

To: The Secretary

FROM: Chair and Vice-chair, Secretary's Advisory Committee on Health Promotion and Disease Prevention Objectives for 2020

SUBJECT: Recommendations on Leading Health Indicators for Healthy People 2020

I and the members of the Secretary's Advisory Committee on Health Promotion and Disease Prevention Objectives for 2020 wish to offer for your consideration the following three recommendations for Leading Health Indicators (LHIs) for Healthy People 2020.

1. **A. We recommend 14 LHIs and associated objectives (Figure 1).** Twelve of these reflect factors relate to specific health behaviors and outcomes and two, preparedness and public health, are infrastructure oriented. The framework proposed originally by the Advisory Committee for Healthy People 2020 and amplified by the IOM (Figure 2) is the framework we have used to craft these recommendations, using a specified set of operational criteria (Figure 3). This framework emphasizes the important role of the social and physical determinants of health, of health disparities and equity, and changes over the life course in health related outcomes. Thus, for each LHI topic and objective we have made selections with future health status and outcomes specifically in mind. To accomplish this work, we have used 41 HP2020 objectives, which comprise 78 total measures.

The Advisory Committee recognizes the desire for a limited number of measures. It is our recommendation not to focus any LHI on a specific age group. As such, our recommended LHIs reflect important health factors to be understood and addressed across the life course. To support this recommendation, measures related to the same health behaviors and outcomes were collapsed into single indicators, capturing the range of age groups. For example, within "Healthy and Active Lifestyle" we have "Reduce the proportion of children, adolescents, and adults who are obese." This reflects a composite of NWS-9 (Reduce the proportion of adults who are obese) and NWS-10.1 (Reduce the proportion of children and adolescents who are considered obese).

The LHIs we propose relate closely to the recently released National Prevention Strategy (NPS) and a related IOM report, Leading Health Indicators for Healthy People 2020: Letter Report (Figure 4). Eight of our 12 LHI health related topics are virtually identical to the NPS Strategic Directions and Priorities, and 20 of our LHI objectives are identical to NPS measures. Nine of our 12 LHI health related topics are virtually identical to those in the IOM Report, and 20 of our LHI objectives are identical to IOM recommendations.

Conceptually, the LHIs and NPS indicators are not identical, since the LHI topics and objectives include upstream factors such as social determinants that antecede individual health status and outcomes. In addition, the LHI's include objectives that focus on oral health, preparedness, and public health infrastructure that are not addressed by either the IOM or the NPS.

B. We recommend that HHS analyze each LHI objective for health disparities, and, whenever possible, by age. Both factors are critically important for future health status.

C. We recommend that HHS also undertake continuous analysis of the HP2020 Foundation Health Measures, and include family status as a Foundation variable and a control for other measures. These measures reflect very important upstream factors that determine future health status and outcomes.

2. **We recommend that HHS undertake work on the development of multi-measure health indices** for: 1) social and economic determinants of health (e.g., health equity index or prosperity index); 2) environmental determinants (specifically, measures of the built environment); 3) health behaviors; 4) clinical and community preventive care services and policies; and 5) health status and outcomes. These five indices would be broader than single-item measures, but focused enough to be actionable. Results from this work could be used to improved LHI objectives and increase parsimony.
3. **We recommend that HHS undertake work to develop a single overarching measure of health.** As a potential approach, this measure could be a synthetic product of the HP2020 Foundation Health Measures. Such a measure is needed to summarize the work of HHS in simple communications to the public, and to compare the US to other countries.



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Figure 1

Leading Health Indicators

1. Healthy and Active Lifestyle

- a) Increase the proportion of adolescents and adults who meet current Federal physical activity guidelines for aerobic physical activity and for muscle-strengthening activity.
- b) Reduce the proportion of children, adolescents, and adults who are obese.
- c) Reduce food insecurity for children and households.¹
- d) Reduce consumption of calories from solid fats and added sugars in the population aged 2 years and older.

2. Tobacco

- a) Reduce tobacco use by adolescents and adults.
- b) Reduce the initiation of tobacco use among children, adolescents, and young adults.

3. Substance Abuse (other than tobacco)

- a) Reduce past-month use of illicit substances.
- b) Reduce the proportion of adolescents and adults engaged in binge drinking of alcoholic beverages.

4. Oral Health

- a) Reduce the proportion of children and adolescents who have dental caries in their primary or permanent teeth.
- b) Reduce the proportion of children, adolescents, and adults with untreated dental decay.

