

Theme of the symposium

Health education targeting for metabolic syndrome:

Let's find useful hints through good practices in Korea and Japan for the future program

Health consultation system for metabolic syndrome in Japan was reformed in 2013. By the revision, the health consultation to the people who had the appearance of disease risk of cardiovascular and the cerebrovascular disease in non-obesity was strengthened. On the other hand, the health consultation for the metabolic syndrome was started in 2009 in Seoul City, South Korea and it has been held in all districts of Seoul City in 2012. The features of Seoul model are adaptation of interdisciplinary team system and arrangement of experienced nurses in the coordinator. Let's discover the hint of the following development by the exchange of Japan- Korea.

Time & Date: June 21th, 2013(Fri)

 $13:30\sim16:30$ (Open 13:00)

Venue: International University Health and

Welfare (IUHW) TEL.03-6406-8621

Near Station: Aoyama ityoume Station

Registration Fee: 1000 Yen

Language: English

Registration

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Sciences

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スポンサードシンポジウム 飲酒量低減はアルコール依存症の治療目標になりうるか?

アルコール依存症治療目標についての医師、依存症者への調査

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【背景】

アルコール依存症の治療では、断酒を目標とすることが常識とされ、飲酒量低減 は否認を助長するものとして否定的にとらえられる傾向がある。一方、アルコール 依存症者にとって、生涯にわたって一切の酒を断つという目標は非常にハードルが 高く、治療拒否や中途での脱落の原因ともなっており、飲酒量低減という治療目標 について検討することは治療の選択肢を広げる上で重要と考えられる。

【目的】

本報告は、依存症専門医を主たる対象に、飲酒量低減を治療目標とすることを許容する割合と、その理由について明らかにすることを目標としている。

【方法と結果】

本報告は二つの調査から成る。一つはアルコール関連問題学会や大学に所属する依存症専門医 (n=270) を対象に、アルコール使用障害の治療目標としての節酒について質問紙法による調査を行ったものである。回答者数は166名(回答率61.5%)であり、節酒については、一時的な目標としては64.6%、最終的な目標としても31.5%の回答者から肯定の回答が得られたが、同時に節酒の対象となる依存症者は限定されることも示された。また節酒を受容する回答者では、その根拠として依存の重症度や、精神科合併症、社会的要因、節酒や断酒に対する意識を重視する傾向が見られた。

もう一つの調査は、全国3国立病院(久里浜医療センター、肥前精神医療センター、琉球病院)のアルコール依存症初診患者を対象にしたものである。患者回答者数は99名であり、そのうち64名については医師回答との紐付けを行った。紐付けのできた患者回答者は、医師判断により、飲酒量低減不可能(低減不可群、n=48)、一時的な目標として受け入れ可能(一時群、n=12)、最終目標として受け入れ可能(低減可能群、n=4)の三群に分けられ、一時群と低減可能群を合わせると、25.0%の患者が飲酒量低減を目標とすることが可能と判断された。また治療日標と診断基準該当数との間に有意な関係が示されたが、Alcohol Dependence Scale点数との間には有意な関係は見られなかった。

【結論】

諸外国同様、日本においても、アルコール依存症の一時的な、もしくは最終的な 治療目標として、節酒や飲酒量軽減を受容するアルコール依存症の専門医が一定の 割合で存在し、治療の選択肢の一つとなっていることが示された。

平成25年度 厚生労働科学研究費補助金

標準的な健診・保健指導プログラム(改訂版)及び健康づくりのための身体活動基準2013に基づく保健事業の研修手法と評価に関する研究



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代表 津下 一代

あいち健康の森健康科学総合センター・センター長。 1983年、名古屋大学医学部卒業。医学博士。 名古屋大学医学部第一内科、愛知県総合健康センターを 経て、2000年あいち健康の森健康科学総合センターに 動務。2011年より現職



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研究報告







健診・保健指導のあり方

厚生労働省 アルコール指導のポイント

アクティブガイドー##フくいのたののきの対象的



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■ 国立保健医療科学院 National Institute of Public Health e-Stat 政府統計の総合取口 厚生労働省 特定健康診査・特定保健指導 に関するデータ

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このホームページは、平成 25 年度厚生労働科学研究費補助金 (循環器疾患・糖尿病等生活習慣病対策総合研究事業) 標準的な健診・保健指導プログラム (改訂版) 及び健康づくりのための身体活動基準 2013 に基づく保健事業の研修手法と評価に関する研究 (研究代表者 津下 一代) により作成したものです。

標準的な健診・保健指導プログラム(改訂版) 英訳 第 2 編 健診 Medical Checkup

Chapter 1

The significance of directing attention to metabolic syndrome

In April 2005, eight medical societies, including the Japanese Society of Internal Medicine, jointly developed the disease concept of and diagnostic criteria for metabolic syndrome.

