Health Tourism today and into the future

Dr Tim Wilson: PwC Health Industries Leader
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What, where and why?

Health Tourism today and into the future

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PwC

20 February 2018
What do people travel for?

**Tourism-oriented**
- Wellness offerings
  - Resort spas
  - Ayurveda + yoga retreats
- Fitness
  - Homeopathy/Osteopathy
- Home/Day Spas

**Patient-oriented**
- Vanity and wellness offerings
  - Medical spas
  - Health check-ups (Cosmetology, etc.)
  - Aesthetic care
- Fitness
  - Weight loss management
  - Rehab (post-acute, addiction, etc.)
- Home/Day Spas

**Medical**
- Clinical specialties: Cardiology, oncology, orthopaedics, etc.

Source: Global Wellness Institute, PwC analysis
Where do people travel to?

**Top 10 medical tourism destinations by Volume (2016)**

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of Medical Tourists (mn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thailand</td>
<td>2.29</td>
</tr>
<tr>
<td>Mexico</td>
<td>1.10</td>
</tr>
<tr>
<td>Brazil</td>
<td>0.91</td>
</tr>
<tr>
<td>U.S.</td>
<td>0.80</td>
</tr>
<tr>
<td>India</td>
<td>0.78</td>
</tr>
<tr>
<td>South Africa</td>
<td>0.76</td>
</tr>
<tr>
<td>Turkey</td>
<td>0.60</td>
</tr>
<tr>
<td>Malaysia</td>
<td>0.49</td>
</tr>
<tr>
<td>South Korea</td>
<td>0.39</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>0.39</td>
</tr>
<tr>
<td><strong>Others</strong></td>
<td><strong>5.88</strong></td>
</tr>
</tbody>
</table>

Total medical tourists: ~ 14 mn

**Top 10 medical tourism destinations by Value (2016)**

<table>
<thead>
<tr>
<th>Country</th>
<th>Medical Tourism Market Value (USD bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>8.0</td>
</tr>
<tr>
<td>Thailand</td>
<td>6.9</td>
</tr>
<tr>
<td>South Africa</td>
<td>3.8</td>
</tr>
<tr>
<td>Mexico</td>
<td>3.3</td>
</tr>
<tr>
<td>Canada</td>
<td>3.1</td>
</tr>
<tr>
<td>Turkey</td>
<td>3.0</td>
</tr>
<tr>
<td>Germany</td>
<td>2.7</td>
</tr>
<tr>
<td>Brazil</td>
<td>2.7</td>
</tr>
<tr>
<td>UK</td>
<td>2.6</td>
</tr>
<tr>
<td>India</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Others</strong></td>
<td><strong>29.6</strong></td>
</tr>
</tbody>
</table>

Total market value: ~ USD 68 bn

Average spending per visit ranges from USD 3,000-10,000 per tourist

Source: Allied Analytics, Medical tourism facts & figures, Patients Beyond Borders, Anadolu, PwC analysis
Health Tourism today and into the future

Where do people travel from?

Major source markets for medical tourists, 2015 (In Thousand)

- **Developed economies**
- **Developing economies**

Source: Medical tourism facts & figures 2016, PwC analysis

What is the role of AI in health tourism?

What is AI and what is it capable of in healthcare?

What might health tourism look like in a few years?
Why do people choose their destination?

**Quality-focused**
- Sought for advanced health infrastructure and high quality of medical care
- Sought for quality health services at good value for money

**Cost-focused**
- Sought mainly for lower treatments cost
- Sought for combination of low treatment costs, leisure, and good value for money

**Experience-focused**
- Sought for leisure offerings and wellness services
- Sought for low cost treatments and other leisure and wellness offerings

**Accessibility**
- Accessibility is also an influencer in the patients’ decision when selecting a destination

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What might health tourism look like in a few years?
How much will health and wellness tourism grow?

Global Medical tourism market by Value

Global medical tourism market value, 2016-2021 (USD bn)

<table>
<thead>
<tr>
<th>Year</th>
<th>Value (USD bn)</th>
<th>CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>68.1</td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>125.4</td>
<td>13%</td>
</tr>
</tbody>
</table>

Global Wellness tourism* market by Value

Global wellness tourism market value, 2015-2020 (USD bn)

<table>
<thead>
<tr>
<th>Year</th>
<th>Value (USD bn)</th>
<th>CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>563.2</td>
<td>6%</td>
</tr>
<tr>
<td>2021</td>
<td>808.0</td>
<td></td>
</tr>
</tbody>
</table>

*includes individuals who chose to travel for wellness services or seek wellness services while travelling for leisure/business

Source: Allied Analytics, Global Wellness Institute, PwC analysis
How might health tourism change?

