CLAIMS:

1. A risk analysis system, comprising:

a storage apparatus which stores subject data including information related to health of a subject;

an analyzer which analyzes a risk related to the health of the subject based on the subject data acquired from the storage apparatus;

an output apparatus which outputs an analysis result by the analyzer; and

a display, wherein

the subject data includes blood pressure data of the subject for a plurality of times which are measured during a predetermined period of time,

the analyzer includes:

a hypertension determining unit which calculates a statistical value of blood pressure of the subject from the blood pressure data for the plurality of times to determine a level of hypertension of the subject based on the statistical value of blood pressure;

a risk estimating unit which estimates an event

onset risk of the subject based on the subject data and the level of hypertension;

a medical expense predicting unit which predicts future medical expenses, which are medical expenses to be incurred in the future by the subject, based on the event onset risk estimated by the risk estimating unit and the subject data; and

an insurance subscription propriety determining unit which, by estimating an insurance premium amount to

be paid when the subject subscribes to health insurance and comparing the predicted future medical expenses with the estimated insurance premium amount, determines a propriety of subscription to the health insurance by the subject;

the medical expense predicting unit predicts the predicted future medical expenses according to the following equations (1) to (3):

(1) $P(y) = \frac{py}{10}$

(2) $\mu(y) = (Cp + Cn)P(y) + Cn\{1 - P(y)\}$

(3) $\sigma(y) = \sqrt{\{(Cp + Cn - \mu(y)\}^2 P(y) + \{Cn - \mu(y)\}^2 \{1 - P(y)\}}$,

where a 10-year onset probability of a given disease as estimated by the risk estimating unit is p {p | 0 ≤ p ≤ 1}, a year to be calculated is y {y | 1 ≤ y ≤ 10}, a disease incidence in each year y is P(y), additional medical expenses incurred when developing a disease is Cp, basic annual medical expenses incurred independently of the disease is Cn, average medical expenses is μ(y), and a dispersion of medical expenses is σ(y),

the analyzer determines at least one graph according to the predicted future medical expenses predicted by the medical expense predicting unit,

the output apparatus outputs the at least one graph to the display, and

the display displays the at least one graph.

2. The risk analysis system according to claim 1, wherein the insurance subscription propriety determining unit

compares the predicted future medical expenses with the estimated insurance premium amount and determines that it is inappropriate for the subject to subscribe to the health insurance when the insurance premium amount is equal to or lower than the future medical expenses.

3. A risk analysis system, comprising:

a storage apparatus which stores subject data including information related to health of a subject;

an analyzer which analyzes a risk related to the health of the subject based on the subject data acquired from the storage apparatus; and

an output apparatus which outputs an analysis result by the analyzer; and

a display, wherein

the subject data includes blood pressure data of the subject for a plurality of times which are measured during a predetermined period of time,

the analyzer includes:

a hypertension determining unit which calculates a statistical value of blood pressure of the subject from the blood pressure data for the plurality of times to determine a level of hypertension of the subject based on the statistical value of blood pressure;

a risk estimating unit which estimates an event onset risk of the subject based on the subject data and the level of hypertension; and

a medical expense predicting unit which predicts future medical expenses, which are medical expenses to be

incurred in the future by the subject, based on the event onset risk estimated by the risk estimating unit and the subject data, and

the analyzer includes a plurality of types of analysis algorithms for different areas of residence and selects an analysis algorithm in accordance with an area of residence of the subject;

the medical expense predicting unit predicts the predicted future medical expenses according to the following equations (1) to (3):

(1) $$P(y)=\frac{py}{10}$$

(2) $$\mu(y)=(Cp+Cn)P(y)+Cn\{1-P(y)\}$$

(3) $$\sigma(y)=\sqrt{\{(Cp+Cn-\mu(y)\}^2P(y)+\{Cn-\mu(y)\}^2\{1-P(y)\}}$$,

where a 10-year onset probability of a given disease as estimated by the risk estimating unit is p {p | 0 ≤ p ≤ 1}, a year to be calculated is y {y | 1 ≤ y ≤ 10}, a disease incidence in each year y is P(y), additional medical expenses incurred when developing a disease is Cp, basic annual medical expenses incurred independently of the disease is Cn, average medical expenses is μ(y), and a dispersion of medical expenses is σ(y),

the analyzer determines at least one graph according to the predicted future medical expenses predicted by the medical expense predicting unit,

the output apparatus outputs the at least one graph to the display, and

the display displays the at least one graph.