Metabolic syndrome is a condition characterized by hyperglycemia, hyperlipidemia, and hypertension, which are commonly caused by visceral fat accumulation. When these abnormalities occur simultaneously, the risk of developing ischemic heart disease, cerebrovascular disease, etc. increases. Therefore, therapeutic approaches to metabolic syndrome are based on the concept that reducing visceral fat accumulation can reduce the risk of developing these diseases.

More precisely, diabetes mellitus, hyperlipidemia, and hypertension due to visceral fat accumulation can be prevented through lifestyle improvements; even after the onset of these comorbidities, and progression to or aggravation of ischemic heart diseases such as myocardial infarction, cerebrovascular diseases such as cerebral infarction, and renal failure requiring dialysis therapy can be prevented via blood glucose control and blood pressure control.

With the introduction of the metabolic syndrome concept, it is possible to provide detailed explanations regarding how visceral fat accumulation and weight gain can lead to increased blood glucose and triglyceride levels, hypertension, and arteriosclerosis induced by various mechanisms of vascular impairment, which might cause ischemic heart disease, cerebrovascular disease, and renal failure. Individuals undergoing medical checkups can easily understand the relationships between their lifestyle and medical checkup results or disease onset. Therefore, this approach will enhance individuals' motivation to improve their lifestyle.

Contents of the medical checkup

2-1 Medical checkup items (laboratory tests and inquiries)

(1) Basic policies

- In order to reduce lifestyle-related diseases such as diabetes mellitus, especially to reduce the incidence of metabolic syndrome or the candidates for metabolic syndrome development, medical checkups should include appropriate laboratory tests to precisely screen people who need health advice. According to the characteristics of the target population (i.e., characteristics of the local community or workplace) and the related health problems, additional laboratory tests, including serum creatinine measurement, other than the basic laboratory tests should be performed as necessary.
- Standard inquiries are to be utilized in following three areas: 1) lifestyle-related disease risk assessment, 2) health guidance stratification, and 3) determination of the message to be provided upon notification of medical checkup results. Therefore, the target population's characteristics should be considered, and other inquiries should be added as necessary.

(2) Medical checkup items

The specific medical checkup includes the basic laboratory tests that all individuals undergo, as well as the detailed laboratory tests that only those individuals designated by the doctor undergo.

1. Basic laboratory tests conducted during the specific medical checkup (See Separate Form 1.)

These include inquiries, anthropometric data (height, body weight, body mass index (BMI), abdominal circumference [visceral fat area]), a physical examination, blood pressure measurements, blood chemistry tests (triglyceride, high-density lipoprotein [HDL] cholesterol, and low-density lipoprotein [LDL] cholesterol levels), liver function tests (aspartate aminotransferase, alanine aminotransferase, and γ -glutamyltransferase levels), and blood glucose tests (fasting blood glucose or hemoglobin [Hb] A1c levels), and urinalysis (sugar and protein in the urine).

*The HbA1c test is a laboratory test that measures blood glucose levels during the previous 1–3 months. HbA1c serves as an index of blood glucose control. Therefore, this measurement can be effectively used to analyze the condition of the evaluated individual for the provision of health guidance. Even if the individual was previously instructed not to eat before the medical checkup, they can eat food and still undergo the medical checkup; blood samples cannot always be collected in fasting. Therefore, both fasting blood glucose and HbA1c tests should be conducted whenever possible. If the health insurer recognizes diabetes mellitus as an urgent issue, the HbA1c test should always be

conducted during the medical checkup. If both results of the fasting blood glucose and HbA1c measurements are available, the fasting blood glucose measurement is preferentially used for stratification judgments with regard to the specific medical checkup/specific health guidance.

*Since 2013, HbA1c has been evaluated according to the level given by the National Glycohemoglobin Standardization Program (NGSP) rather than the conventional level given by the Japan Diabetes Society (JDS). The following formulae can be used to convert NGSP levels to JDS levels and from JDS levels to NGSP levels, respectively.

