Rapid Progress and Remaining Challenges of Telemedicine / Telecare for hard-to-reach areas in Asia

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I. Background and Development

Originally implemented through ordinary telephone consultations or, in remote areas, « field phones » in very remote villages of Southeast Asia

II. Examples of Japan and Thailand

- Kyushu University (Southern Japan): Established the Telemedecine Development Center of Asia (TEMDEC) in 2008 for medical education and medical engineering across borders in Asian countries.

- But telemedicine in urban and peri-urban areas of **Japan** is not gaining users as quickly as in **rural areas**, where hospital visits are more difficult.

- Telemedicine in **Thailand** has advanced swiftly, with through national policy and financial support, to nearly all provincial and district hospitals, public and private. Health facilities began to rely more on it during COVID when rapid **regional cooperation** at migration borders became necessary.

Current objectives / Socio-economic and Environmental Determinants

- **Japan: Remote villagers in mountainous areas (**example: **Minamata City,** Southern Japan)
  1. Priority on rural and remote populations in the rapidly aging, scattered, small populations
  2. Need to monitor possible Epigenetic effects of environmental chemical exposure
  3. Need to monitor elderly and other low-mobility patients who do not frequent town-based hospitals
  4. Adapt Digital Care to patients who prefer family-based, and community-based, care
  5. Includes the development and use of Wearables

Hilly, with average elevation approx. 900 m. Population widely scattered. Device usage low.

- **Thailand**:
  1. Priority on **urban and peri-urban** populations. Major urban public hospitals offer Telecare. Private hospitals offer a nationwide network of Telecare, with connections with the patients' own local hospitals, for necessary examinations and documentation.
  2. Monitoring of elderly and low-mobility patients
  3. To monitor and treat chronic conditions

Common challenges, Innovations, Hybrid Strengths in both examples

1) Usefulness of Cross-border diagnostic and analytic Telemedicine (professional to professional) during COVID at heavily-used migration transit points
2) Gaps in Connectivity (installation, costs of devices and services, other)
3) Low digital literacy / low network readiness
4) Interruption of service due to natural disasters / extreme weather

Near-term solutions: In Socio-economic norms and policy precedents, to utilize patient skills with other, lower-tech forms of communication = Hybrid Solutions

1. Face-to-face, interactive
2. With the presence and assistance of co-resident family member(s)
3. Simple and quick to operate
4. Mobilization of existing equipment: Land lines, mobile phones, TVs
5. **Larger screens** and home-based systems like CCTV