4. The risk analysis system according to claim 1, wherein when the subject data includes data of office blood pressure and data of home blood pressure, the hypertension determining unit determines, based on the data of the office blood pressure and the data of the home blood pressure, whether the subject has hypertension, masked hypertension, or white-coat hypertension.

5. The risk analysis system according to claim 4, wherein the hypertension types include hypertension levels, and

when the blood pressure of the subject is determined to be hypertension, the medical expense predicting unit predicts the future medical expenses of the subject by also taking medical expenses needed to treat hypertension into consideration based on a hypertension level of the subject.

6. The risk analysis system according to claim 1, wherein the risk estimating unit estimates, as the event onset risk, an onset probability at which the subject develops a disease, and

the medical expense predicting unit calculates, based on the subject data, medical expenses needed when the subject develops the disease, and predicts, based on the medical expenses and the onset probability, the future medical expenses of the subject.

7. The risk analysis system according to claim 6, wherein the medical expense predicting unit calculates, as the medical expenses needed when the subject develops the disease, hospitalization medical expenses required for

hospitalization and outpatient medical expenses required for outpatient care.

8. The risk analysis system according to claim 6, wherein the risk estimating unit estimates the onset probability for each of a plurality of diseases, and

the medical expense predicting unit predicts the future medical expenses for each of the plurality of diseases, and calculates total future medical expenses of the subject by adding up the predicted future medical expenses.

9. The risk analysis system according to claim 3, further comprising an insurance subscription propriety determining unit which, by estimating an insurance premium amount to be paid when the subject subscribes to health insurance and comparing the predicted future medical expenses with the estimated insurance premium amount, determines a propriety of subscription to the health insurance by the subject.

10. The risk analysis system according to claim 1, wherein the output apparatus outputs conditions and/or an insurance premium amount of health insurance suitable for the subject based on a determination result from the insurance subscription propriety determining unit.

11. The risk analysis system according to claim 1, wherein the output apparatus generates and outputs a graph indicating an annual trend of the future medical expenses of the subject.

12. The risk analysis system according to claim 1, wherein the analyzer includes a plurality of types of analysis algorithms for different races and/or different areas of residence and selects an analysis algorithm in accordance with a race and/or area of residence of the subject.

13. The risk analysis system according to claim 1, wherein, when it is determined by the hypertension determining unit that the subject has hypertension, the medical expense predicting unit predicts the future medical expenses of the subject by also taking medical expenses needed to treat hypertension into consideration.

14. A risk analysis method, comprising:

an acquiring step of acquiring subject data including information related to health of a subject;

an analyzing step of analyzing a risk related to the health of the subject based on the subject data; and

an outputting step of outputting an analysis result of the analyzing step, wherein

the subject data includes blood pressure data of the subject for a plurality of times which are measured during a predetermined period of time,

the analyzing step includes:

a hypertension determining step of calculating a statistical value of blood pressure of the subject from the blood pressure data for the plurality of times to determine a level of hypertension of the subject based on the statistical value of blood pressure;

a step of estimating an event onset risk of the subject based on the subject data and the level of hypertension;

a step of predicting future medical expenses, which are medical expenses to be incurred in the future by the subject, based on the estimated event onset risk and the subject data; and

a step of determining, by estimating an insurance premium amount to be paid when the subject subscribes to health insurance and comparing the predicted future medical expenses with the estimated insurance premium amount, a propriety of subscription to the health insurance by the subject;

in the step of predicting future medical expenses, the predicted future medical expenses are predicted according to the following equations (1) to (3):