JDS level (%) =
$$0.980 \times NGSP$$
 level (%) - 0.245%
NGSP level (%) = $1.02 \times JDS$ level (%) + 0.25%

2. Detailed laboratory tests conducted during the specific medical checkup (See Separate Form 2.)

Detailed laboratory tests are conducted for the early detection of further aggravation of lifestyle-related diseases. Test items are selected among electrocardiography, funduscopy, or anemia tests (red blood cell count, hemoglobin level, hematocrit level) when the specified standards have been met (see Separate Form 2) and the doctor has recognized the necessity of such tests. At the institution where the medical checkup is performed, the doctor in charge determines the necessity of each detailed laboratory test on a per-case basis and makes decisions accordingly. The standards listed in Separate Form 2 should not be used without evaluation and without reason. The rationale used to

make such judgments should be reported to the health insurer and explained to the individual.

3. Other laboratory tests

In medical checkups other than the specific medical checkup, the intentions/objectives of the applicable regulations/system, characteristics of the target population (i.e., characteristics of the local community and workplace), and the health issues of the target population should be considered, and tests other than the basic laboratory tests (1.) should be conducted as necessary. Among these extra tests, serum uric acid and creatinine measurements should be conducted whenever possible.

(3) Inquiries

The standard questionnaire that covers the basic inquiries included in the specific medical checkup is presented as Separate Form 3. These inquiries were developed on the basis of those included in the conventional National Health and Nutrition Examination Survey and those specified by the Industrial Safety and Health Act. The inquiries required for selection/stratification (1–3 [medication use], 4–6 [medical history, present illness], and 8 [smoking history]) are essential to the specific medical checkup. Even when utilizing the results of other medical checkups such as those obtained with the medical checkup specified by the Industrial Safety and Health Act, responses to the essential inquiries

should always be obtained.

The responses to the standard and essential inquiries provide important information with regard to health guidance.

(4) Measurement methods and standardization

- Multiple institutions provide medical checkups. Therefore, the health insurer should collect the medical checkup results of the insured individual from the institutions and manage these data in an integrated manner. The health insurer should then identify those individuals who are highly likely to benefit from prophylactic intervention and preferentially provide these individuals with health guidance. For this purpose, common judgment standards should be developed and the measurements should be standardized for each test item in the medical checkups.
- The institutions responsible for providing medical checkups should maintain the reliability of the health guidance levels and medical treatment recommendations through laboratory test standardization.
- The institutions responsible for providing medical checkups should direct careful attention to the time points of blood collection and sample storage/transportation.
- See Separate Form 4 for instructions regarding test performance and considerations for the medical checkups.
- See Separate Form 5 for practical standard measurement methods and test values regarding each medical checkup item.

(5) Measurement accuracy control

- The institutions responsible for providing medical checkups are required to sufficiently control the test measurement accuracy.
- The organizer of the medical checkup should perform both internal and external quality control checkups according to the requirements for accuracy control specified by the Guides for Medical Checkups Conducted by the Health Promotion Organization (Ministry of Health, Labor, and Welfare (MHLW) Announcement No. 242, 2004).

1. Internal quality control (assurance of measurement consistency within the institution responsible for medical checkups)

The institutions responsible for medical checkups are also responsible for the operations related to the implementation of such checkups, including sample collection/transportation/storage of samples, measurements, and laboratory result handling. To appropriately accomplish these operations, the institutions should establish a management system by assigning supervisors and take actions needed for adherence to the specified operation procedures and safety assurances. Thus, the institutions should

maintain the accuracy of the laboratory results.

2. External quality control (assurance of measurement consistency between the institutions responsible for medical checkups)

The institutions responsible for medical checkups should regularly submit to at least one of the external quality control inspections recommended by the Japan Medical Association, the Japanese Association of Medical Technologists, and the National Federation of Occupational Health Associations. Thus, the accuracy of laboratory results should be confirmed by a third party.

(6) Laboratory test results specified in the medical checkup

- See Separate Form 5 regarding the thresholds of health guidance and medical treatment recommendations provided by the laboratory tests.
- Consistency should be assured between these thresholds and the levels in the guidelines
 established by medical societies in the fields including metabolic syndrome, diabetes mellitus,
 hypertension, or hyperlipidemia treatment.
- The MHLW should elicit cooperation from the medical societies and research teams to which the
 ministry provides Health and Labor Sciences Research Grants and should regularly evaluate the
 standard levels to ensure that these values are based on the latest findings.

