) accessible via two-factor authentication, while data specific to health system consumption will be retrieved via the NHDS, as described elsewhere. Data-management of the eCRF data will be handled by the Clinical Research Unit - Paris Secteur Ouest. The NHDS data will be processed by the CNAM team (Caisse Nationale de l'Assurance Maladie) and migrated to a dedicated server, which ensures the security of information. The eCRF will generate, a table of correspondence between the participants' inclusion number and a random hook identifier, which will be used to allow data juncture with NHDS data (CNIL n°DR-2023-080).

Statistical analysis

Sample size

Previous observational studies have shown that the proportion of ED readmissions in non-intervention units is 20%, and 14% in intervention units [1]. To detect an expected difference of 6% with at least 80% power and a type 1 error 0.05, a sample of 1228 patients is required. We assumed that 7% of included participants might be early readmitted (between D1 and D6), therefore excluded from principal analysis, it is necessary to include 1322 participants, i.e., 661 per group, to have 1228 assessable subjects. To compare the proportions of ED readmissions between D7 and M1 between the two groups, with a two-sided test (type I error $\alpha = 0.05$), 80% power,.e., an expected difference between the two groups of 6% [7], it is necessary to have observe 1228 evaluable subjects, i.e., 614 participants per group. Assuming that 7% of the participants included will be readmitted to the emergency room between D1 and D6 [2] and therefore excluded from the main analysis, it is necessary to include 1322 participants, i.e., 661 per group, to have 1228 assessable subjects. The calculation was performed with R software (R Foundation for Statistical Computing, Vienna, Austria. http://www.r-project.org/) (version 4.0.3). The number of subjects required is defined on the assumption of balanced and comparable groups. In case of noncomparable groups, a propensity score analysis will be applied. Propensity score is estimated by fitting a multivariable logistic regression model. Thus, the suggested sample size is sufficient to match the condition of a minimum of 10 observed events per covariate included in the propensity score model.

Statistical analysis

Statistical analyses will be carried out using SAS software (version 9.4 or later) or R software (R Foundation for Statistical Computing, Vienna, Austria. http://www.r-project.org/) version 4.0.3 or later) at the Clinical Research Unit

- Paris Nord Val de Seine Secteur Ouest. The study population is defined as all subjects who meet the eligibility criteria and who are not readmitted to the ED between D1 and D6. Sensitivity analyses will be carried out by excluding from the 'intervention' group the participants included in the 'intervention' group but for whom transitional care is not deployed (for example, participants who are unreachable).

Propensity score model

Comparability of groups at inclusion will be verified. Indeed, a potential selection bias may be observed due to the process of assignment to the intervention being dependent on the inclusion centre.

In the event of an imbalance between groups, selection bias will be limited by the use of the propensity score method. Propensity score i.e. the probability of a patient being in intervention or control group, will be estimated by a function of the baseline characteristics through a multi-covariate logistic regression model. Sociodemographic characteristics, variables having an impact on the probability of belonging to the intervention group, and variables potentially associated with readmission to the ED between D7 and M1 will be considered for the construction of the propensity score, taking into account possible interactions between variables. Once the propensity score balance has been approved, the area of common support in propensity score will be defined using the "minimum-maximum" method or the "trimming" distribution comparison method [19]. The area of common support selected will maximize the number of subjects observed after truncation of the distributions, with also a critical study of balance and overlap.

Primary analysis

The primary analysis is to assess the impact of the GMT intervention on hospital ED readmission between D7 and M1.

If the groups are comparable, a chi-square test of comparison of proportions will be used, at the significance threshold of alpha = 0.05.

In case of imbalance between two groups and the implementation of propensity score method, the primary analysis will then be carried out on the validated sample using the inverse probability weighting method (IPTW). The treatment effect will then be assessed using a logistic regression model at the $\alpha = 0.05$ significance level. A sensitivity analysis will also be carried out using the nearest neighbour matching method, and if necessary, strata will be applied or calibrated (maximum distance between individuals) to ensure balance between groups.

Secondary analysis

Secondary analyses will be carried out on the same population as that defined for the primary objective.

The time to first readmission to the ED will be compared between the two groups using survival analysis with the log-rank test. Subjects whose death occurred before M6 will be censored from their date of death. The cumulative length of hospital stays within 6 months, loss of independence measured by ADLs and IADLs, the evolution of help system and the place of residence (personal home or nursing home) will be compared between groups. Student's t test or Wilcoxon test of comparison of means is used to interpret the effect of the intervention on continuous variables, and chi-squared tests or Fisher's exact tests is performed for categorical variables.

