

# Telemedicine and Telehealth

Understanding the basics

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- Health system perspective
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# Presentation



Dr Robin  
Ohannessian



téléMédecine  
360

# Participants

# Definitions, benefits and limitations



# Definitions

- **Digital Health**
- **Telehealth**
- **Telemedicine**

## Digital Health

### Telehealth

#### Telemedicine

*Including:*

*Telepsychiatry*

*Teleneurology*

*Teledermatology*

#### Telecare

*Including:*

*Telepsychology*

*Telenursing*

*Telephysiotherapy*

#### Other Disciplines

*Including:*

*Teledentistry*

### Non-Telehealth



# Modalities

- **Live synchronous videoconferencing**
- **Asynchronous store-and-forward**
- **Remote monitoring**
- **Audio**
- **Chat**

# Activities

- **Teleconsultation**
- **Telesurgery**
- **Remote patient monitoring**
- **Tele-expertise**
- **Tele-diagnosis**
- **Tele-assistance**

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HCP and patient

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HCP and HCP

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Teleconsultation

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Tele-expertise

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Remote patient monitoring

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Telediagnosis

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Telesurgery

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Tele-assistance

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Telemanagement

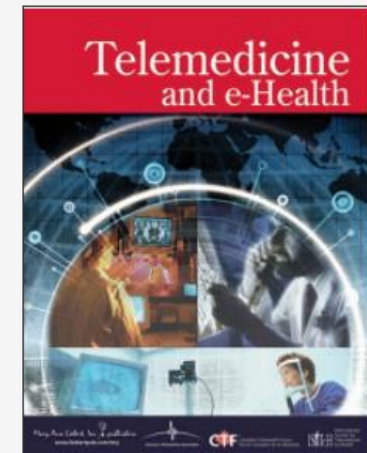
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\*HCP, healthcare professional

# France Is the First Country to Reimburse Tele-Expertise at a National Level to All Medical Doctors

Robin Ohannessian , Sarina Yaghobian, Tu Anh Duong, Elisabeth Medeiros de Bustos, Yann-Maël Le Douarin, Thierry Moulin, and Nathalie Salles

**Published Online:** 17 Jun 2020 | <https://doi.org/10.1089/tmj.2020.0083>



# Benefits

- **Improved access to care**
- **Continuum of care**
- **Increased quality for both the healthcare provider and the patient**
- **Better efficiency**
- **Automation**

# Limitations

- **Clinical examination**
- **Technological barriers**
- **Health service redesign**
- **Complex management**
- **Quality of care?**

# Project management



## Key messages

- **Multistakeholder**
- **Multidisciplinary**
- **Collaborative**
- **Strong leadership**
- **Medical focus first**