(7) Regular review of laboratory tests included in the medical checkup

To provide effective medical checkups and health guidance, the MHLW should not exert control over conventional laboratory testing. The MHLW should consider the efficacy of preventing the development/aggravation of lifestyle-related diseases, elicit cooperation from research teams to which the ministry provides Health and Labor Sciences Research Grants, and regularly review the usefulness/necessity of laboratory tests according to the latest scientific findings. Currently, urinalysis and liver function test results are not used to identify individuals who require health guidance. Additionally, serum uric acid and serum creatinine measurements have not yet been introduced into the medical checkup. The efficacy, necessity, and cost-effectiveness of these examinations should be validated after due consideration of the characteristics of the population subjected to medical checkup. Therefore, the laboratory tests included in the medical checkup should be reviewed as needed.

2-2 Provision of medical checkup results and other necessary information (feedback)(1) Basic policies

• Generally, lifestyle-related diseases progress without accompanying subjective symptoms. Laboratory test data provide the individuals subjected to medical checkups with important opportunities to recognize their own health problems and improve their lifestyles. To maximize

this benefit of the medical checkup, the results of the medical checkup including severity assessments based on each laboratory test data, and other necessary information should be provided in an easily understood format (feedback) immediately after the checkups to all concerned individuals, irrespective of the use of the data during the selection/stratification process.

- This information should be provided to encourage the concerned individuals to become more aware of the benefits of lifestyle improvements and maintenance as well as to change their behavior. Additional information should be provided to individuals who require medical attention or those who are receiving continuous treatment. For example, information intended to increase awareness about the importance of receiving medical attention and drug therapy should be provided. Information intended to encourage a better awareness of the need to undergo regular medical checkups should be provided to all individuals who underwent the medical checkups. To enhance the effects of feedback, the interval between the medical checkup and results announcement/ the provision of health guidance should be as short as possible.
- Feedback information directing individuals to receive medical treatment is necessary for those individuals who are advised to receive medical attention according to the results of the specific medical checkups. Along with a notification letter, the necessity of medical attention should be directly communicated to the individual during an interview. Efforts should be made to assure the individual with regard to health care access. Continuous support, including determination of the individual's status (whether the subject has already presented hospital or not, etc.), should also be provided to the individual.

(2) Feedback contents

Feedback should be provided to all individuals who underwent medical checkups. The details, however, will differ among the individuals according to the medical checkup results. Sufficient explanations about each test result and comprehensive judgments that reflect the annual variations should be provided to the individuals who underwent medical checkups. For individuals who face serious health problems, the professionals responsible for health guidance should explain their health conditions during an interview conducted immediately after the medical checkup. Thus, results that are more effective can be expected in such cases.

By using the example expressions included in the appendix, the professional responsible for health guidance should consider the individual degree of risk and provide appropriate advice as possible.

1. Individuals who require urgent medical attention

Some persons are determined to be at the stage in which immediate medical treatment is required. The professionals responsible for health guidance should unfailingly help the individual receive immediate

medical attention. Especially if such individuals should be placed immediately under medical management, they should be strongly advised to receive immediate medical attention prior to specific health guidance even if they need the guidance. Such individuals might be thought to require specific health guidance as long as they are not prescribed drug therapies. But priority should be given to urgent issues and appropriate judgments should be made.

Individuals who do not have primary care physicians could take this opportunity to find such physicians.

Some individuals might discontinue treatment or hesitate to receive medical attention. In such cases, the individual's consideration and acceptance of their present conditions should be understood, and the factors contributing to the denial of medical treatment should be identified and considered. Next, efforts should be made to modify the decision. Moreover, the professionals responsible for health guidance should help the individual decide the limit date by when they should receive medical attention or ask the individual to provide the professional with the results of consultations with physicians. Thus, the individual will become increasingly aware of the need to consult with his or her physician and the increased motivation can lead to receiving medical attention.

2. When priority is given to lifestyle improvements

In cases that are less urgent than those described above, abnormal laboratory results are detected and lifestyle improvements are subsequently recommended. Both individuals who do and do not require specific health guidance can be included in this group. When feedback is given to these individuals, the following concrete information should be included in the messages as needed: the types of risks faced by the individuals, the degree of these risks, the ways in which the individuals' lifestyles adversely affect their health conditions, and methods for improving their lifestyles. An examination to support each individual is introduced as follows. Health guidance is provided to them primarily to improve their lifestyle based on physician's advice, following up carefully to facilitate the recognition of their own health conditions, including how many risk factors were detected during the medical checkup and the degree of risk severity. If individuals fail to improve their lifestyle, they should be advised to receive medical treatment.*

Hypertension and smoking are the critical risks associated with the development of ischemic heart disease and cerebrovascular disease. Therefore, appropriate blood pressure control and smoking cessation should be emphasized during the medical checkup and individual interviews. Smokers are advised to participate in smoking cessation support programs or visit smoking cessation clinics.

