TELEDYS Study

Protocol summary

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French Research Ethics Committee Number	ID-RCB 2026-A00879-42 (initial approval: 22 July 2026)
Clinical Trials Number	NCT07726628
Title	Video-assisted TELEmedecine for medical dispatch of adult patients calling to an Emergency Medical Communication Centre for acute DYSpnea: a multicentre stepped-wedge cluster randomised controlled study
Acronym	TELEDYS
Sponsor	Poitiers University Hospital 2 rue de la Milétrie – CS90577 86021 Poitiers Cedex, France
Coordinating investigator	Nicolas MARJANOVIC Emergency Department Poitiers University Hospital
Rationale	Dyspnoea accounts for 8% of calls to emergency medical communication centers (EMCCs), and its triage is challenging, which may lead to inappropriate medical decisions, including under-triage — that is, a decision level below what is clinically required — which is associated with an increased risk of short- and medium-term mortality, and over-triage — that is, a decision level exceeding the actual medical need — leading to unnecessary consumption of healthcare resources and contributing to the disorganization of the emergency care system. We hypothesize that direct visualization of clinical signs (cyanosis, respiratory struggle, exhaustion…) will enhance medical decision-making. This stepped-wedge randomized trial aims to demonstrate that the use of video-assisted telemedicine via the caller's smartphone camera during the medical dispatch of adult patients calling an EMCC for acute dyspnea as their primary complaint enhances medical decision-making by reducing the proportion of under-triage and over-triage.
Objectives	Primary objective To assess the impact of telemedicine on the quality of the medical decision. Secondary objectives

	To compare the following outcomes in the two groups: 1) Under-triage at 24 hours. 2) Over-triage at 24 hours. 3) The need for oxygenation or ventilatory support at 3 hours, 24 hours and 28 days. 4) Hospitalization at 24 hours. 5) Occurrence of cardiac arrest at 3 hours, 24 hours and 28 days. 6) Mortality at 3 hours, 24 hours and 28 days. 7) Duration of the medical dispatch decision. 8) Cost-effectiveness over a 28-day time horizon.
Endpoints	Primary endpoint Proportion of inappropriate medical dispatch decisions (under-triage or over-triage). Under-triage is defined: • either as a patient having received a medical advice alone or referred to a consultation at the initial call and, within 24 hours of the initial call, at least one of the following situations: o referred to an emergency department (ED) after a second call to the EMCC or after a general consultation, o non-scheduled hospitalization, o death of the patient (whatever the cause), o secondary emergency medical service (EMS) unit dispatched. • either as a patient being dispatched to an ED (not with an EMS) after the initial call and, within 3 hours of the initial call, at least one of the following situations: o required ventilatory support, o cardiac arrest, o death of the patient (whatever the cause), o secondary emergency medical service (EMS) unit dispatched. Over-triage is defined as an EMS unit being dispatched or a patient being referred to an ED after the initial call to an EMCC and, at the end of emergency management, no additional examination (computed tomography, chest radiography, pulmonary scintigraphy), no specific treatment (aerosol therapy, ventilatory support, intravenous treatment, oxygen therapy, anticoagulants, cardiotropic agents, chest drainage, apart from the patient's usual treatments), no hospitalisation being required within 24 hours of the call to the EMCC. Secondary endpoints 1) Proportion of patients in under-triage situation. 2) Proportion of patients in over-triage situation.

	3) Proportion of patients requiring an oxygenation support (other than conventional oxygen therapy) or a ventilatory support (mechanical ventilation or high-flow oxygen therapy) within 3 hours, 24 hours and 28 days following the call to the EMCC. 4) Proportion of patients hospitalized in a critical car unit within 24 hours following the call to the EMCC. 5) Proportion of patients with cardiac arrest within 3 hours, 24 hours and 28 days following the call to the EMCC. 6) Proportion of deceased patients within 3 hours, 24 hours and 28 days following the call to the EMCC. 7) The duration of the call to the EMCC, defined as the time between the beginning of the call and the medical decisions (in minutes). 8) The incremental cost-effectiveness ratio at day 28, defined as the difference in mean costs divided by the difference in mean effectiveness. Effectiveness criterion will be the proportion of patients without serious complication (institution of in-hospital ventilatory support, occurrence of cardiac arrest, or death from any cause).
Study design	Multicenter, open-label, stepped-wedge cluster randomized, controlled trial conducted in patients calling the EMCC for acute dyspnoea or respiratory distress. All participating centers begin the study with the usual care (control phase). Randomization will be used to determine the order in which each center will crossover from usual care (control phase) to medical regulation with telemedicine (experimental phase): - Experimental phase: traditional medical regulation in an EMCC with the addition of telemedicine (video stream transmitted live to the medical dispatcher). - Control phase: traditional medical regulation in an EMCC (no telemedicine).
Inclusion criteria	- Patient aged 18 years or older. - Patient calling the EMCC for acute dyspnea or respiratory distress as the primary reason for the call, regardless of the underlying cause. - Patient or witness possessing a mobile phone equipped with a camera and capable of making a video call. - Emergency consent during the call to EMCC.
Non-inclusion criteria	- Extreme life-threatening emergency situations requiring an immediate dispatch of emergency resources (firefighters or EMS unit) according to local protocols.

	- Patient in end-of-life care or with a known decision to limit therapeutic interventions at the time of the call. - Refusal to use telemedicine. - Lack of telephone network allowing for telemedicine call with camera. - Patient previously included in the study. - Person benefiting from enhanced protection, namely minors, persons deprived of their liberty by a judicial or administrative decision, adults under legal protection.
Exclusion criteria (post-inclusion)	- Refusal to pursue the study (patient or relative consent withdrawal). - Patient not benefiting from a social security system. - Free subject, without guardianship nor subordination.
Interventions/Procedures	Inclusion visit (V0) • Inclusion and non-inclusion verification. • Emergency consent. • Clinical exam (emergency physician interview). • Medical decision. • Information of the patient after the medical decision, in order to prioritize the patient's care and provide clear information. Visit V1 (V0 + 24 hours) • Follow-up data collection using the medical record of the patient or by a phone call if needed. Consent procedure (V0 + 14 days) • Emergency physician will call the patient and will provide a detailed explanation on the study and answer each questions of the patient. • The oral consent of the patient to pursue his/her participation will be recorded. Visit V2 (V0 + 28 days) • Follow-up data collection using the medical record of the patient or by a phone call if needed.
Study duration	Inclusion period: 6 months (22 weeks for recruitment + 2 weeks for wash-out period between control and experimental phases (no recruitment). Patient participation: 28 days Total study duration: 7 months
Sample size	778 patients (389 per phase).
Statistical analyses	Baseline characteristics and outcomes will be described in each group. Continuous variables will be summarized using mean and standard deviation. Categorical variables will be reported as frequencies and percentages in each category. Missing data will be reported. No imputation will be performed. The

	standardized difference will be used to assess the baseline comparability of the two arms. Statistical comparisons of the outcomes will be conducted using the Chi-2 test for categorical outcomes and the Student t-test for quantitative outcomes. We will use the G-computation to estimate the average treatment effect (adjusted analyses). Cost-effectiveness analysis (CEA) will be conducted in a collective perspective with a time horizon of 28 days. Statistical significance will be achieved for p-values < 5% by using two-sided alternative hypotheses.