# Model of care

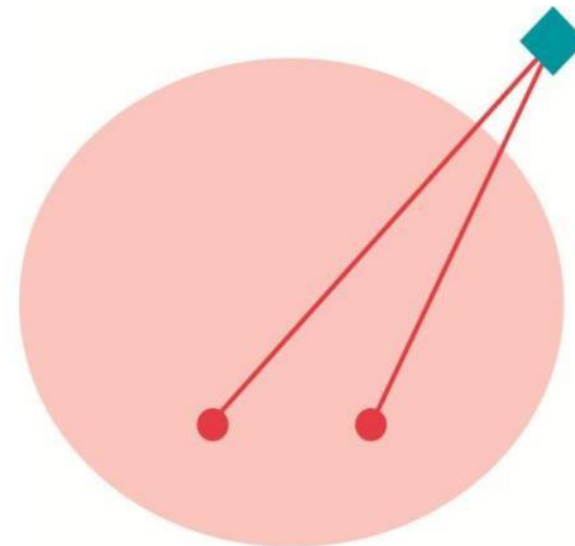


Schéma 2 : la PDS en imagerie est assurée par un prestataire privé

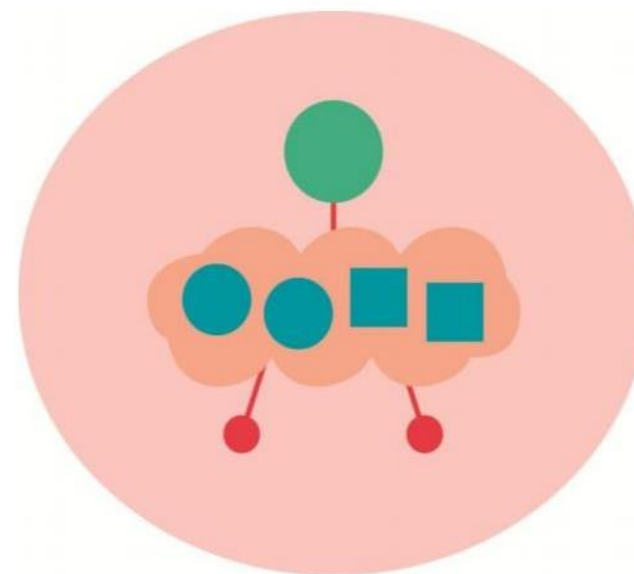
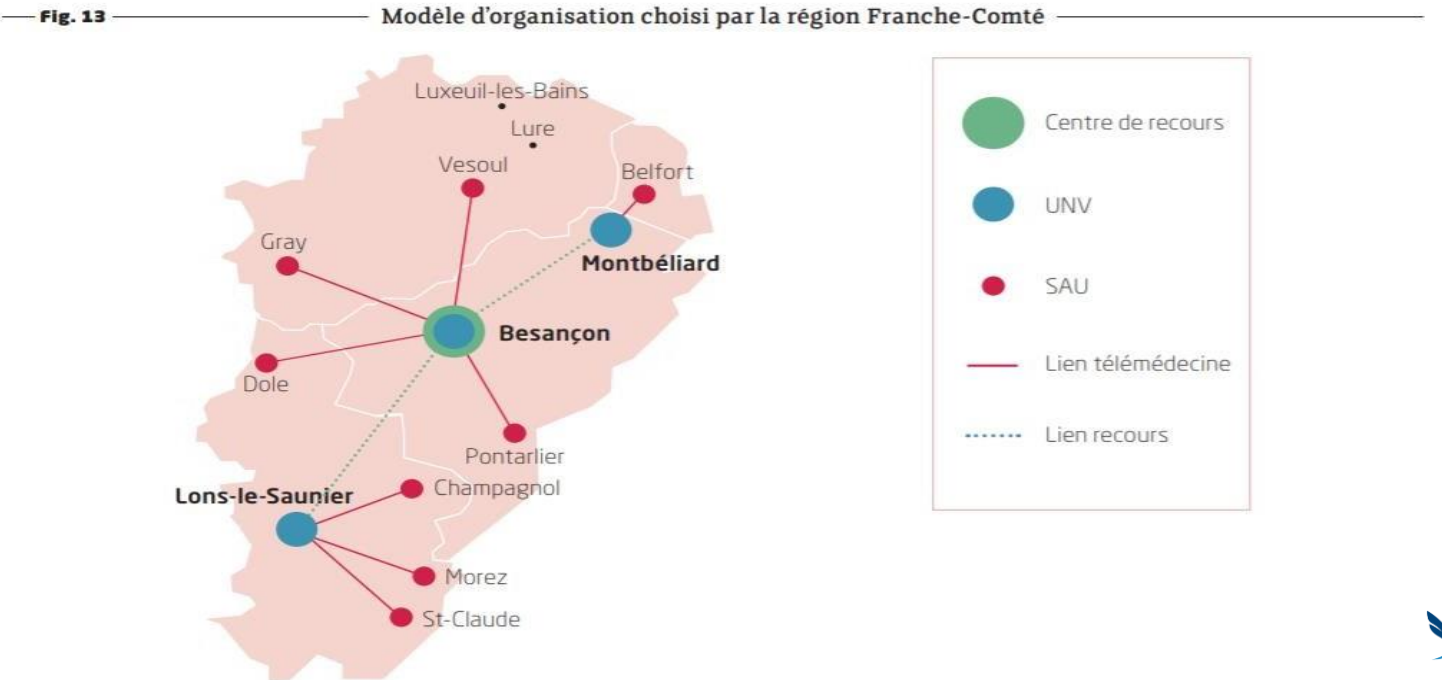
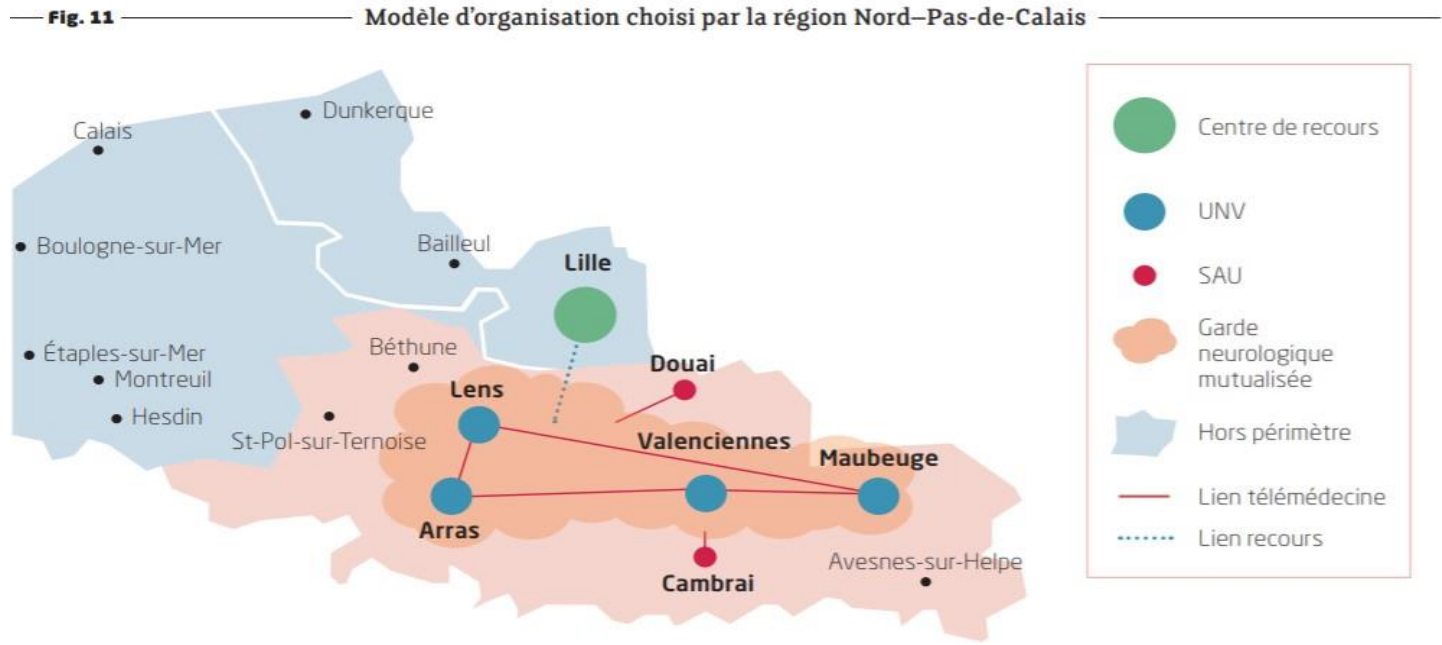