*Some persons might have blood pressure levels that exceed the level at which medical treatment is recommended but are considered Grade I hypertension (systolic blood pressure, 140–159 mm Hg; diastolic blood pressure, 90–99 mm Hg). Generally, the first strategy in these cases is a 3-month

lifestyle improvement program rather than drug therapy. There are two available lifestyle improvement options. First, the individual might consider their medical checkup results and attempt to make lifestyle improvements on their own. Second, the individual might receive necessary support, including health guidance regarding lifestyle improvement. In cases of hyperlipidemia, a three to six-month lifestyle improvement program should be introduced as the primary prophylactic strategy (for those who do not experience ischemic heart disease). Individuals who have met the criteria of specific health guidance should be examined in light of the guidelines established by the medical societies, and should initially receive health guidance according to the judgment of the physicians at the institutions responsible for the medical checkups. If this strategy is unsuccessful, individuals are advised to seek medical attention as needed.

3. When no definite problem is identified in the medical checkup results

The medical checkup results might show no health problems. The concerned individuals are notified of the fact that their medical checkup results reflected no definite problems. They are also notified about the possible risks, and advised to receive regular medical checkups. If the medical checkup results improve, the individuals' efforts to improve their lifestyle should be appreciated. They are encouraged to keep their improved lifestyle and undergo a medical checkup during the following year. These positive approaches should be taken to increase the individuals' awareness.

Even if the medical checkup revealed no abnormalities, individuals have room to improve their lifestyle including smoking cessation. In such a case, they should be notified about the close relationship between smoking etc. and lifestyle-related diseases, and advised to improve their lifestyle.

(3) Considerations before the provision of information

Blood pressure should be measured repeatedly because some individuals might experience white coat hypertension. Others might have consumed meals immediately before triglyceride measurements, or consumed alcoholic beverages on the day before the measurement. Such behaviors exert considerable effects on the measurement results. Therefore, the laboratory results should be reported after due consideration of these effects.

(4) Follow-up after the provision of advice to receive medical attention

Some individuals will follow the advice to receive medical attention and will therefore be administered drug therapy. These individuals should be carefully followed-up to ensure that they do not cease treatment at their own discretion.

Selection and stratification of the individuals requiring health guidance

(1) Basic policies

- Visceral fat accumulation increases the risk factors including high blood pressure, increased blood glucose levels, or lipid abnormalities. Individuals with more risk factors are more vulnerable to ischemic heart disease or cerebrovascular disease. To effectively/efficiently provide health guidance, individuals who might receive greater benefits from prophylactic programs should be clearly identified. Therefore, attention should be directed to the degree of visceral fat accumulation and the number of risk factors for appropriate selection of individuals requiring health guidance.
- Numerical standards are needed to stratify individuals who require health guidance. These standards will be used for stratification according to metabolic syndrome that will likely address the prevention of lifestyle-related diseases and evaluation of the outcomes of health promotion programs; these outcomes might include determinations of appropriate reductions in individuals with and candidates for lifestyle-related diseases.
- As lifestyle improvements during earlier life stages are expected to produce stronger prophylactic effects, age-appropriate health guidance levels should be established.
- Individuals who have submitted the results of medical checkups that are equivalent to the specific medical checkup should be screened/stratified and receive specific health guidance in the same manner as those who underwent the specific medical checkup.

(2) Concrete selection/stratification methods

Step 1 Risk assessment of visceral fat accumulation

- The risk of visceral fat accumulation is assessed according to the abdominal circumference and BMI.
 - ✓ Abdominal circumference: Men, ≥ 85 cm; Women, ≥ 90 cm → (1)
 - ✓ Abdominal circumference: Individuals who are not included in the above category (1) and whose BMI exceeds 25 kg/m² (BMI \ge 25 kg/m²) → (2)

Step 2 Assessment of the number of additional risks

- The additional risks are enumerated on the basis of the laboratory results and descriptions on the questionnaire.
- The risk of metabolic syndrome can be evaluated by determining whether the conditions listed in each of the three sections (1.–3.) have been met. Other related risks are included in the fourth section (4.). The smoking history (4.) is counted only if at least one of the conditions in each of

the previous sections (1.–3.) has been met.

