**Supplementary Materials**

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HIR
Healthcare Informatics Research

## Supplement A. General health checkup questionnaire

※ Examinees must complete the questionnaire to receive the results of the cardiovascular disease risk assessment.

| | | | | | | |
|---|---|---|---|---|---|---|
| Last Name | | Residential ID No. | | Telephone | Home | |
| Given Name | | | | | Mobile phone | |
| Current address | | | | E-mail | | |
| | | | | How to receive a health checkup report | ☐ Post ☐ E-mail | |

※ Please answer all the questions below.

### Medical history (disease history, family history)

**1. Have you ever been diagnosed by a doctor with any of the following diseases or are you currently taking any medication?**

| | Diagnosis | | Medication therapy | |
|---|---|---|---|---|
| Brain stroke (paralysis) | Yes | No | Yes | No |
| Cardiac infarction/angina | Yes | No | Yes | No |
| High blood pressure | Yes | No | Yes | No |
| Diabetes | Yes | No | Yes | No |
| Dyslipidemia | Yes | No | Yes | No |
| Tuberculosis | Yes | No | Yes | No |
| Others (including cancer) | Yes | No | Yes | No |

**2. Has anyone in your family died from or gotten any of the following diseases?**

| | | |
|---|---|---|
| Brain stroke (paralysis) | Yes | No |
| Cardiac infarction/angina | Yes | No |
| High blood pressure | Yes | No |
| Diabetes | Yes | No |
| Others (including cancer) | Yes | No |

**3. Are you a Hepatitis B virus antigen carrier?**

① Yes ② No ③ No idea

### Smoking and e-cigarettes (vaping)

**4. Have you ever smoked more than 5 packs of cigarettes (100 cigarettes) in your lifetime?**

① No. (☞ Go to Question 5)
② Yes. (☞ Go to Question 4-1)

**4-1. Do you smoke cigarettes now?**

| | | | |
|---|---|---|---|
| ① I do | A total of __ years | An average of ___ cigarettes a day | |
| ② I used to but not anymore | A total of __ years | Used to smoke ___ cigarettes a day on average | ___ years since I quitted |

**5. Have you ever smoked an electronic cigarette (e.g., IQOS, Glo, or Lil)?**

① No. (☞ Go to Question 6)
② Yes. (☞ Go to Question 5-1)

**5-1. Do you smoke electronic cigarettes now?**

| | | | |
|---|---|---|---|
| ① I do | A total of __ years | An average of ___ cigarettes a day | |
| ② I used to but not anymore | A total of __ years | Used to smoke___ cigarettes a day on average | ___ years since I quitted |

**6. Have you ever used a liquid electronic cigarette?**

① Yes. (☞ Go to Question 6-1)
② No.

**6-1. Have you used a liquid electronic cigarette in the last month?**

① No ② 1 to 2 days per month ③ 3 to 9 days per month
④ 10 to 29 days per month ⑤ Every day

### Drinking

※ In the past one year

**7. How often do you have drinks containing alcohol? (Select one)**

① ( ) times per week ② ( ) times per month
③ ( ) times per year ④ I don't drink alcohol.

**7-1. How many drinks containing alcohol do you have on a typical day when you are drinking?**

*Choose one among the glass, bottle, can, or cc (you can choose more than one for liquor types; choose a similar type for other liquor types that are not indicated)

| Type of liquor | Glass | Bottle | Can | cc |
|---|---|---|---|---|
| Soju | | | | |
| Beer | | | | |
| Hard liquor | | | | |
| Makgeolli (rice wine) | | | | |
| Wine | | | | |

**7-2. What is the largest amount of drinks containing alcohol that you have ever had in one day?**

*Choose one among the glass, bottle, can, or cc (you can choose more than one for liquor types, choose a similar type for other liquor types that are not indicated)

| Type of liquor | Glass | Bottle | Can | cc |
|---|---|---|---|---|
| Soju | | | | |
| Beer | | | | |
| Hard liquor | | | | |
| Makgeolli (rice wine) | | | | |
| Wine | | | | |

## Exercising

**8-1. How often do you do high intensity exercise (making you short of breath) per week?**

( ) days per week

*Examples of high intensity exercise> Running, aerobics, fast bicycling, construction labor, carrying items using stairs, etc.

**8-2. How long do you do high intensity exercise (making you short of breath) per day?**

( ) hours ( ) minutes per day

**9-1. How often do you do moderate intensity exercise (making you slightly short of breath) per week?**

( ) days per week

*Exclude exercise you have already written in Question 8

*Examples of moderate intensity exercise> Power walking, doubles tennis games, cycling at normal speed, carrying light items, cleaning, etc.