Schéma 3 : mutualisation de la garde radiologique entre établissements requis

# Model of care



# Steps

Define:

1. Medical needs
2. Which type of activities can solve the medical needs
3. Model of care
4. Business model
5. Legal model
6. Technical model
7. Implementation plan
8. Monitoring and evaluation plan

# Technological perspective



# Key messages

- **Great diversity of providers**
- **Different types of providers**
- **Technical requirements**
- **Legal requirements**
- **Contracting model**

# Providers

- **Service/Solution providers**
- **Hardware/Software**
- **Medical devices**
- **Software as a Medical Device**
- **Scope**

# Requirement

- **Secure data hosting**
- **Data protection**
- **Security**
- **Network capacity**
- **Authentication**
- **Identification**
- **Integration/Interoperability**

# Analysis

- **Compliance**
- **Experience**
- **Vision**
- **Team**
- **Infrastructure**



## Main setbacks

- **Not adapted to the needs**
- **UX/UI needs improving**
- **Lack of integration**
- **Not evolutive**
- **Difficult to scale easily**
- **Lack of training**
- **Lack of IT team involvement**

# Health system perspective



# What is needed?

- **National governance**
- **Dedicated strategy**
- **Dedicated regulations**
- **Clinical guidelines**
- **Education and training**
- **Funding models**
- **Public-private cooperation**



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www.em-consulte.com



## Original article

# Health policy for telestroke in France: A retrospective description from 2003 to 2016



R. Ohannessian<sup>a,b,h,i,\*</sup>, P. Dhote-Burger<sup>c</sup>, F. Chauvin<sup>a</sup>, C. Colin<sup>a,d</sup>,  
N. Nighoghossian<sup>e</sup>, T. Moulin<sup>f,g</sup>, Anne-Marie Schott<sup>a,d</sup>

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<sup>h</sup> CIC-1431, Inserm, département de neurologie, CHRU Besançon, 25000 Besançon, France

<sup>i</sup> EA 481, laboratoire de neurosciences intégratives et cliniques, université de Franche-Comté, UBFC, 25000 Besançon,

# Knowledge, attitudes and practices of telemedicine education and training of French medical students and residents

Sarina Yaghobian<sup>1</sup> , Robin Ohannessian<sup>1,2,3</sup> ,  
Thomas Iampetro<sup>4</sup>, Isabelle Riom<sup>5</sup>, Nathalie Salles<sup>2,6</sup>,  
Elisabeth Medeiros de Bustos<sup>3,7</sup>, Thierry Moulin<sup>2,3,7</sup> and  
Alexandre Mathieu-Fritz<sup>2,8</sup>

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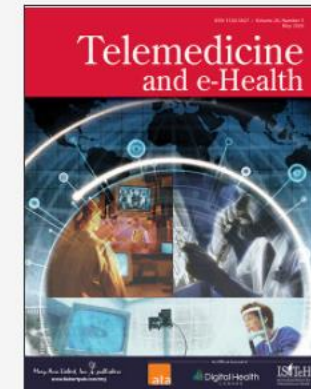
# Telemedicine, Telestroke, and Artificial Intelligence Can Be Coded with the International Classification of Health Interventions