1. Increased blood glucose

- a. Fasting blood glucose level ≥100 mg/dL,
- b. HbA1c level $\geq 5.6\%$ (NGSP), or
- c. Currently receiving drug therapy (according to the questionnaire)

2. Lipid abnormalities

- a. Triglyceride level ≥ 150 mg/dL or
- b. HDL cholesterol level < 40 mg/dL or
- c. Currently receiving drug therapy (according to the questionnaire)

3. Increased blood pressure

- a. Systolic blood pressure ≥ 130 mm Hg or
- b. Diastolic blood pressure ≥ 85 mm Hg or
- c. Currently receiving drug therapy (according to the questionnaire)

4. Questionnaire

Existing smoking history

Step 3 Classification of the health guidance levels

On the basis of the assessment results obtained in Steps 1 and 2, the health guidance levels are grouped as listed below. As mentioned previously, the smoking history (4.) is counted only if one or more conditions from each previous section (1.–3.) have been met.

Case (1)

The number of additional risk factors listed in the 4 sections (1.-4.)

- ≥ 2 (Individuals with ≥ 2 risk factors are classified as requiring intensive support)
- 1 (Individuals with 1 risk factor are classified as requiring motivational support)
- 0 (Individuals with 0 risk factors are classified as requiring the provision of information)

Case (2)

The number of additional risk factors listed in the 4 sections (1.–4.)

- ≥3 (Individuals with ≥3 risk factors are classified as requiring intensive support)
- 1-2 (Individuals with 1-2 risk factors are classified as requiring motivational support)
- 0 (Individuals with 0 risk factors are classified as requiring the provision of information)

Step 4 Exceptional applications of specific health guidance

• Individuals aged 65–75 years should improve their lifestyles preventing quality of life

deterioration. Therefore, lifestyle improvement programs for these individuals should be based on their activities of daily living and motor function. Even if the individuals are classified in the intensive support group, they should be treated as people classified in the motivational support group.

• Individuals who are receiving antihypertensive therapy and visit a medical institution regularly should receive lifestyle improvement support as a part of their continuous medical management at the medical institution. These individuals are not required to receive specific health guidance from the health insurer. However, in collaboration with the treating physicians, the health insurer can provide health guidance to these individuals to ensure steady lifestyle improvements and effectively prevent treatment discontinuation. If the medical checkup shows an abnormal laboratory result that exceeds the threshold of health guidance and even if the test is unrelated to the disease controlled at the medical institution, the data should be provided to the physicians treating the individuals.

(3) Considerations

- When necessary, health insurers should examine at their discretion the possibility of providing health guidance to individuals who are not included among those requiring motivational or intensive support. For individuals who are not considered to have visceral fat accumulation according to their abdominal circumference measurements, the risks of lifestyle-related diseases should be assessed with laboratory tests used for evaluation of the risk factors such as increased blood glucose levels/high blood pressure/lipid abnormalities.
- Some individuals who require health guidance might be aged ≥65 years. In such cases, sufficient attention should be directed to preventing locomotive syndrome¹, decreased oral function, undernutrition, and cognitive impairment². These individuals should be provided with health guidance suitable for their conditions.
- If many individuals who require the specific health guidance are classified in the intensive support group, the medical checkup results and responses to the questionnaire should be considered, and individuals who are likely to receive greater benefits from prophylactic programs, including lifestyle improvements, should be identified clearly. The priority order should then be specified and health guidance should be provided efficiently (see Volume 3).
- In the future, the selection/stratification standards for individuals requiring health guidance should be reviewed as needed on the basis of the results of the specific medical checkups/ health guidance and new scientific findings.

¹Locomotive syndrome is defined as a condition in which the locomotoriums are impaired and the

degree of independence decreases. Individuals with locomotive syndrome are more likely to require nursing care. To prevent locomotive syndrome, walking ability maintenance and improvements are important.

[Source] Guidebook on locomotive syndrome 2010 (The Japanese Orthopaedic Association) (in Japanese)

²The efficacies of nutrition improvement (e.g., serum albumin level maintenance), oral function maintenance/improvement, and cognitive impairment prevention (active introduction of brain-activating exercise/physical activity into the programs for individuals with mild cognitive impairment) have been confirmed.