**9-2. How long do you do moderate intensity exercise (making you slightly short of breath) per day?**

( ) hours ( ) minutes per day

**10. How many days did you do weight training such as push-ups, sit-ups, dumbbell exercises, weight lifting, or horizontal bar exercise in the last one week?**

( ) days per week

Supplement B. Result of item analysis

| Group | Entity | | Value | Data type |
|---|---|---|---|---|
| Medical history | Disease history | Diagnosis | History of brain stroke: Yes | Single check |
| | | | History of brain stroke: No | Single check |
| | | | History of cardiac infarction/angina: Yes | Single check |
| | | | History of cardiac infarction/angina: No | Single check |
| | | | History of high blood pressure: Yes | Single check |
| | | | History of high blood pressure: No | Single check |
| | | | History of diabetes: Yes | Single check |
| | | | History of diabetes: No | Single check |
| | | | History of dyslipidemia: Yes | Single check |
| | | | History of dyslipidemia: No | Single check |
| | | | History of tuberculosis: Yes | Single check |
| | | | History of tuberculosis: No | Single check |
| | | | History of others (including cancer): Yes | Single check |
| | | | History of others (including cancer): No | Single check |
| | | Medication | Current medication status - brain stroke: Yes | Single check |
| | | | Current medication status - brain stroke: No | Single check |
| | | | Current medication status - cardiac infarction/angina: Yes | Single check |
| | | | Current medication status - cardiac infarction/angina: No | Single check |
| | | | Current medication status - high blood pressure: Yes | Single check |
| | | | Current medication status - high blood pressure: No | Single check |
| | | | Current medication status - diabetes: Yes | Single check |
| | | | Current medication status - diabetes: No | Single check |
| | | | Current medication status - dyslipidemia: Yes | Single check |
| | | | Current medication status - dyslipidemia: No | Single check |
| | | | Current medication status - tuberculosis: Yes | Single check |
| | | | Current medication status - tuberculosis: No | Single check |
| | | | Current medication status - others (including cancer): Yes | Single check |
| | | | Current medication status - others (including cancer): No | Single check |
| | Family history | Diagnosis | Family history of brain stroke: Yes | Single check |
| | | | Family history of brain stroke: No | Single check |
| | | | Family history of cardiac infarction/angina: Yes | Single check |
| | | | Family history of cardiac infarction/angina: No | Single check |
| | | | Family history of high blood pressure: Yes | Single check |
| | | | Family history of high blood pressure: No | Single check |
| | | | Family history of diabetes: Yes | Single check |
| | | | Family history of diabetes: No | Single check |
| | | | Family history of others (including cancer): Yes | Single check |
| | | | Family history of others (including cancer): No | Single check |
| | B virus antigen carrier | | B virus antigen carrier: Yes | Single check |
| | | | B virus antigen carrier: No | Single check |
| | | | B virus antigen carrier: No idea | Single check |

**Supplement B. Continued**

| Group | | Entity | Value | | Data type |
|---|---|---|---|---|---|
| Smoking and e-cigarettes | Cigarette | Experience | Yes | | Single check |
| | | | No | | Single check |
| | | Current status | Yes | | Single check |
| | | | No | | Single check |
| | | Duration (Current smoker) | | - | Numeric value |
| | | Amount (Current smoker) | | - | Numeric value |
| | | Duration (Ex-smoker) | | - | Numeric value |
| | | Amount(Ex-smoker) | | - | Numeric value |
| | | Cessation period | | - | Single check |
| | Heated tobacco product | Experience | Yes | | Single check |
| | | | No | | Single check |
| | | Current status | Yes | | Single check |
| | | | No | | Single check |
| | | Duration (Current smoker) | | - | Numeric value |
| | | Amount (Current smoker) | | - | Numeric value |
| | | Duration (Ex-smoker) | | - | Numeric value |
| | | Amount (Ex-smoker) | | - | Numeric value |
| | | Cessation period | | - | Numeric value |
| | Liquid electronic cigarette | Experience | Yes | | Single check |
| | | | No | | Single check |
| | | Current status | No | | Single check |
| | | Frequency | 1 to 2 days per month | | Single check |
| | | | 3 to 9 days per month | | Single check |
| | | | 10 to 29 days per month | | Single check |
| | | | Every day | | Single check |
| Drinking | Current status | | I don't drink alcohol | | Single check |
| | Frequency | (per week) | | - | Numeric value |
| | | (per month) | | - | Numeric value |
| | | (per year) | | - | Numeric value |
| | Amount | Typical | | - | Numeric value |
| | | Largest | | - | Numeric value |
| Exercising | High intensity exercise | Frequency | | - | Numeric value |
| | | Time | | - | Numeric value |
| | Moderate intensity exercise | Frequency | | - | Numeric value |
| | | Time | | - | Numeric value |
| | Weight training | Frequency | | - | Numeric value |