Individual Health Assessment for Asymptomatic Patients

Current Status of Practice in Korea

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Korean Society of Radiology
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Overview of Healthcare System in Korea

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- Reimbursement by national health insurance

Public Hospital
- Reimbursement by national health insurance

Private Health
- Gap Charge
- Payment not covered by national insurance

Private IHA
- Payment not covered by national insurance

Public Health
- National Health Insurance

Under regulation by government
Healthcare System in Korea

- Korea has a public health care insurance system called the National Health Insurance (NHI) with mandatory registration of all healthcare providers and residents providing universal coverage.
- Step by step expansion of coverage, with demand for greater quantity and higher quality health care leading to increased investment and resources putting heavy financial pressures on the system.
- It implements a “Fee-for-service” model
- There is a Low unit fees per service
- Hospitals develop services not covered by national insurance to increase revenue
- Medical services not covered by national insurance are also regulated by government.
- Therefore hospitals are focusing on IHA unrelated to reimbursement and unregulated
Medical technology, Computed Tomography scanners, total, Per million population
Diagnostic exams, Computed Tomography exams, Per 1 000 population

OECD AVERAGE
United States
United Kingdom 1
Turkey
Switzerland
Sweden
Spain
Slovenia 1
Slovak Republic
Portugal 1
Poland
Norway
New Zealand 1
Netherlands
Mexico
Luxembourg
Korea
Japan
Italy
Israel
Ireland 1
Iceland
Hungary
Greece
Germany
France
Finland
Estonia
Denmark
Czech Republic
Chile
Canada
Belgium
Austria 1
Australia

2012 (or nearest year)

14th
National Health Screening vs. Private Health Assessment of Asymptomatic patient

**National Health Screening**
- National care for all Korean residents and citizens
- Many programs compared to foreign screening programs
- General, pediatric/infant, dental, cancer screening
- Stomach, colon, liver, breast, cervix cancer screening
- Quality control programs for assessing health screening centers

**Private Health Assessment**
- Area not covered by public health care
- Early screening for various diseases
- Expensive
- Patient demand is important
- No specific quality control
The National Cancer Screening Program was designed to provide free screening services for the low-income Medicaid recipients in 1999. Since then, the NCSP has expanded its target population to include some of the NHI beneficiaries. Currently the program targets the five most common sites of cancer in Korea; stomach, liver, colorectum, breast and cervix uteri. The NCC is involved in developing and revising the protocols for the NCSP in collaboration with the MOHW and related academic societies.

**Recipients**
- The National Health Insurance (NHI) Program: the insured within the lower income bracket (50%) and their dependents
- The Medical Aid Program: all beneficiaries
- Screening Places: Medical institutions designated to screen for the people NHI or Medical Aid coverage

**Procedure**
- Visit a designated medical institution and show your NHI certificate and insurance card as well
  The designated medical institution notifies you of the test results within 15 days after the check-up

**Guidelines**

<table>
<thead>
<tr>
<th>Target Population</th>
<th>Frequency</th>
<th>Test or Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stomach: 40 &amp; over (adults)</td>
<td>every 2 years</td>
<td>Endoscopy or UGI</td>
</tr>
<tr>
<td>Liver: 40 &amp; over with high risk group*</td>
<td>every 6 months</td>
<td>Sonography &amp; AFP</td>
</tr>
<tr>
<td>Colorectum: 50 &amp; over (adults)</td>
<td>every 1 year</td>
<td>FOBT, Colonoscopy or Barium enema</td>
</tr>
<tr>
<td>Breast: 40 &amp; over (women)</td>
<td>every 2 years</td>
<td>Mammography &amp; CBE</td>
</tr>
<tr>
<td>Cervix Uteri: 30 &amp; over (women)</td>
<td>every 2 years</td>
<td>Pap smear</td>
</tr>
</tbody>
</table>

* 40 & over with HBsAg positive or anti-HCV positive or liver cirrhosis
IHA in Korea

- Increase in number and revenue of private IHA programs
  - Many subspecialty physicians have expanded into this area
  - In the 1990~2000 private IHA was mainly run by family medicine doctors, but now various subspecialties such as radiology, general surgery, psychology are heavily involved
  - Focus on ease of use and exams
  - New construction of health centers in university hospital with expansion of existing facilities
- Premium high cost exams by each health center
IHA in Korea

Advantages

Personalized customization
Personalized second visit consultation
CRM (Customer Relationship Management)

