

# Telemedicine: where has it become established?

Status quo of our work and experiences of three days DMEA.

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## Introduction: What is telemedicine

In general, telemedicine is the service of providing health services and information using telecommunication technologies [1].

There are many definitions of telemedicine out there. It depends on who made the definition and in which context or question the whole thing is.

Sood et al. have identified four elements for Telemedicine as the followings [2]:

- Telemedicine must have a medical context.
- Technological data transmission is a central element.
- There is a physical separation between the parties involved.
- Telemedicine benefits patients because medical services are "delivered" to them.

## Methods

### Literature Research

We did a literature research in Pubmed, IEEE Explore and ACM Digital Library to get background information. We analyzed different search strings with the Pubmed API.

### Congress Visit: DMEA

We attended several podium discussions at the DMEA and we also got in touch with manufacturers.



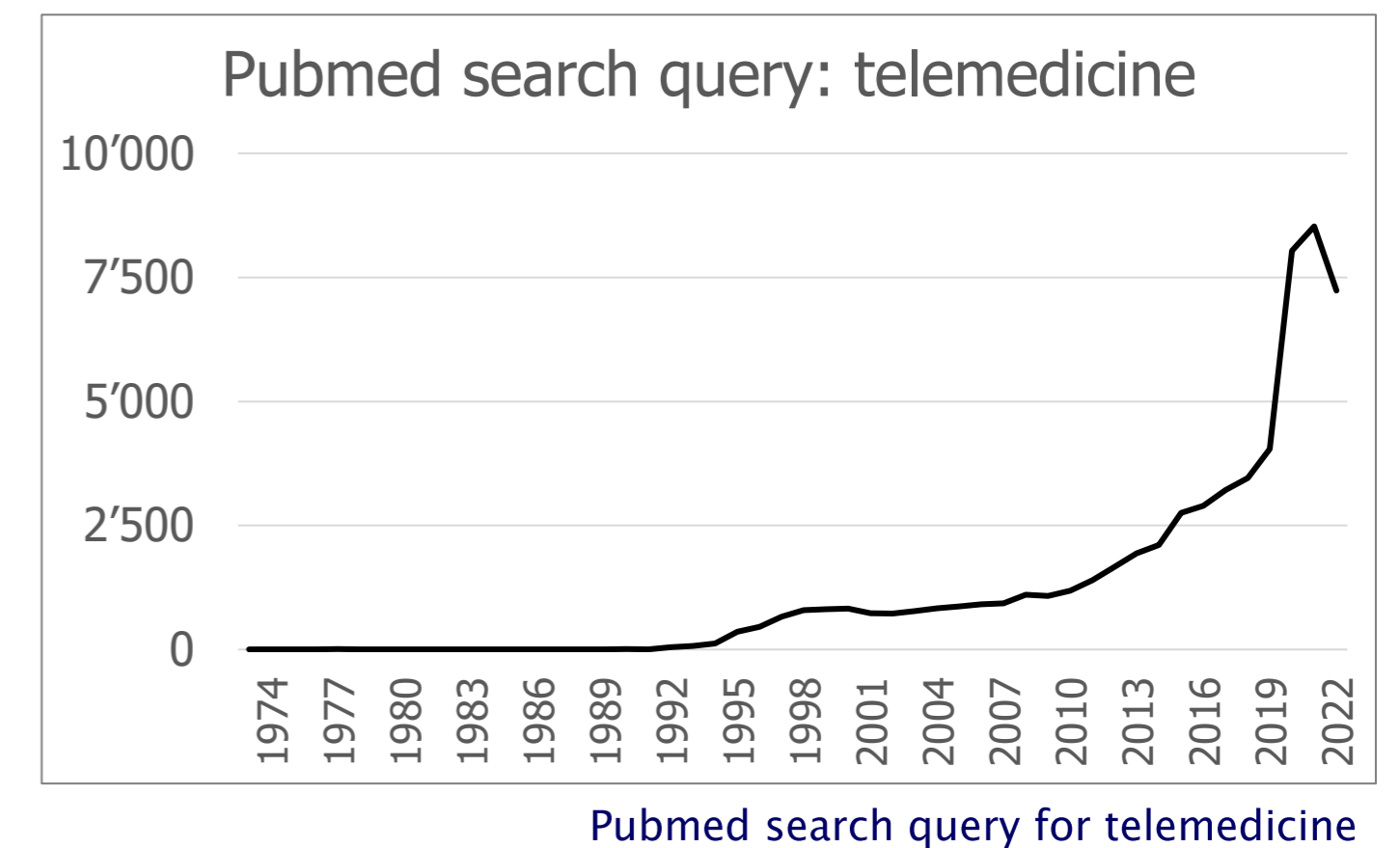
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## References

- [1] Agency for Healthcare Research and Quality. Telehealth. <https://digital.ahrq.gov/telehealth-0>
- [2] Sood S, Mbarika V, Jugoo S, Dookhy R, Doarn CR, Prakash N, et al. What is telemedicine? A collection of 104 peer-reviewed perspectives and theoretical underpinnings. Telemedicine journal and e-health : the official journal of the American Telemedicine Association 2007;13:573-90. DOI: 10.1089/tmj.2006.0073.
- [3] Bundesverband Gesundheits-IT, Deutsche Gesellschaft für Integrierte Versorgung im Gesundheitswesen, editors. Telemedizin Success Stories; 2022.

## Results

Based on this graph, it can be said that the Corona pandemic has led to a substantial increase in publications related to "telemedicine". It is also interesting to note that the first papers on the subject were published over 50 years ago.



### Video consultations

The hours of video consultation in Germany have risen by 900% from 2019 to 2020 [3]. This technology can help to connect urban specialists with rural doctors or patients

### Messenger

A messenger will be launched in Germany to ensure secure, interoperable and fast communication between healthcare providers. A key element will be the easy usable contact directory.

### HealthCare Apps

For example, "myReha" is an app for patients with speech disorders or cognitive deficits. The medical product can be used in the rehab clinic or at home. The app can also create a treatment plan.



Cosinuss inEar gadget

### Monitoring

The condition of patients can be tracked with the help of monitoring devices. Different vital parameters are collected with the help of sensors or digital measuring devices and transmitted to a platform. It can also be programmed that if a vital sign value is out of a certain value range, a warning message is triggered.

For example, with the company "Cosinuss" which presented an inEar gadget that can measure body temperature, oxygen in the blood and the pulse rate of the heart.

## Discussion and Perspective

For fluent video consultation, a good internet connection should be available, which is not yet everywhere available in rural areas.

Financial compensation for healthcare providers to implement and use new technologies should also be considered.

Process adaptations: Possibly, previous process and organizational forms should be reconsidered and adapted through the introduction of telemedicine.

Data protection: High data protection and secure data transfer are basic prerequisites for user and patient acceptance.

## Conclusion

In summary, it can be stated that telemedicine is not yet a third branch of care alongside outpatient and inpatient care. Rather, specific telemedical offers complement the classic medical care landscape. Telemedicine is used in specific situations and helps to improve the situation of the patients.