

## Geographical Characteristics of Telemedicine in Japan; a case study of Kagawa prefecture

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Telemedicine means the use of information and communication technologies to transfer medical information for the delivery of clinical and educational services. In general, it enables us to support professional advice to low-level health facilities and share the patient's records among medical institutions for stable health care (American Telemedicine Association, 2008; Bashshur et al., 1997; Lucas, 2008; Norris, 2002). Approached from a purely geographical perspective, telemedicine in Japan show a regional-based system on the basis of each diagnostic area (Park, 2008). Therefore, the purpose of this discussion is to describe how telemedicine is carried on by telemedicine suppliers and demanders and how telemedicine mechanism influences geographical characteristics through a case of Kagawa prefecture minutely. For this discussion, my attention is directed to firstly, K-MIX's formation process and its networks, secondly, influence to users, thirdly, ripple effects using GIS, survey and interview. K-MiX is organized by telemedicine suppliers, telemedicine demanders, Kagawa prefecture government, Kagawa medical association and data center (STNet), and its characters and conducts are influenced by each objective's role and complementary cooperation each other. By and large, general hospitals in Kagawa prefecture perform as telemedicine suppliers and other medical facilities as telemedicine demanders refer high-dimensional diagnosis or medical treatment to telemedicine suppliers through K-MIX. In addition, Kagawa prefecture government and Kagawa medical association are functioning as mediators for stable telemedicine management, especially data center performs the administrative and control of patient's data securely. Above all things, their relations are closely connected with each other and some major innovators are leading the development of K-MIX for regional medical service. Fundamentally, telemedicine suppliers and demanders of K-MIX are distributed within Kagawa prefecture. On the whole, telemedicine suppliers are agglomerated in major cities and telemedicine demanders are scattered widely though all regions. Excepting for a case of Kagawa university hospital, each telemedicine network is based on each unit of city or town and each network is influenced by existing diagnostic relations between suppliers and demanders, e.g., accessibility and utilization for patients and stable regional health care, and necessities of medical staffs. Some outlying medical institutions are associated with telemedicine suppliers in Kagawa prefecture and new venture capitals come out in Kagawa prefecture nowadays.