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The telemedicine sector has experienced a major shift in the last months. The COVID-19 pandemic and lockdown measures have caused a sharp increase in demand for online consultations and telehealth solutions. Globally, venture capital funding for telemedicine has more than tripled in Q1 2020. This growth enables startups to innovate and expand.

We interviewed 9 telemedicine startup founders and representatives from across Europe to identify the impact of COVID-19 on their business, and the barriers and challenges the sector is facing. We also asked the founders what changes they would like to see in Europe. All startups experienced an exponential increase in demand from all stakeholders, including new B2B clients outside the health sector. However, the adoption of telemedicine in public systems remains limited.

One major challenge is the lack of permanent legal frameworks providing clear rules and conditions for delivering online consultations. Doctors feel uncertain about the long-term viability of COVID-19 measures that enable telemedicine. Lack of reimbursements or coverage of the statutory health insurances for online consultations is also a major barrier. While countries such as France, Sweden and Germany have more telemedicine-friendly frameworks, many other EU countries have not yet provided a roadmap for its broader adoption.

Startup founders would like to see more interoperability and standardization of eHealth services across Europe. Enabling cross-border e-prescriptions and exchange of Electronic Health Records across the EU would significantly improve the environment for telemedicine startups. The European Commission has set an ambitious goal of partially implementing both of these e-services in 22 EU countries by 2021 [1].

Overall, the telemedicine sector has experienced unprecedented growth, but multiple barriers need to be addressed to facilitate its sustainable adoption across Europe.

We also published video interviews with 5 of the startup founders and representatives. Videos can be found here.

INTRODUCTION:

COVID-19 has led to unprecedented challenges to the health care systems worldwide. Strain on the health care workers and risk of virus transmission made it difficult to continue providing healthcare services in-person. Patients, doctors, insurers and employers have turned to telemedicine for solutions. Digital health startups, which are leading innovators in telemedicine, faced a major increase in demand. According to startup founders, the uptake of online consultations on their platforms increased by up to 10 times. Global venture capital funding for telemedicine companies more than tripled in the first quarter of 2020 [2].

According to telemedicine entrepreneurs, 70-80% of patients’ medical inquiries can be addressed using telemedicine platforms. Telemedicine startups do not seek to replace traditional health care. Instead, innovative solutions provide health professionals and patients with the right tools to increase efficiency, reduce waiting times and overcrowding, increase healthcare accessibility and cost-effectiveness.

Telemedicine solutions have the potential to support the health care systems in multiple ways. It offers communication platforms for patient-to-patient and doctor-to-doctor consultations, and secure ways for exchanging medical records, issuing prescriptions and managing payments. Telemedicine providers also seek to address the growing demand for medical tourism. Moreover, these solutions have the potential to support humanitarian efforts in developing countries [3].

Innovation in telemedicine is expected to accelerate exponentially. The implementation of artificial intelligence, virtual reality and integration with medical devices will expand the scope of how telemedicine can support health care systems.

Telemedicine-friendly regulatory environments and the support of governments are essential for its innovation and adoption. COVID-19 prompted governments across Europe to introduce urgent measures enabling teleconsultations [4]. However, multiple barriers need to be addressed to accelerate the adoption of telemedicine and the digital transformation of healthcare systems in Europe.

We interviewed the founders and representatives of nine telemedicine startups to collect first-hand insight on the impact of the pandemic and the challenges the telemedicine sector is facing. In the first part, case studies of telemedicine entrepreneurs are presented. In the second part, we share startups’ recommendations for policy makers.

We interviewed the founders and representatives of nine telemedicine startups to collect first-hand insight on the impact of the pandemic and the challenges the telemedicine sector is facing.

**Atlas**

**ABOUT**

Atlas is an online platform for mental health and well-being available to B2B and B2C users. More than 200 professionals are available on the platform - psychotherapists, psychiatrists and psychologists, as well as coaches, nutrition specialists and parenting counselors. Corporate users gain access by subscribing their employees to healthcare packages offered by health care providers in Romania, partners of Atlas.

**COVID-19 IMPACT**

The startup’s platform experienced exponential growth - from 4,000 to 50,000 subscribers. Atlas expanded its team, developed new partnerships, and began trials in other countries such as Bulgaria, Croatia and Greece. The startup also introduced new features to the platform, such as the screening tool for depression and symptom checker, which helps to identify the right specialist for the patient’s issue.