[Source] Nursing Care Prevention Manual (Revised in March 2012; Health and Welfare Bureau for the Elderly, MHLW) (in Japanese)

http://www.mhlw.go.jp/topics/2009/05/tp0501-1.html

Roles of the organizations involved in the medical checkup

(1) Roles expected to be fulfilled by the health insurer

- The health insurer is required to organize specific medical checkups for insured individuals and their dependents aged 40–74 years. The health insurer sends notification letters and places telephone calls to the insured individual and their dependents to encourage medical checkup compliance. In cases of outsourced medical checkups, the health insurer should select the appropriate institutions.
- The health insurer is expected to inform the individuals who underwent the medical checkups about the health problems suggested by the results in an easy-to-understand manner.
- When the laboratory results exceed the medical treatment recommendation level, the health insurer should consider the severity and the individual's age and recommend that he/she seek medical attention. The health insurer should advise individuals who require consultation with hospital physicians to seek medical attention without fail.
- For individuals who are receiving drug therapy, the health insurer should assess the medical checkup and health insurance claim data and examines the possibility of providing the necessary health guidance to them.
- For individuals who were recommended to receive treatment at a hospital, the health insurer should follow up these individuals by assessing their health insurance claims to confirm whether they actually sought treatment at a hospital. Some individuals might not receive appropriate medical attention. For these individuals, the health insurer should explain the necessity of continuous treatment for the prevention of ischemic heart disease and cerebrovascular disease in an easy-to-understand manner and encourage the individuals to restart treatment.

(2) Roles of the institution responsible for the medical checkup

- The institution that has been commissioned by the health insurer should conduct the specific medical checkup appropriately.
- The institution should inform the individuals who have undergone medical checkups about the health problems suggested from the results in an easy-to-understand manner.
- When the laboratory results exceed the medical treatment recommendation level, the institution should consider the severity and the individual's age and recommend that they seek medical attention. The institution should strongly advise individuals who require consultations with hospital physicians to seek medical attention.

(3) Roles of the health promotion department of the municipal government

- The health promotion department of the municipal government might organize a health guidance or health counseling program for residents by using the medical checkup or health insurance claims data collected by the health insurer and the nursing care insurance data collected by the nursing care department of the municipal government. These health care data are confidential and require particularly strict control. Therefore, in collaboration with the health insurer and the nursing care department of the municipal government, the health promotion department should handle these data according to the instructions.)
- The health promotion department should consider the above instruction and then, in collaboration with the treating physician and health insurer, should assess the medical checkup and health insurance claims data and provide health guidance to individuals who are receiving drug therapy.
- In collaboration with the health insurer, the health promotion department should assess the health insurance claims and medical treatment records to ensure that the department takes the appropriate actions for individuals who were advised to receive medical attention but have not consulted with a hospital physician, and provide the health guidance to individuals other than that requiring specific health guidance.
- Individuals who were advised to receive medical attention but who have not consulted with a hospital physician might attend the health guidance program organized by the health promotion department. These individuals should receive explanations of the necessity for appropriate medical interventions to prevent ischemic heart disease and cerebrovascular disease.

(4) Roles of the medical institution

- The medical institution should assess the medical checkup results of individuals who are referred for treatment, and should continuously provide them with the necessary treatment and support for lifestyle improvements, including nutrition/exercise guidance. If the conditions specified by the medical treatment fee system have been met, fees can be charged for the management of lifestyle-related diseases, outpatient nutritional/dietary guidance from a managerial dietitian, and group nutritional/dietary guidance.
- Individuals with diabetes mellitus, hypertension, or hyperlipidemia either might not receive treatment or might discontinue treatment. When such cases are identified, the necessity of continuous medical intervention to prevent ischemic heart disease and cerebrovascular disease should be explained to these individuals in an easy-to-understand manner. Thus, the individuals should be encouraged to receive/resume treatment.

Digitization of medical checkup data

5-1 Standard electronic system for medical checkup data submission

(1) Basic policies

• According to the Act on Assurance of Medical Care for Elderly People, the medical checkup data obtained by the various sectors during the specific medical checkup/specific health guidance process may be sent to the health insurer in the following manner.