Robin Ohannessian [✉](#), Nicola Fortune, Thierry Moulin, and Richard Madden

Published Online: 6 May 2020 | <https://doi.org/10.1089/tmj.2019.0072>

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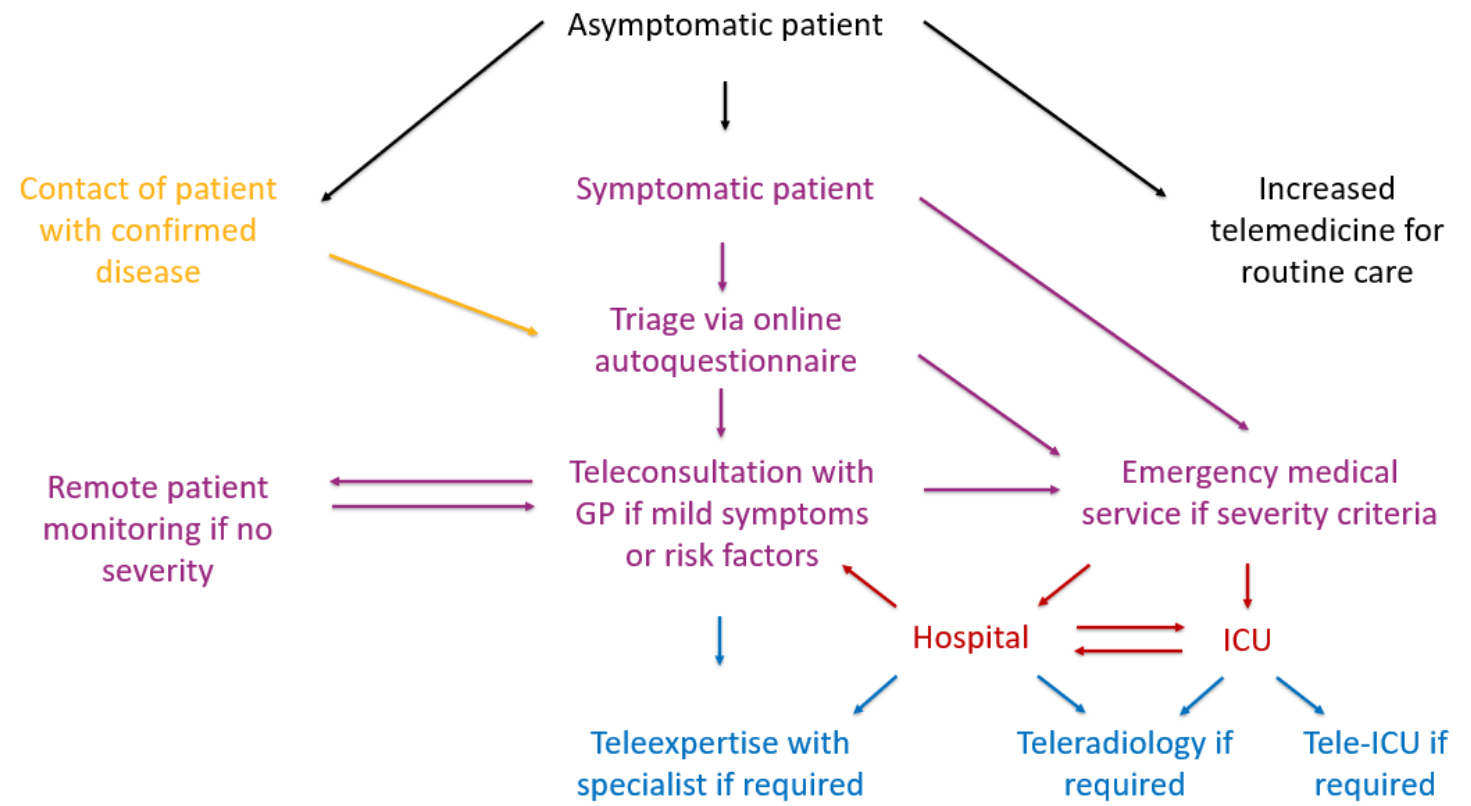
## Information

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# Global Telemedicine Implementation and Integration Within Health Systems to Fight the COVID-19 Pandemic: A Call to Action

Robin Ohannessian <sup>1</sup>, Tu Anh Duong <sup>2 3</sup>, Anna Odone <sup>4 5 6</sup>