5. Injury and Violence

- a) Reduce fatal and nonfatal injuries.
- b) Reduce motor vehicle crash-related deaths.
- c) Reduce homicides.

6. Responsible Sexual Behavior

- a) Reduce pregnancy rates among adolescent females.
- b) Increase the proportion of adolescents aged 17 years and under who have never had sexual intercourse.
- c) Increase the proportion of sexually active persons, between 15 and 44 years, who use condoms.

7. Mental Health

- a) Reduce the suicide rate.
- b) Reduce the proportion of adolescents and adults who experience major depressive episodes (MDE).

¹ HHS should work towards advancing a measure of food security, so that empowering and affirming language/concept can be used to address this public health issue.

8. Maternal, Infant, and Child Health

- a) Reduce infant deaths.
- b) Reduce low birth weight (LBW) and very low birth weight (VLBW).
- c) Increase the proportion of pregnant women who receive early prenatal care.

9. Environmental Determinants: Natural and Built Environment

- a) Reduce the number of days the Air Quality Index (AQI) exceeds 100.
- b) Reduce the proportion of nonsmokers exposed to secondhand smoke.

10. Social Determinants

- a) Increase educational achievement of adolescents and young adults.
- b) Improve the health literacy of the population.
- c) Increase the proportion of children who are ready for school in all five domains of healthy development: physical development, social-emotion development, approaches to learning, language, and cognitive development.
- d) Reduce the number of individuals and households who score highly on the Economic Hardship Index.

11. Clinical Preventive Services

- a) Increase the proportion of adults who receive a colorectal cancer screening based on the most recent guidelines.
- b) Increase the proportion of adults with hypertension whose blood pressure is under control.
- c) Increase the proportion of the diabetic population with an A1c value less than 7 percent.
- d) Increase the proportion of persons who receive appropriate evidence-based clinical preventive services.

12. Access to Care Services

- a) Increase the proportion of persons with health insurance.
- b) Increase proportion of persons with a usual primary care provider.
- c) Increase the proportion of persons who have a specific source of ongoing care.

13. Preparedness Infrastructure

- a) Reduce the time necessary to activate designated personnel in response to a public health emergency.
- b) Reduce the time for State public health agencies to establish after action reports and improvement plans following responses to public health emergencies and exercises.

14. Public Health Infrastructure

- a) Increase the proportion of tribal, state, and local public health agencies that are accredited.

**Figure 2
Framework²**

Life Stage	Health Determinants and Health Outcomes					
	Policy that Leads Health Change	Physical and Built Environment	Social and Economic	Health Behavior	Health and Clinical Care Services	Outcomes
Pregnancy and infancy: birth, growth, and maternal bond						
Childhood: growth, learning and development of familial and social bonds						
Adolescence: transition to independence						
Young adult: independence and work						
Adult: work, family, societal contribution						
Elderly: meaning, legacy, decline						

² Modified from: Committee on Leading Health Indicators for Healthy People 2020; Institute of Medicine. 2011. Leading Health Indicators for Healthy People 2020: Letter Report. National Academy of Sciences. Retrieved from <http://www.nap.edu/catalog/13088.html>.

Figure 3
Operational Criteria for Selection of Leading Health Indicators

1. Central: important as a determinant of health status
2. Instinctive: easily recognized as intimate to health status
3. Translatable: to the national, state, community and individual levels
4. Measurable: at a point in time, over time
5. Divisible: into key subpopulations
6. Actionable: convey a sense of the possibility to act
7. Immutable: convey a sense of the obligation to act

Figure 4
Leading Health Indicators Breakdown and Cross-walk

1. Healthy and Active Lifestyle

	Objective Number(s)	Measures	NPS	IOM
a) Increase the proportion of adolescents and adults who meet current Federal physical activity guidelines for aerobic physical activity and for muscle-strengthening activity.	PA-2.4 and PA-3.3	2	✓	✓
b) Reduce the proportion of children, adolescents, and adults who are obese.	NWS-9 and NWS-10.1	2	✓	
c) Reduce food insecurity for children and households. ³	NWS-12 and NWS-13	2		
d) Reduce consumption of calories from solid fats and added sugars in the population aged 2 years and older.	NWS-17.3	1		✓

2. Tobacco

	Objective Number(s)	Measures	NPS	IOM
a) Reduce tobacco use by adolescents and adults.	TU-1 and TU-2	7	✓	✓
b) Reduce the initiation of tobacco use among children, adolescents, and young adults.	TU-3	8		✓

3. Substance Abuse

	Objective Number(s)	Measures	NPS	IOM
a) Reduce past-month use of illicit substances.	SA-13	3		✓
b) Reduce the proportion of adolescents and adults engaged in binge drinking of alcoholic beverages.	SA-14.3 and SA-14.4	2	✓	✓

4. Oral Health

³ HHS should work towards advancing a measure of food security, so that empowering and affirming language/concept can be used to address this public health issue.

