

## **CPCE HEALTH CONFERENCE 2016**

# Service Design for Medical Tourism in a Smart City : Medical Tourism Roadmap for Taiwan



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# Taiwan's Health Care System

- The current healthcare system in Taiwan, known as **National Health Insurance** (NHI, Chinese: 全民健康保險).
  - Working people do not have to worry about losing their jobs or changing jobs because they will not lose their insurance.
- Problems
  - There is a **low doctor-to-population ratio** resulting in too many patients depending on too few doctors.
  - **Patients visit the doctor more frequently** causing doctors to keep visits short to about 2 to 5 minutes per patient.
  - There is no system to regulate systematic reporting of clinical performance, patient outcomes and adverse events.



# Analysis of Taiwan Medical Tourism

<b>Strength</b>	<b>Weakness</b>
<ul style="list-style-type: none"> <li>• Advanced medical technologies.</li> <li>• Quality service and reasonable fees.</li> <li>• Well-defined medical services and fee schedule.</li> <li>• Easy access transportation.</li> </ul>	<ul style="list-style-type: none"> <li>• Not well-established service models.</li> <li>• Lack of integrated platform for marketing and cross-industry collaboration.</li> <li>• Not sufficient international collaboration.</li> </ul>
<b>Opportunity</b>	<b>Threat</b>
<ul style="list-style-type: none"> <li>• Establishing an integrated elderly care system.</li> <li>• Blooming tourism and hospitality.</li> <li>• Blooming China tourists.</li> <li>• The global trend of medical tourism.</li> </ul>	<ul style="list-style-type: none"> <li>• The existed competition from Thailand, Singapore, and India.</li> <li>• The potential competition from China.</li> <li>• No specific service model for customer's unique experience.</li> </ul>