(1) $$P(y) = \frac{py}{10}$$

(2) $$\mu(y) = (Cp + Cn)P(y) + Cn\{1 - P(y)\}$$

(3) $$\sigma(y) = \sqrt{\{(Cp + Cn - \mu(y)\}^2 P(y) + \{Cn - \mu(y)\}^2 \{1 - P(y)\}}$$,

where a 10-year onset probability of a given disease as estimated in the step of estimating the event onset risk is p {p | 0 ≤ p ≤ 1}, a year to be calculated is y {y | 1 ≤ y ≤ 10}, a disease incidence in each year y is P(y), additional medical expenses incurred when developing a disease is Cp, basic annual medical expenses incurred independently of the disease is Cn, average medical expenses is μ(y), and a dispersion of medical expenses is σ(y),

the analyzing step includes determining at least one graph according to the predicted future medical expenses predicted by the medical expense predicting unit,

the outputting step includes outputting the at least one graph to a display, and

the display displays the at least one graph.

15. The risk analysis method according to claim 14, wherein, in the step of determining a propriety of subscription to the health insurance by the subject, the predicted future medical expenses are compared with the estimated insurance premium amount and a determination that it is inappropriate for the subject to subscribe to the health insurance is made when the insurance premium amount is equal to or lower than the future medical expenses.

16. A risk analysis method, comprising:

an acquiring step of acquiring subject data including information related to health of a subject;

an analyzing step of analyzing a risk related to the health of the subject based on the subject data; and

an outputting step of outputting an analysis result of the analyzing step, wherein the subject data includes blood pressure data of the subject for a plurality of times which are measured during a predetermined period of time,

the analyzing step includes:

a hypertension determining step of calculating a statistical value of blood pressure of the subject from the blood pressure data for the plurality of times to

determine a level of hypertension of the subject based on the statistical value of blood pressure;

a step of estimating an event onset risk of the subject based on the subject data the level of hypertension; and

a step of predicting future medical expenses, which are medical expenses to be incurred in the future by the subject, based on the estimated event onset risk and the subject data, and

in the analyzing step, an analysis algorithm in accordance with an area of residence of the subject is selected from a plurality of analysis algorithms prepared for different areas of residence;

in the step of predicting future medical expenses, the predicted future medical expenses are predicted according to the following equations (1) to (3):

(1) $$P(y) = \frac{py}{10}$$

(2) $$\mu(y) = (Cp + Cn)P(y) + Cn\{1 - P(y)\}$$

(3) $$\sigma(y) = \sqrt{\{(Cp + Cn - \mu(y)\}^2 P(y) + \{Cn - \mu(y)\}^2 \{1 - P(y)\}}$$,

where a 10-year onset probability of a given disease as estimated in the step of estimating the event onset risk is p {p | 0 ≤ p ≤ 1}, a year to be calculated is y {y | 1 ≤ y ≤ 10}, a disease incidence in each year y is P(y), additional medical expenses incurred when developing a disease is Cp, basic annual medical expenses incurred independently of the disease is Cn, average medical expenses is μ(y), and a dispersion of medical expenses is σ(y),

the analyzing step includes determining at least one graph according to the predicted future medical expenses predicted by the medical expense predicting unit,

the outputting step includes outputting the at least one graph to a display, and

the display displays the at least one graph.

17. The risk analysis method according to claim 14, wherein

when the subject data includes data of office blood pressure and data of home blood pressure, whether the subject has hypertension, masked hypertension, or white-coat hypertension is determined based on the data of the office blood pressure and the data of the home blood pressure in the step of determining which of the hypertension types the blood pressure of the subject corresponds to.