**CHALLENGES AND BARRIERS**

1. Lack of legal framework specifying which medical services can be provided online is a problem for medical professionals interested in using telemedicine. 2. Lack of engagement in the policy-making process when considering legislation that affects doctors and startups.

**Consulib**

**ABOUT**

Consulib is a telemedicine platform available to all doctors in France without subscription or onboarding fees. The platform also enables doctors to issue e-prescriptions, receive electronic medical records and manage payments. More than 6000 doctors are registered on the startup’s platform.

**COVID-19 IMPACT**

In the last week of April, the number of all teleconsultations in France reached 1 million, in comparison to just 60 thousand in the previous year. When the COVID-19 outbreak began, Consulib made its platform free for all doctors. The volume of daily consultations on the platform multiplied by 100, reaching up to 10,000 a day.

**CHALLENGES AND BARRIERS**

Fragmentation of healthcare regulations across Europe makes it difficult to scale. 2. Some doctors are not motivated to adopt telemedicine. There should be effective incentives.

**Conversation with Consulib Founder**
CASE STUDIES

Derma2go is an online platform connecting patients with dermatologists who carry out an online diagnosis within 24 hours. Patients can also receive a referral for an in-person consultation and have medication delivered to their homes. Derma2Go currently operates in Switzerland, Germany, Austria and Spain.

Docline is a telemedicine solution for insurance companies, corporate entities, health care providers and patients. The platform’s medical network consists of 1,500 doctors spanning over 25 specialties. Docline introduced an innovative e-prescription solution: QR code-based e-prescriptions are accepted by over 22,000 pharmacies in the country.

The demand has increased rapidly because dermatologists were not permitted to treat their patients in-person. The startup launched its services in Austria and Spain as a response to the pandemic. Online consultations were previously prohibited in Austria, but the COVID-19 measures have made it possible. It is not yet known if these measures will endure.

1. Restrictions preventing doctors from diagnosing patients online are still in place in some countries. 2. Absence of reimbursements on par with in-person consultations. 3. Initiatives to inform patients about telemedicine services would be helpful.

1. Telemedicine solutions are not accessible to most patients relying on public insurance. 2. Public hospitals often work with obsolete software, which is difficult to integrate with new digital solutions which increases adoption costs.
Doctena is a medical booking platform helping patients find doctors and schedule their medical appointment in 6 European countries. Clinics and doctors use the platform to coordinate appointments. The solution also enables doctors to manage reimbursements and issue prescriptions in the countries where it is permitted.

When most doctors started cancelling their appointments because of lockdowns, Doctena introduced a video consultation feature which immediately gained traction. However, as the lockdown measures eased in early summer, most doctors using the platform have returned to in-person consultations. The retention rate of teleconsultations was higher in countries where legal frameworks were more telemedicine-friendly.

The proportion of consultations delivered online has grown from 5% to 60%. Online growth enabled the startup to serve a broader market: before the pandemic, the services were bound to areas in Italy where it had English speaking doctors, whereas now the services are accessible in the whole country and even abroad.

1. Absence of reimbursements for online consultations in some countries. Uncertainty if measures enabling reimbursements will endure post-pandemic in others. 2. Lack of common European standards facilitating the exchange of electronic medical records between different softwares and stakeholders. The systems implemented in most countries lack interoperability.

DoctorsinItaly is a platform helping tourists find an English-speaking doctor for both online and in-person consultations. The startup recently launched an additional service - Tivisito, which focuses on online consultations for residents in Italy. The platform connects patients with general practitioners, medical specialists and mental health professionals.

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1. Cross-border interoperability of electronic health records and e-prescriptions is important in expanding the reach of telemedicine. 2. Complexity of healthcare regulations both at national (regional) and international level.

Conversation with DoctorsinItaly
Founder
CASE STUDIES

MediQuo is an instant messaging telemedicine platform offering B2C and B2B solutions. Individual users and employers subscribe for a small fee to gain access to the platform’s doctors spanning over 200 specialities. Last year, 1.5 million online consultations in more than 20 countries were done using MediQuo, primarily in Spain and Latin America.

Meeting Doctors is a telemedicine platform that enables online consultations between patients and doctors from over 11 medical specialties. The startup offers a white-label product for clients, such as insurance companies and health care providers in more than 8 countries.

