

Policy Analysis of Seven Failed Telemedicine Experiments in the Paris Region

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BACKGROUND

Telemedicine is increasingly viewed as a tool to provide a wide range of health services with high expectations regarding its cost effectiveness; however a cross sectional analysis of digital health trials found a 27% non-publication rate at 5 years and postulated this was due to either technology failure or negative results [1]. The Paris Regional Health Agency (ARS under its French acronym) pilots and regulates the provision of healthcare and prevention throughout the capital region of France. It commissioned in 2013 the deployment of 15 telemedicine pilot projects which were selected after a competitive bidding process and independently assessed. The protocols for seven of these projects were described in another article and included a variety of designs; all were publicly funded [2]. Assessments were conducted two to three years after the initial deployment of telemedicine according to the published protocols and often failed to demonstrate effectiveness or efficiency. The objective of this article is to analyze the reasons and understand the policy implications of seven failed or partly failed telemedicine projects.

We present lessons drawn from failed telemedicine experiments conducted in the Paris region.

METHODS

We used a mixed method design combining data analysis and interviews with stakeholders to study seven evaluations (controlled before-after or case-control studies) of telemedicine (TLM) projects commissioned by the Paris Regional Health Agency :

Teleconsultation for dependent polymorbid nursing home residents without on-site access to care (2 studies);

Teleconsultation for autistic children and adolescents and teleconsultation for children and adolescents with multiple handicaps living in institutions;

Tele-expertise for newborns hospitalized in a neonatal intensive care unit (NICU) with severe brain disorders;

Tele-expertise for pathology;

Medical tele-assistance for intraoperative pathology during a surgical procedure)

RESULTS

All projects with the exception of Tele Expertise for pathology failed to show significant improvement on the primary endpoints selected, both clinical and economic. Results by project are presented in Table 1 and Figure 1.

CONCLUSIONS

We identified the following reasons for failure

- Technical difficulties in the deployment of TLM
- Evidentiary requirements and unrealistic expectations of substitution
- Dealing with time constraints and provide rapid results while appropriation by professionals takes time
- Insufficient stakeholder involvement
- disconnect between existing evaluation models for telemedicine and the requirements of health authorities
- significant work overload for health professionals
- The target population had too many health problems and the e health solution was unable to show a reduction in health care utilization or improvement in health because of the confounders
- Methodological issues: insufficient sample size, insufficient follow up, optimistic hypotheses on the effect size

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Table 1

Projects	Endpoints	Design	With TLM		Without TLM	
			Cost/patient	Effectiveness	Cost/patient	Effectiveness
Nursing home	unplanned hospitalizations.	Controlled before after	€ 1,58	figure 1	€ 331	figure 1
			€ 1,49	figure 1	€ 238	figure 1
Polyhandicap	Number of neuro pediatric visits	Case control	€ 984	1.3 (Before)	€ 372	1.3 (Before)
				2.0 (After)		2.0 (After)
Newborns NICU	Time to decision	Case control	€ 377	4.4 days	€ 220	5.9 days
Pathology Expertise	Response time		€ 357	6.9 days	€ 88	24.9 days
Pathology surgery	% results within 30 mn	Before after	€ 181	48%	€ 148	81%

Figure 1 Mean unplanned hospital admissions in nursing home residents before and after teleconsultation became available .