18. A non-transitory computer readable medium that stores a program causing a computer to execute a risk analysis method, the risk analysis method comprising:

an acquiring step of acquiring subject data including information related to health of a subject;

an analyzing step of analyzing a risk related to the health of the subject based on the subject data; and

an outputting step of outputting an analysis result of the analyzing step, wherein the subject data includes blood pressure data of the subject for a plurality of times which are measured during a predetermined period of time,

the analyzing step includes:

a hypertension determining step of calculating a statistical value of blood pressure of the subject from the blood pressure data for the plurality of times to determine a level of hypertension of the subject based on the statistical value of blood pressure;

a step of estimating an event onset risk of the subject based on the subject data and the level of hypertension;

a step of predicting future medical expenses, which are medical expenses to be incurred in the future by the subject, based on the estimated event onset risk and the subject data; and

a step of determining, by estimating an insurance premium amount to be paid when the subject subscribes to health insurance and comparing the predicted future medical expenses with the estimated insurance premium amount, a propriety of subscription to the health insurance by the subject;

in the step of predicting future medical expenses, the predicted future medical expenses are predicted according to the following equations (1) to (3):

(1) $$P(y)=\frac{py}{10}$$

(2) $$\mu(y)=(Cp+Cn)P(y)+Cn\{1-P(y)\}$$

(3) $$\sigma(y)=\sqrt{\{(Cp+Cn-\mu(y)\}^2P(y)+\{Cn-\mu(y)\}^2\{1-P(y)\}}$$,

where a 10-year onset probability of a given disease as estimated in the step of estimating the event onset risk is p {p | 0 ≤ p ≤ 1}, a year to be calculated is y {y | 1 ≤ y ≤ 10}, a disease incidence in each year y is P(y),

additional medical expenses incurred when developing a disease is Cp, basic annual medical expenses incurred independently of the disease is Cn, average medical expenses is $\mu(y)$, and a dispersion of medical expenses is $\sigma(y)$,

the analyzing step includes determining at least one graph according to the predicted future medical expenses predicted by the medical expense predicting unit,

the outputting step includes outputting the at least one graph to a display, and

the display displays the at least one graph.

19. A display apparatus which displays the analysis result output by a risk analysis method, the risk analysis method comprising:

an acquiring step of acquiring subject data including information related to health of a subject;

an analyzing step of analyzing a risk related to the health of the subject based on the subject data; and

an outputting step of outputting an analysis result of the analyzing step, wherein the subject data includes blood pressure data of the subject for a plurality of times which are measured during a predetermined period of time,

the analyzing step includes:

a hypertension determining step of calculating a statistical value of blood pressure of the subject from the blood pressure data for the plurality of times to determine a level of hypertension of the subject based on the statistical value of blood pressure;

a step of estimating an event onset risk of the subject based on the subject data and the level of hypertension;

a step of predicting future medical expenses, which are medical expenses to be incurred in the future by the subject, based on the estimated event onset risk and the subject data; and

a step of determining, by estimating an insurance premium amount to be paid when the subject subscribes to health insurance and comparing the predicted future medical expenses with the estimated insurance premium amount, a propriety of subscription to the health insurance by the subject;

in the step of predicting future medical expenses, the predicted future medical expenses are predicted according to the following equations (1) to (3):

(1) $$P(y) = \frac{py}{10}$$

(2) $$\mu(y) = (Cp + Cn)P(y) + Cn\{1 - P(y)\}$$

(3) $$\sigma(y) = \sqrt{\{(Cp + Cn - \mu(y)\}^2 P(y) + \{Cn - \mu(y)\}^2 \{1 - P(y)\}}$$,

where a 10-year onset probability of a given disease as estimated in the step of estimating the event onset risk is p {p | 0 ≤ p ≤ 1}, a year to be calculated is y {y | 1 ≤ y ≤ 10}, a disease incidence in each year y is P(y), additional medical expenses incurred when developing a disease is Cp, basic annual medical expenses incurred independently of the disease is Cn, average medical expenses is μ(y), and a dispersion of medical expenses is σ(y),

the analyzing step includes determining at least one graph according to the predicted future medical expenses predicted by the medical expense predicting unit,

the outputting step includes outputting the at least one graph to a display, and

the display displays the at least one graph.