

## S1 File. A handout for explaining precision medicine to the participants.

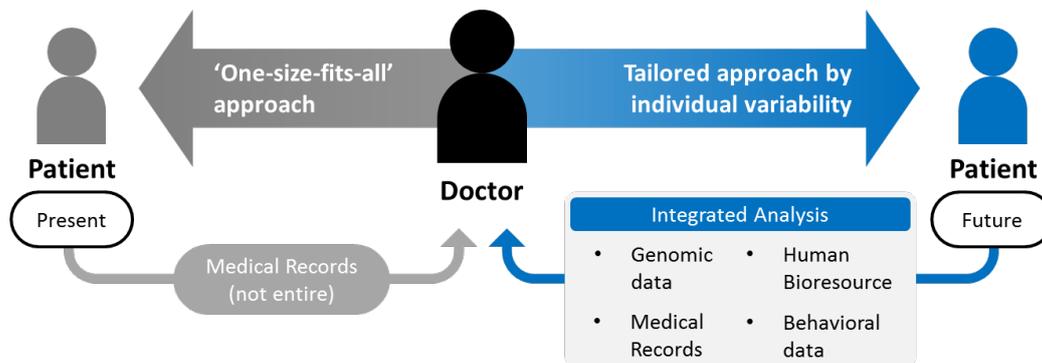
### What is precision medicine?

Precision medicine is an emerging approach for disease treatment and prevention that takes into account individual variability in genes, environment, and lifestyle. This approach allows doctors and researchers to predict more accurately the treatment and prevention strategies for a particular disease that will work in particular groups of people.

**Example)** Patient A had lung cancer and received chemotherapy; however, the tumor metastasized to his brain. Fortunately, his doctor identified an epidermal growth factor receptor (EGFR) gene mutation on genetic testing, and the patient was treated with 'Iressa', a targeted therapy product. As a result, he was able to recover from the disease in a short duration.

### How is precision medicine different from traditional medicine?

Traditional medicine follows a one-size-fits-all approach, in which the treatment and prevention strategies are designed for the average person. However, not everyone responds to a treatment in the same manner. Some treatments may work effectively for certain groups of people but may have no benefits for others. In contrast, precision medicine is more specifically targeted and tailored. In precision medicine, based on an individual's information, doctors administer treatments that are most likely to be effective.



### What are some potential benefits of precision medicine?

- Improved ability for prevention / More accurate diagnosis
- Improved therapeutic effect and reduced occurrence rate of side effects
- Opportunity to treat a wide range of diseases utilizing a massive database.

### What are some of the challenges associated with precision medicine?

- Protecting participants' privacy and the confidentiality of their health information.
- It is expensive to perform large amounts of DNA sequencing for genetic testing. (Korea is gradually expanding coverage of national health insurance)
- The development of targeted drugs is likely to be expensive.

### How do we prepare for precision medicine?

- Both healthy people and patients will need to understand the risks and benefits associated with precision medicine.
- To implement precision medicine, voluntary patient participation is essential.
- People need to be more aware of the issues pertaining to precision medicine and express their opinions.

*This handout was written in Korean by the reference to Genetics Home Reference web page of U.S. national library of medicine and the press release of the Ministry of Health and Welfare in South Korea.*

**S1 Table. Additional characteristics of cancer patients (n = 1,500)**

	<b>Cancer patients (n = 1,500) n (%)</b>
<b>Time since diagnosis (years), mean (SD)</b>	<b>2.7 (2.9)</b>
≤ 1	733 (48.9)
1 – 2	233 (15.5)
3 – 5	348 (23.2)
> 5	186 (12.4)
<b>SEER stage</b>	
Localized	1,044 (69.6)
Regional	198 (13.2)
Distant	229 (15.3)
Don't know	29 (1.93)
<b>Current treatment status</b>	
At diagnosis	218 (14.5)
Under treatment	665 (44.3)
Post-treatment	617 (41.1)

SD, standard deviation