Problems

Excessive expensive studies
Lack of medical evidence for screening
Industrialization of medicine
Study for evaluation of private cancer screening program
94 general hospitals in Korea
Survey on the status of IHA for cancer on private healthcare center

2013

Search of 151 private health checkup center homepages

<table>
<thead>
<tr>
<th>Cancer</th>
<th>Item (CT)</th>
<th>Basic</th>
<th>Premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colon ca</td>
<td>CT colonography</td>
<td></td>
<td>1.1%</td>
</tr>
<tr>
<td>HCC</td>
<td>Liver CT</td>
<td></td>
<td>13.7%</td>
</tr>
<tr>
<td>Ovary ca</td>
<td>Pelvic CT</td>
<td></td>
<td>5.5%</td>
</tr>
<tr>
<td>Lung ca</td>
<td>Low Dose lung CT</td>
<td>3.7%</td>
<td>30.0%</td>
</tr>
<tr>
<td></td>
<td>Lung CT</td>
<td>6.6%</td>
<td>42.7%</td>
</tr>
<tr>
<td>Bladder ca</td>
<td>Pelvic CT</td>
<td></td>
<td>5.9%</td>
</tr>
<tr>
<td>Pancreatic ca</td>
<td>Abdominal CT</td>
<td>5.4%</td>
<td>94.9%</td>
</tr>
</tbody>
</table>
Reasons for taking such premium exams

- Patient wants
- Korean culture (duty to parents)
- Businesses providing health benefits
**Guidelines**

Exposure of Asymptomatic Individuals in Private medical check-up (2009) funded by MFDS

<table>
<thead>
<tr>
<th>Exam method</th>
<th>Indication</th>
<th>Contraindication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest</td>
<td>Low dose lung cancer CT</td>
<td>Patients who are over 45 and heavy smoker.</td>
</tr>
<tr>
<td>Heart</td>
<td>Low dose heart calcification CT</td>
<td>High risk patients such as age of over 45, metabolic syndrome, with family history.</td>
</tr>
<tr>
<td>Colon</td>
<td>Low dose CT colonography</td>
<td>High risk patients such as age of over 45, exposed to specific disease or with family history.</td>
</tr>
<tr>
<td>Brain</td>
<td>Brain CT, CT brain angiography</td>
<td></td>
</tr>
<tr>
<td>Liver, Pancreas</td>
<td>Contrast enhanced abdominal CT</td>
<td></td>
</tr>
<tr>
<td>Whole body</td>
<td>Low dose PET</td>
<td>Single time or non-periodic use for screening purpose.</td>
</tr>
<tr>
<td></td>
<td>Contrast enhanced PET</td>
<td></td>
</tr>
</tbody>
</table>
Recommendations and standard notice to health screening patients for PET/CT

<Recommendations>

- These recommendations are for health screening patient’s only and not for diagnostic purposes.
- PET/CT for health screening should be used at *optimal settings* regarding patient and are seen status.
- * Optimal settings: the optimal radiation dose obtainable is very low according to patient weight etc. Generally the dose is less than 12 mSv. Natural radiation dose in South Korea is about 3 mSv per year.
- ** Although there is evidence of increase in cancer risk with greater than 100 mSv short-term exposure. There is no definite evidence of cancer risk with smaller radiation doses.
- For screening PET/CT, the radiation dose risk and advantages due to screening should be carefully considered. For old age patients the advantages probably outweigh the risks while for young patients the advantages are less clear.
- * For asymptomatic patients, cancer risk increases with age, family history, smoking, exposure to carcinogenic agents. The risk for cancer due to radiation exposure increases with young age of patient.
- Before healthy checkup PET/CT, it is recommended that the patient should be informed of the radiation dose risks and benefits of the exam.
Are CT examinations on asymptomatic individuals outside screening program being performed in your country/region?
- Yes

Is this a part of common practice?
- Yes

Does any guideline exist?
- Yes but they are not widely used or mandatory

Are these practices/services advertised?
- Yes

Are these services provided by public and/or private entities?
- Private
Summary

- Are these procedures reimbursed by the national and/or private health insurance systems?
  - Private health insurance or personal

- Are these procedures demanded by the public/patients?
  - Yes

- Is this practice controlled/regulated?
  - No
Conclusion

- Korea has highly developed and heavily commercialized private health screening centers and programs. This is due to medical centers looking for increased revenue, while patients also at the same time demand premium screening services.

- The government and medical societies including KSR are worried that the IHA are a bit “too much”, and lack medical evidence to support their benefits.

- Right now Korea is in its first steps to fix these problems, with currently creation of guidelines but without much use of these guidelines.