The patient pathway in each group will be defined by a series of observable events, potentially repeated during follow-up. These events, specified among the secondary evaluation criteria, will be described in absolute and relative frequencies according to the group. The delays between events and/or intervention determinants (as described in the intervention planning) will also be described by their mean and standard deviation. Potential factors associated with the performance of a home visit, the cumulative duration of the intervention of the GMT and a scheduled day hospital between D0 and M6 will be studied using linear regression models. Eligible variables for the multiple regression model will be selected at the $p < 0.20$ threshold. The final regression model for each of these determinants will be determined by stepwise selection of variables, at the $\alpha = 0.05$ significance level.

The determinants of transitional care in intervention group will be described by absolute and relative frequencies for categorical variables, by median and interquartile interval for numeric variables. The association of observable baseline factors with each determinant will be assessed by a bivariate regression model. Eligible variables for the multiple regression model will be selected at the $p < 0.20$ threshold. The final regression model for each of these determinants will be determined by stepwise selection of variables, at the $\alpha = 0.05$ significance level. Logistic regressions will be used for binary endpoints, and linear regressions will be used for continuous numerical endpoints.

All secondary analyses aim at comparing the two groups (as the evolution of autonomy), the same strategy presented for the primary analyses, especially with propensity score analysis and IPTW approach, will be used.

Missing data

Regarding the management of missing data for the main evaluation criterion, readmission to an ED between D7 and M1 will be collected from data available in the NHDS. This data source guarantees the availability of this

information until M1 and M6 (at the end of the study). A patient who dies between D7 and M1 will be considered a failure of the strategy.

Trial status

Start of inclusion is planned on second trimester of 2025.

Ethics and dissemination

Sponsorship has been agreed by Assistance Publique—Hôpitaux de Paris (AP-HP, Clinical Research and Innovation Department) for this research protocol. The study protocol was approved by a national ethics committee (notice n° IDRCB 2021-A02657-34) and the French Data Protection Authority (CNIL, notice n°DR-2023-080). The study protocol was registered in the Clinical Trial (ID: NCT05814328; Date: 2023-04-14).

In accordance with Article L.1122-1-1 of the French Public Health Code, no research will be carried out without patient free and informed consent, obtained in writing after the person has been given the information specified in Article L.1122–1 of said Code. Written informed consent will be obtained from all patients, their next of kin, as appropriate.

Discussion

By conducting this study, we aim to highlight the role of Geriatric Mobile Teams (GMTs) in the development of transitional care. Our hypothesis is that transitional care initiated by GMTs during an emergency department (ED) visit benefits both older adults and the healthcare system. In recent years, transitional care interventions have increasingly been recognised as the standard of care to reduce readmission rates among older medical patients. Successive reviews have emphasised the need for high-quality studies to evaluate the impact of interventions and to assess the transitional process [20]. In 2023, Rasmussen et al. published a large quasi-experimental study reporting no significant impact of transitional care on the 30-day readmission rate in older adults [21]. However, this study differs substantially from our protocol. First, it included medical inpatients discharged home after hospitalisation rather than older adults discharged directly from the ED. It is reasonable to assume that hospitalised patients had a higher risk of readmission than those discharged after an ED visit without hospital admission. Second, the transitional care in Rasmussen et al.'s study was standardised, comprising a home visit on the day of discharge, a videoconference with the district nurse and relatives the following day, and a telephone consultation for up to seven days post-discharge. We hypothesise that a more flexible, non-standardised transitional care approach extending beyond the first week may be more effective.

A key strength of our study is its multicentre design, which accounts for variations in local healthcare organisation strategies. To ensure consistency, we identified common components of transitional interventions based on prior literature [8]. We structured the GMT-led transitional interventions into three steps: (1) risk stratification (2), standardised initial hospital assessment, and (3) transitional care determinants. Additionally, we documented specific characteristics of each centre's strategy, including intervention patterns, duration, interactions with primary care, and locally implemented actions. The study adopts a prospective design, and a pragmatic feature is the flexibility for control GMT/ED centres to transition to transitional care and continue participation in the study, or vice versa.