	Objective Number(s)	Measures	NPS	IOM
a) Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth.	OH-1	3		
b) Reduce the proportion of children, adolescents, and adults with untreated dental decay.	OH-2 and OH-3	6		

5. Injury and Violence

	Objective Number(s)	Measures	N P S	IOM
a) Reduce fatal and nonfatal injuries.	IVP-1	3		✓
b) Reduce motor vehicle crash-related deaths	IVP-13	1	✓	
c) Reduce homicides.	IVP-29	1	✓	

6. Responsible Sexual Behavior

	Objective Number(s)	Measures	N P S	IOM
a) Reduce pregnancy rates among adolescent females.	FP-8	2	✓	✓
b) Increase the proportion of adolescents aged 17 years and under who have never had sexual intercourse.	FP-9	2		
c) Increase the proportion of sexually active persons, between 15 and 44 years, who use condoms.	HIV-17	2		✓

7. Mental Health

	Objective Number(s)	Measures	NPS	IOM
a) Reduce the suicide rate.	MHMD-1	1		
b) Reduce the proportion of adolescents and adults who experience major depressive episodes (MDE).	MHMD-4	2	✓	✓

8. Maternal, Infant, and Child Health

	Objective Number(s)	Measures	NPS	IOM
a) Reduce infant deaths.	MICH-1.3	1	✓	
b) Reduce low birth weight (LBW) and very low birth weight (VLBW).	MICH-8	2	✓	✓
c) Increase the proportion of pregnant women who receive early prenatal care.	MICH-10.1	1		

9. Environmental Determinants: Natural and Built Environment

	Objective Number(s)	Measures	NPS	IOM
a) Reduce the number of days the Air Quality Index (AQI) exceeds 100.	EH-1	1	✓	✓
b) Reduce the proportion of nonsmokers exposed to secondhand smoke.	TU-11	3	✓	

10. Social Determinants

	Objective Number(s)	Measures	NPS	IOM
a) Increase educational achievement of adolescents and young adults.	AH-5	2		✓
b) Improve the health literacy of the population.	HC/HIT-1 (Developmental)	3		✓
c) Increase the proportion of children who are ready for school in all five domains of healthy development: physical development, social-emotion development, approaches to learning, language, and cognitive development.	EMC-1 (Developmental)	1		✓
d) Reduce the number of individuals and households who score highly on the Economic Hardship Index.				✓

11. Clinical Preventive Services

	Objective Number(s)	Measures	NPS	IOM
a) Increase the proportion of adults who receive a colorectal cancer screening based on the most recent guidelines.	C-16	1	✓	
b) Increase the proportion of adults with hypertension whose blood pressure is under control.	HDS-12	1	✓	
c) Increase the proportion of the diabetic population with an A1c value less than 7 percent.	D-5.2	1		
d) Increase the proportion of persons who receive appropriate evidence-based clinical preventive services.	AHS-7 (Developmental)	1		✓

12. Access to Care Services

	Objective Number(s)	Measures	NPS	IOM
a) Increase the proportion of persons with health insurance.	AHS-1	3		✓
b) Increase proportion of persons with a usual primary care provider.	AHS-3	1		✓
c) Increase the proportion of persons who have a specific source of ongoing care.	AHS-5.1	1		

13. Preparedness Infrastructure

	Objective Number(s)	Measures	NPS	IOM
a) Reduce the time necessary to activate designated personnel in response to a public health emergency.	PREP-2	1		
b) Reduce the time for State public health agencies to establish after action reports and improvement plans following responses to public health emergencies and exercises.	PREP-4	1		

14. Public Health Infrastructure

	Objective Number(s)	Measures	NPS	IOM
a) Increase the proportion of tribal, state, and local public health agencies that are accredited.	PHI-17 (Developmental)	1		