# Current Policy for Medical Tourism

## Setting up International medical service counter at airport



Foreign visitors



Simplifying entry procedures



International medical service counter at airports

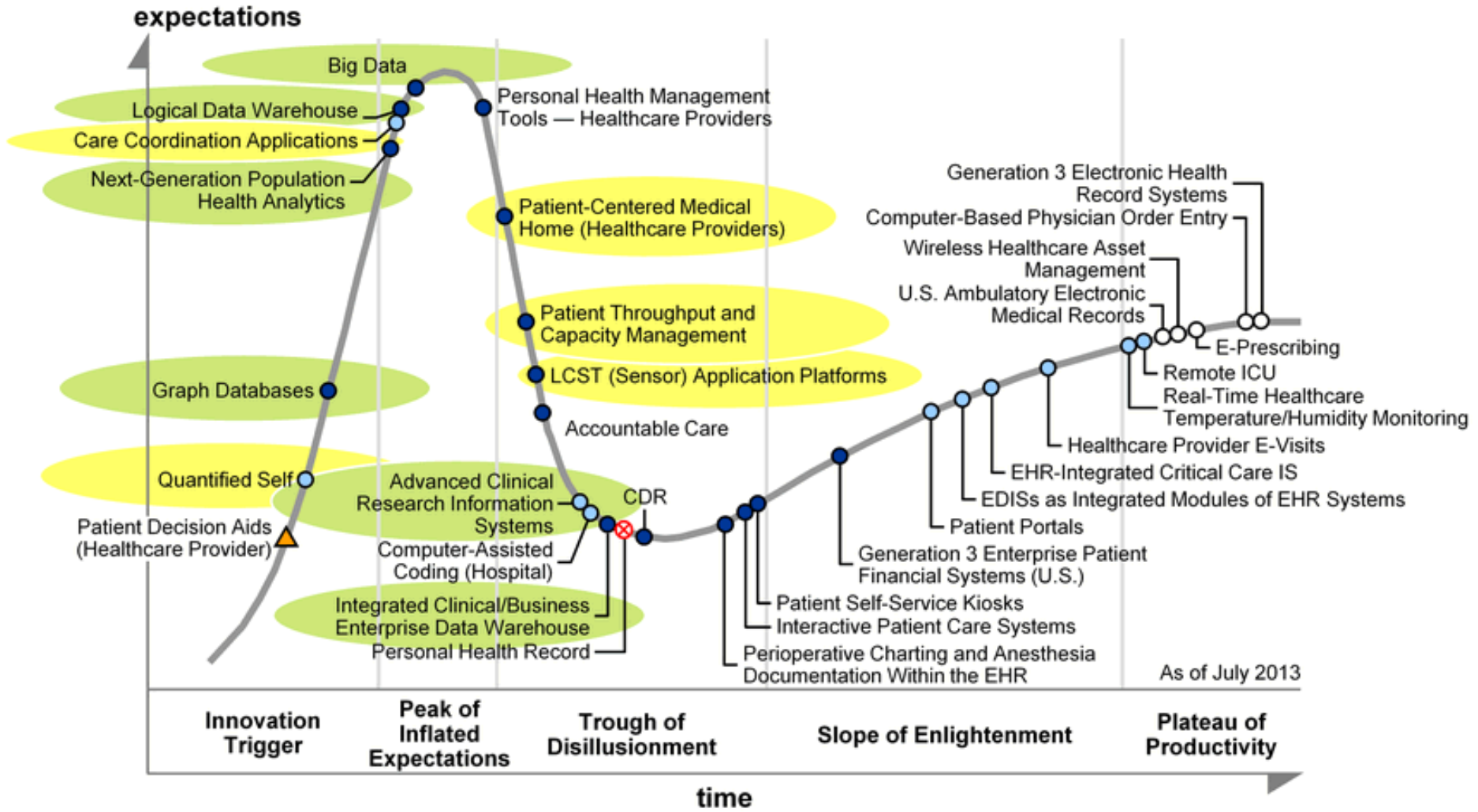


Driving service



Receiving health checks, aesthetic medicines, and serious illness treatment in domestic hospitals

# Future Vision- Digging from Big Data



Plateau will be reached in:

- less than 2 years
- 2 to 5 years
- 5 to 10 years
- ▲ more than 10 years
- ⊗ obsolete before plateau



# Smart City, Smart Health

- Literature: Reischl, C. (2013). *Data will drive smart cities' medical tourism success*. Denver: Mercury Advisory Group.
- Practice: Two villages in **Jaipur district, India** will be developed as "Health Smart Villages" under which data will be collected and computerized to manage the health scenario of the places.



# Health Care Roadmap for Aging

	<u>2010-2014</u>	<u>2015-2020</u>	<u>2021-2030</u>
<b>Driver Barrier</b>	Aging in developed countries/Lack of medical professionals	People are familiar with IT/ Quality of life gain more importance	Aging in developing countries/Co-exist of robots & human
<b>Market needs</b>	<ul style="list-style-type: none"> <li>Aging society</li> <li>Lack of doctors/nurses</li> <li>Increased expense for healthcare</li> </ul>	<ul style="list-style-type: none"> <li>More people live alone</li> <li>Depopulation of rural area</li> <li>People care quality of life more</li> <li>Get used to IT</li> </ul>	<ul style="list-style-type: none"> <li>WW Aging society</li> <li>Acceptance for robotics increase</li> <li>Limited landscape</li> </ul>
<b>Challenges</b>	<ul style="list-style-type: none"> <li>Cost/Regulation</li> <li>Reliability/acceptance</li> </ul>	<ul style="list-style-type: none"> <li>Advanced technology</li> <li>Usability</li> </ul>	<ul style="list-style-type: none"> <li>Quality</li> <li>Resistance</li> </ul>
<b>Products Services</b>	<b>Monitoring Individual</b>	<b>Monitoring + Therapy Interactive</b>	<b>Diagnosis + Care plan Proactive</b>
	<ul style="list-style-type: none"> <li>Security cameras for nursing</li> <li>Wearable monitoring</li> </ul>	<ul style="list-style-type: none"> <li>Therapy robots (pets, partners)</li> <li>Tele-medicine</li> <li>Tele-diagnosis</li> </ul>	<ul style="list-style-type: none"> <li>Proactive Diagnosis robots (doctors, nurses)</li> <li>Autonomous devices</li> </ul>
<b>Technology Capability</b>	<ul style="list-style-type: none"> <li>Sensors (wearable)</li> <li>Actuators</li> <li>Monitoring camera</li> <li>Pattern recognition</li> <li>High speed network</li> </ul>	<ul style="list-style-type: none"> <li>Sensor feedback</li> <li>Soft Actuators</li> <li>Intention recognition</li> <li>Advanced Human machine interface</li> </ul>	<ul style="list-style-type: none"> <li>Natural language processing</li> <li>Autonomous navigation system</li> <li>Machine learning &amp; statistical analysis</li> </ul>



Thank you