The volume of consultations increased from 3,000-4,000 to 15,000 in the midst of the outbreak - the startup hired 30 additional doctors in two weeks to keep up with the demand. The startup also experienced a huge increase in professional demand. According to Dr. Serra, the pandemic advanced the adoption of telemedicine by 5 years.

The volume of teleconsultations multiplied by 2-3 times during the outbreak. The demand for telemedicine has also expanded beyond the health care and insurance sectors. For example, travel companies are interested in telemedicine to serve their customers better, and employers to protect their employees.

1. Fragmentation of legal frameworks for health care (reimbursements, e-prescriptions) limit the startups’ ability to scale. 2. Startups struggle to gain access to investment for research and innovation programmes such as Horizon 2020 - founders often lack the time and resources to complete a complicated application process and to comply with all the requirements.

1. The lack of interoperability of ePrescriptions systems is one of the biggest challenges when it comes to expanding into other European countries. 2. In Spain, one of the main issues is the restriction preventing doctors from issuing an official diagnosis online.

Conversation with MediQuo Founder
Telemedico is a telemedicine platform for insurance and assistance companies from over 15 countries. More than 100,000 teleconsultations by 500 doctors are delivered every month. Telemedico is also integrating its solution with various medical devices and implementing new technologies such as artificial intelligence.

1. Reimbursements for teleconsultations and clear legal frameworks should be introduced to facilitate the adoption in public systems lagging behind the private sector. 2. Developing e-health infrastructure for e-health services such as e-prescription, e-referral and e-sick leave is important to increase the range of services and value telemedicine platforms can offer.

Telemedico acquired more than 25 new business clients in less than 3 months and continues to grow.

According to Mr. Kaoka, the pandemic has changed the perspective on telemedicine: it has become a necessity and the regulatory environment is becoming more telemedicine-friendly globally.

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Our interviewees reported a sudden and major increase in demand for telemedicine. The growth of the telemedicine sector has witnessed in two weeks what would have been expected over a number of years. This growth has enabled several startups to expand to other markets, acquire new clients and increase the scope of their services. The private sector (private health care providers, insurances, corporates) is adopting telemedicine at a much faster pace than the public sector. There is an increasing interest from sectors that are not traditionally related to health, such as travel and hospitality. The primary challenge is the lack of a legal framework that defines which medical services can be provided, and facilitates reimbursements for teleconsultations. The founders also cite e-health infrastructure and frameworks enabling e-prescriptions and interoperability of electronic health records as major factors for broader adoption. Most European countries have tightly regulated healthcare systems. It is therefore important that governments work together with startups to support the integration of telemedicine into the public health care systems. It would decrease healthcare inequalities and accelerate the adoption of online medical services accessible to everyone.
6 RECOMMENDATIONS FOR POLICY MAKERS

1. Legal clarity - A clear, permanent legal framework encourages doctors to adopt telemedicine solutions

2. Reimbursement mechanisms - Reimbursements by statutory health insurances should be on par with in-person visits.

3. E-prescriptions - Every patient needs to have a secure and interoperable online medical file

4. Electronic health records - Accessible, interoperable and portable electronic health records unlock the flow of medical data

5. Incentives for doctors - Supporting doctors accelerates the adoption of telemedicine

6. Support for startups - Startups need support to continue developing top notch solutions
Legal clarity - a clear, permanent legal framework encourages doctors to adopt telemedicine solutions

Health care providers and doctors rely on clear rules and established procedures. It is therefore necessary to provide a clear and permanent framework for them to follow.

- Design legal frameworks that would include: (1) the definition of a telemedicine platform and online consultation (2) list of medical specialties and groups that are permitted to provide online consultations (3) rules for providing ehealth services such as e-prescription, e-sick leave, and e-referral.
- Recognise telemedicine as a proper and compliant way to practice medicine when safe and appropriate. Legal frameworks should eliminate the restrictions for issuing a diagnosis (limitation in Spain) or treating a patient online (limitation in Austria).
- Make a distinction between a consultation delivered through a telemedicine platform and a consultation provided over a phone call or other communication tool. Telemedicine platforms should meet specific indicated criteria. The criteria should be balanced and easy to comply with.

Reimbursement mechanisms - Reimbursements by statutory health insurances should be on par with in-person visits.