Treatment abroad journey

Decision that treatment is required → Decision to travel → Selection of destination/facility → Pre travel requirements → Travel for treatment

Receive treatment → Recovery abroad → Recovery at home → Final follow up and "discharge"
Where will AI have an impact?
Where will AI have an impact?

**Role of the public**
- Readiness ✔
- Understanding added value ✔

**Role of governments**
- Quality standards
- Regulatory frameworks

**Role of healthcare professionals**
- Knowledge of technology

**Role of private sector**
- Investment in AI & robotics

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**Workforce Gap**

- Healthcare Demand
- Available Resources

*By 2020, GCC countries will require at least 30,000 doctors*

**Impact of AI**

- Access for patients
- Quality
- Costs

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Source: https://www.pwc.com/m1/en/industries/healthcare/what-doctor-video.html
What does the public in Middle East think of AI?

2/3 willing to engage with AI & Robotics for their healthcare needs

Most willing to receive AI services to

- Monitor heart condition
- Provide customised advice for fitness and health
- Administer an ECG
- Take and test a blood sample and results

The main deterrents are the absence of empathy and lack of sufficient trust in a robot’s decision-making

What is AI and what is it capable of in healthcare?
What is AI?

1. Automated Intelligence
   - Automation of manual and cognitive tasks that are routine

2. Assisted Intelligence
   - AI systems that assist humans in making decisions or taking actions

3. Augmented Intelligence
   - AI systems that augment human decision making and continuously learn from their interactions with humans and the environment

4. Autonomous Intelligence
   - AI systems that can adapt to different situations and can act autonomously without human assistance

Humans will still be in the loop for a number of different roles.
What is AI capable of?
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What is AI capable of?
What is AI capable of?

AI is transforming every aspect of healthcare delivery in innovative ways

What is AI and what is it capable of in healthcare?

What might health tourism look like in a few years?

What, where and why?
What is AI capable of?
A sample of AI start-ups from all over the world

By February 2017, investors had poured over $1.79bn in acquisitions or funding for 106 AI start-ups in healthcare

Source: https://www.cbinsights.com/research/artificial-intelligence-startups-healthcare/
What is AI capable of?

PwC Middle East Report – The potential impact of AI in the Middle East

In 2030, AI in the Middle East will contribute to

- US$320 billion to the economy
- US$59 billion to health and education
- Enhanced patient experience
- Improved clinical outcomes

What, where and why?

What might health tourism look like in a few years? | What is AI and what is it capable of in healthcare? | What is the role of AI in health tourism?
Live polling

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20 February 2018
What are business leaders in the Middle East doing to prepare for AI?

PwC Business Readiness Survey 2018

think AI & Robotics will have a major impact in 10 years

have started implementing AI; 37% are exploring

Enablers to move forward with AI

- Funding & Investments
- Leadership Support
- Regulatory Environment

What are business leaders in the Middle East doing to prepare for AI?
What is the role of AI in health tourism?
How might AI impact tourism?
AI will disrupt health tourism

Treatment abroad journey

Potential impact of AI

1. Decision that treatment is required
2. Decision to travel
3. Selection of destination/facility
4. Pre travel requirements
5. Travel for treatment
6. Receive treatment
7. Recovery abroad
8. Recovery at home
9. Final follow up and “discharge”

What is the role of AI in health tourism?
What is AI and what is it capable of in healthcare?
What might health tourism look like in a few years?
How can countries use AI to their advantage?

7 themes cut across the practical implementation of AI

AI is transforming every aspect of healthcare delivery in innovative ways...

Now is the time to start building trust

Adapt, adopt and transform
What will patients get by travelling for AI enhanced care?

**Quality-focused**
Better quality of services and care (precision medicine, faster recovery)

**Cost-focused**
Overall lower cost for better benefits

**Experience-focused**
Unique and personalized experience with technologically enhanced services

Sought for combination of low treatment costs, leisure, and good value for money

What is the role of AI in health tourism?

What is AI and what is it capable of in healthcare?

What might health tourism look like in a few years?
Thank you
Why do people choose their destination?

- **Quality-focused**
  1. Sought for advanced health infrastructure and high quality of medical care
  2. Sought mainly for lower treatments cost

- **Experience-focused**
  3. Sought for high quality healthcare services in addition to other leisure and recreation offerings
  4. Sought mainly for leisure offerings and wellness services

- **Cost-focused**
  5. Sought for low cost treatments and other leisure and wellness offerings
  6. Sought for quality health services at good value for money

**Accessibility**

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What is AI capable of?

AI is transforming every aspect of healthcare delivery in innovative ways

AI in **Provider** applications to identify anatomical features and abnormalities in medical images

*Avicenna*

*Deep learning*

AI in **Payer** applications to predict patients’ risk and premiums

*Kaiser Permanente*

*Machine Learning*

AI in **Pharma/Life Sciences** applications to develop drugs

*Benevolent AI*

*Machine Learning*
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