The impact of transitional care will be assessed at the individual level by measuring the risk of early ED readmission, changes in independence in activities of daily living, and modifications in care plans reflecting the evolution of health management. Identifying frailty, tailoring care to the specific needs of older adults, and optimising care pathways may reduce avoidable ED readmissions and mitigate the risk of functional decline. Furthermore, reducing unnecessary readmissions and improving healthcare resource utilisation would significantly impact the public health system [7]. The results of this multicomponent study could contribute to validating transitional care models and strengthening hospital-community linkages in healthcare settings.

Several methodological considerations can be discussed. The quasi-experimental design precludes causal inference, allowing only associations between different care models and readmission risk to be identified. Given the established role of GMTs within territorial healthcare organisations, randomising older patients admitted to EDs—potentially excluding them from care they would normally receive—was deemed unethical. Instead, we opted to compare centres with and without hospital-community transitional care. To mitigate bias, we standardised GMT interventions during the ED visit across control and intervention centres. Additionally, we standardised the initiation of transitional care within six days of ED discharge in the intervention group. However, we deliberately refrained from standardising subsequent transitional care to maintain a pragmatic approach, recognising that such interventions must be tailored to both regional healthcare structures and individual patient needs.

Given the lack of randomisation, we anticipate potential differences between the two study groups. To address this, we will use a propensity score approach in statistical analyses to minimise confounding. Baseline participant characteristics will be systematically collected using a standardised geriatric assessment, including autonomy,

comorbidities, nutritional risk, cognitive impairment, the presence of caregivers, and diagnoses made during the ED visit. These variables will be incorporated into the propensity score model to ensure comparability between groups.

The primary outcome is the incidence of early readmission between days 7 and 30 post-ED visit. We hypothesise that most preventable readmissions occur within this timeframe. Readmissions occurring between days 1 and 7 are rarely preventable [18] and are unlikely to be influenced by transitional care interventions, which may take up to six days to be implemented in the intervention group. Furthermore, readmissions beyond 30 days may result from medical events unrelated to the initial ED visit and may not be preventable. Nevertheless, to provide a comprehensive analysis, we will collect data on all ED visits and hospital admissions over a six-month follow-up period and evaluate them as secondary endpoints.

To minimise missing data, we will access the National Hospital Discharge Summary (NHDS) database at the end of the study. This electronic database records all ED visits and hospital admissions nationwide, ensuring that events are captured even if they occur at hospitals other than the inclusion centre.

The sample size estimation is based on previously observed early readmission rates following ED discharge and a plausible effect size. To achieve the required sample size of 1,322 participants, we will recruit from 12 centres. Given a three-year inclusion period, an average enrolment rate of 3.1 participants per centre per month is considered feasible.

In conclusion, this study seeks to provide robust evidence on the effectiveness of transitional care, particularly regarding hospital-community geriatric interventions in reducing ED readmissions among older adults. By delivering coordinated care tailored to individual needs, transitional care has the potential to be both cost-effective and beneficial in preserving independence and quality of life. This study will evaluate multidisciplinary team interventions across diverse healthcare settings in France, and its findings will inform the generalisation of transitional care strategies to address the challenges posed by an ageing population.

Abbreviations

ADL	Activities of Daily Living
AMT-4	Abbreviated Mental Test 4
DSM-V	Diagnostic and Statistical Manual of Mental Disorders
ED	Emergency Department
IADL	Instrumental Activities of Daily Living
MGT	Mobile Geriatric Team
MNA-SF	Mini Nutritional Assessment– Short Form
NHDS	National Health Data System
TRST	Triage Risk Screening Tool

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Author contributions
All the authors designed the study. CP and MS have written the first version of the manuscript. FE, MC, VG, CL, MCh, PM, THLH and ARS reviewed the manuscript. All authors approved the final version of the manuscript.

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Data availability
No datasets were generated or analysed during the current study.

Declarations

Ethics approval and consent to participate
The study protocol was approved by a national ethics committee (notice n° IDRCB 2021-A02657-34) and the French Data Protection Authority (CNIL, notice n°DR-2023-080). The study protocol was registered in the Clinical Trial (NCT05814328). All participants provide written consent after receiving oral and written information. Participants with language barriers or severe cognitive or psychiatric disorders may be included if a relative is physically present at the time of the ED visit and consents to the study. Otherwise, they will not be included.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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