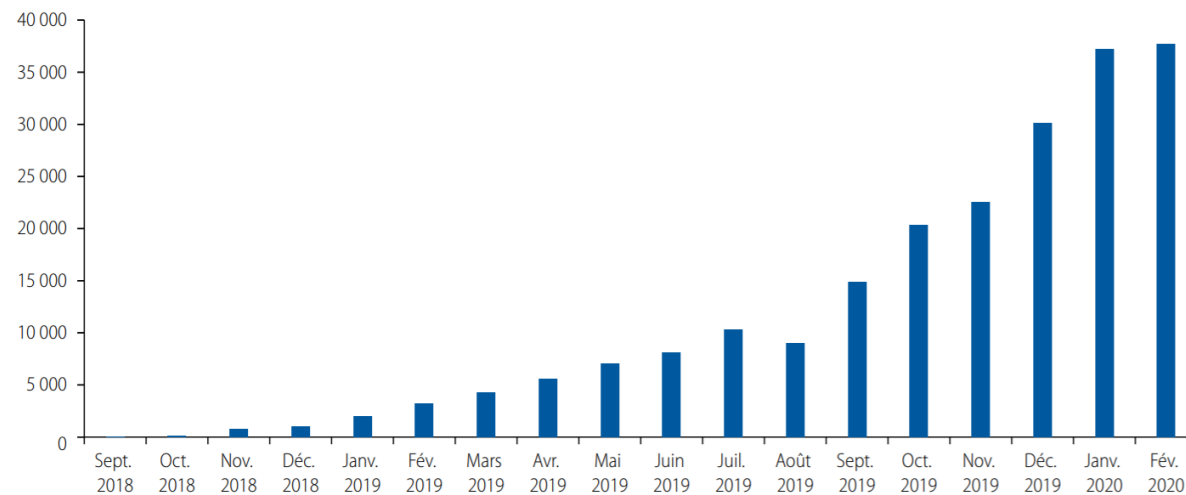
# COVID-19



# COVID-19

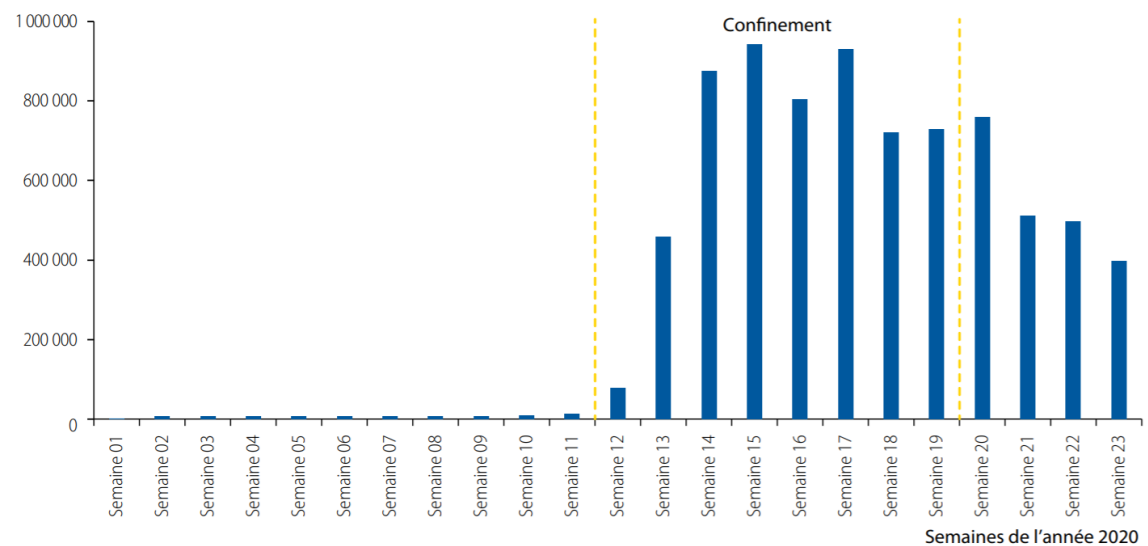
► FIGURE 73

## Évolution du nombre de téléconsultations par mois avant la crise sanitaire

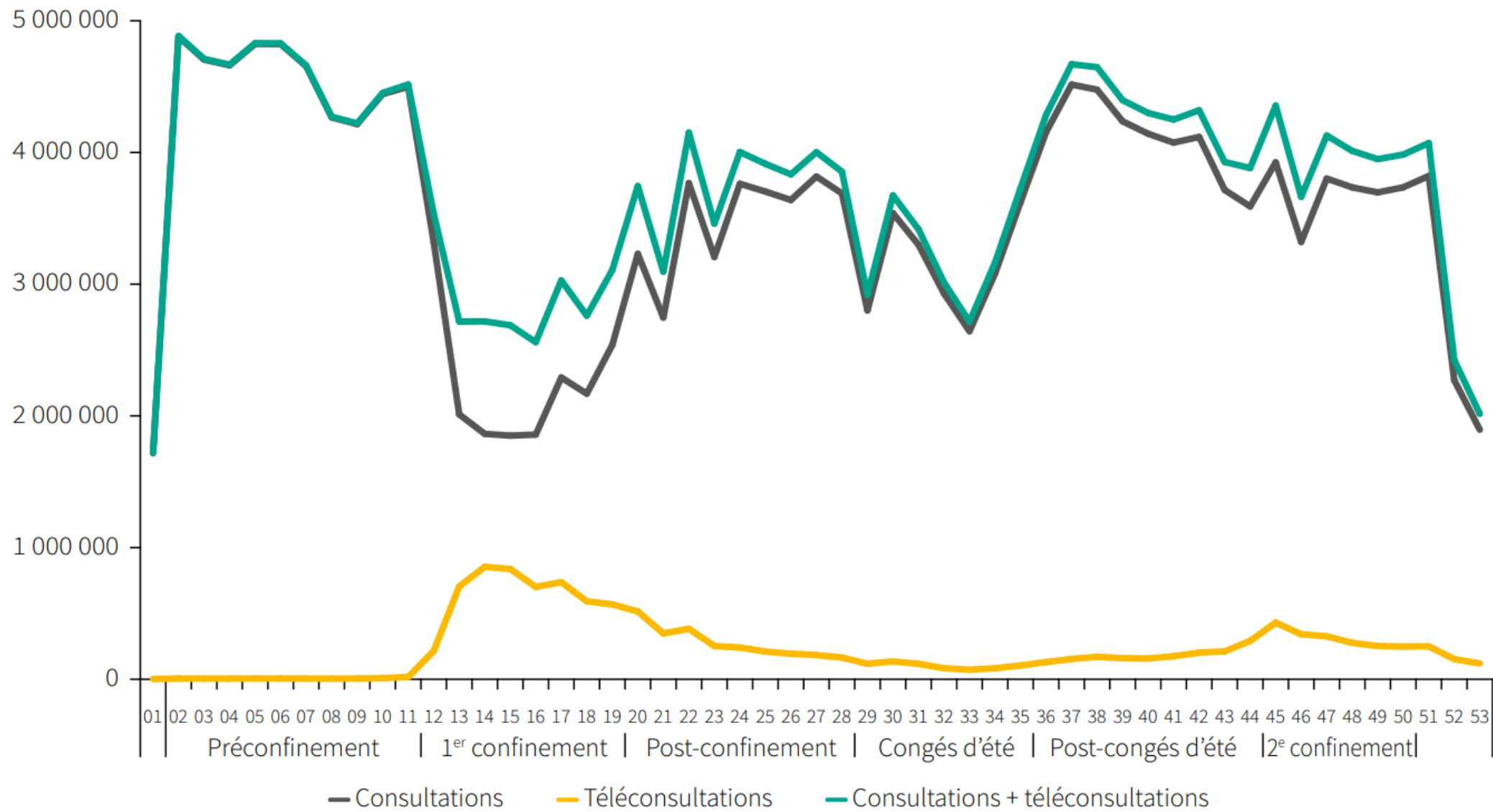


► FIGURE 74

## Nombre de téléconsultations en 2020







# Quick Demo



LEVEL

# Exercise



# Plan

- **Identify a medical need**
- **Define a telemedicine project**
- **Identify technological need**
- **Identify challenges and how to solve them**
- **Define monitoring and evaluation plan**

# Presentation

- **Project 1**
- **Project 2**

# Thank You

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