Medical checkup data

- 1. The institution responsible for the medical checkup/institution responsible for health guidance → Health insurer
- 2. Health insurer (responsible for dependent's medical checkup) → Health insurer (by which the dependent is covered)
- 3. Health insurer (before transfer) → Health insurer (after transfer)
- 4. Institution responsible for the medical checkup as specified by the Industrial Safety and Health Act
- → Health insurer (by which the individual is covered)
- 5. Insured individual/dependent who underwent other medical checkups → Health insurer

Conditions for implementing the specific medical checkup/specific health guidance

- 6. Health insurer → MHLW, Health Insurance Claims Review & Reimbursement Services
- As noted above, a wide variety of data is communicated between sectors during the specific medical checkup/specific health guidance process. An enormous quantity of information is thus communicated through complicated pathways. The MHLW established a standard electronic system to assure data compatibility and the continuous handling of many types of data.

(2) Considerations

- Personal information should be protected carefully during the medical checkup data communication process.
- In the future, data obtained from other medical checkups, including health screenings, should be collected according to procedures based on this standard electronic system.
- The collected electronic information should be backed up in multiple locations for security purposes.
- The health insurer should electronically provide the medical checkup results at the request of the insured individual.

5-2 Determination of standard laboratory test codes

(1) Basic policy

Enormous quantities of digital medical checkup data are handled continuously during specific medical checkups. If the laboratory test and inquiry descriptions are not integrated or standard descriptions are not used, the electronic system cannot correctly identify the laboratory tests. Therefore, standard codes should be assigned to the laboratory tests and inquiries in order to standardize their descriptions.

(2) Concrete standard codes

- Japan Laboratory Analysis Code version 10 (JLAC10), developed by the Japanese Society of Laboratory Medicine, or the 17-digit codes, developed in accordance with the JLAC10 coding system, are used to describe all medical checkup data.
- New laboratory tests might be added in the future. In such cases, these tests will be assigned codes in accordance with the JLAC10 system upon consultation with the Japanese Society of Laboratory Medicine.

(Reference)

Examples of standard codes for basic laboratory tests (JLAC10 codes [17-digit])

Laboratory test	Test method	JLAC10 Code
Triglyceride	Visible absorption photometry	3F015000002327101
	(Enzyme colorimetric assay/glycerol elimination)	
	Ultraviolet spectrophotometric method	3F015000002327201
	(Enzyme colorimetric assay/glycerol elimination)	
	Others	3F015000002399901

5-3 Coding of the institutions responsible for the medical checkup/health guidance

(1) Basic policies

- The medical checkup data that are managed by the health insurer carry specific codes for each institution responsible for the medical checkups.
- Assessments of the programs and sufficient analyses of the medical checkup data are needed to successfully reduce incidence of lifestyle-related diseases, including diabetes mellitus, and the numbers of candidates for disease development. Therefore, all institutions responsible for medical checkups/health guidance should be coded so that the data collected at an institution can be

^{*}The standard code table is available at the following website: http://www.mhlw.go.jp:10080/bunya/shakaihosho/iryouseido01/info02i.html

- compared with data collected from other institutions.
- All medical service providers affiliated with the National Health Insurance (NHI) have already been coded, and the same coding system has been adopted for the medical institutions responsible for medical checkups/health guidance. The institutions responsible for medical checkups are coded according to the following rule; they should not determine their codes by themselves.

(Reference)

Rule for coding the institutions responsible for medical checkups/health guidance

*For details, see the Handbook for Effective Implementation of the Specific Medical Checkups/Specific Health Guidance (Health Insurance Bureau, MHLW).

- The institutions responsible for medical checkups include many NHI-affiliated medical service providers that have already been coded. Therefore, this coding system should reasonably be utilized to express the codes in the following manner (10-figure code): 'Prefectural No. (2 figures) + Institution category code (1 figure) + Institution code (6 figures) + Check digit (1 figure).'
 - *To eliminate the possibility of repeated issuance of the same code, a single organization should be responsible for code issuance and unused or blank code management.
- According to the above rule, an NHI-affiliated medical service provider should use its current NHI medical service provider code as its institution code and check digit; in such cases, the institution category code is '1', indicating a medical institution.
- An institution without a code for an NHI-affiliated medical service provider can obtain a code by applying to the organization in charge of code issuance and management for issuance of the following: 'Institution category code (1 figure) + Institution code (6 figures)'.
- When an institution without a code for an NHI-affiliated medical service provider that serves as a new provider of medical checkups/health guidance alone apply for new code issuance, '2' should be used as its institution category code.
- The 10-figure code issued by the Health Insurance Claims Review & Reimbursement Services should be used to collect information regarding the codes of the institutions responsible for medical checkups and appropriately organize the registers.

5-4 Medical checkup results storage and utilization

(1) Basic policies

• The health insurer can provide effective/efficient medical checkups/health guidance by using the