Reimbursements for teleconsultations are critical to ensuring telemedicine accessibility to patients relying on statutory health insurances and public systems.

- Statutory health care insurances and social security systems should equally treat online consultations and in-person consultations. Reimbursements for teleconsultations should be on par with in-person consultations.
- Doctors and patients should not face difficulties or additional procedures to claim reimbursements and expenses related to online consultations.

Best practice. Since 2019, Germany enables doctors from almost all specialist groups to deliver online consultations to patients with statutory insurance with reimbursement. Exceptions apply to laboratory doctors, pathologists and radiologists [5]. The Digital Health Care Act obliges all stakeholders to connect to the country’s telematic infrastructure to enable the exchange of medical data [6]. The Act also allows the prescription of medical apps and assistive devices.

E-prescriptions - Every patient needs to have a secure and interoperable online medical file

Prescribing medication is a necessity for doctors from many medical specialties. It is therefore essential to ensure that doctors can issue e-prescription during online consultations.

- Facilitate the adoption of e-prescription and related eHealth infrastructure.

**Best practice.** In Estonia, The Digital Prescription Centre has provided the digital infrastructure for doctors and pharmacies since 2010. Its database is linked with the Health Information System, Insurance Fund and the systems of different Health Care providers. Any medical subsidies that a patient is eligible for are accounted for in the system. Moreover, patients can request their doctors to repeat a prescription online [7].

- Enable cross-border e-prescriptions by joining eHealth Digital Service Infrastructure.

**Best practice.** ePrescription of Finnish citizens can be retrieved in pharmacies in Croatia and Portugal and vice versa as of August 2020. ePrescriptions are visible electronically to participating pharmacists via the eHealth Digital Service Infrastructure. This service is expected to be gradually implemented in 22 EU countries by 2021.[8]

Electronic health records - Accessible, interoperable and portable electronic health records unlock the flow of medical data

The use of accessible and secure electronic health records’ files enables patients to share their medical information with any doctor easily, enhances medical follow-ups and contributes to the overall reduction of health costs.

- Ensure patients’ right to securely access and share their electronic health records.

**Best practice.** Dutch legislation ensures the patients’ right to access or copy all their personal and health data. Health care providers are obliged to provide the access online and free of charge. Other stakeholders can access the patient’s data only after obtaining his/her consent [9].

- Ensure the cross-border interoperability of electronic health records.

**Best practice.** The European Commission’s Recommendation on a European Electronic Health Record exchange format set out common technical specifications and principles to facilitate cross-border exchange of data. According to the Commission, Patient Summary, which is a part of electronic health records, should be gradually implemented in 22 EU countries by 2021. In the longer term, full electronic health records should become interoperable across the EU.[10]

Incentives for doctors - Supporting doctors accelerates the adoption of telemedicine

Telemedicine is a tool for doctors to provide safer, more efficient and accessible medical services. Governments should act to prevent doctors from facing additional costs and encourage ways telemedicine can be used to increase health care efficiency.

- Provide incentives for doctors to digitise their practice and adopt telemedicine solutions.

Best practice. In France, the Social Security system supports doctors adopting telemedicine solutions with an annual payment of 350€ which aims to help cover costs such as computer equipment or subscription fees.

- Encourage and reimburse tele-expertise which enables medical professionals to share a patient’s data with a specialised doctor and request his/her expertise online.

Best practice. France became the first country to reimburse tele-expertise to all doctors in all specialties in 2020. Public health insurance reimburses both the requesting and responding doctor.

Support for startups - Startups need support to continue developing top notch solutions

Startups are providing some of the most innovative telemedicine services. However, they often operate on a low budget and face competition from the larger players. Startup founders propose the following ways governments can support startups:

- Publish an impartial list of all telemedicine solutions available in a given country

Disseminating an official list of all telemedicine service providers among doctors and patients would help to level the playing field for startups.

- Dedicate tenders and public procurements specifically to startups

Governments can support startups by becoming their customers and thus enabling them to provide services to the public health care systems.

- Assist startups in accessing research and innovation funding

EU programmes such as Horizon 2020 provide many opportunities. However, startup founders often lack the time and resources to complete a complicated application process and comply with all the requirements. Reducing barriers to access R&I funding could support the development of digital health solutions with real value for patients and the innovation community.