CHAPTER 3

Healthy People 2020

Arthritis, Osteoporosis, and Chronic Back Conditions (AOCBC)

Lead Agencies

Centers for Disease Control and Prevention
National Institutes of Health

Contents

Goal: Prevent illness and disability related to arthritis and other rheumatic conditions, osteoporosis, and chronic back conditions.

This chapter includes objectives that monitor the reduction of the impacts and limitations due to arthritis, osteoporosis, and chronic back conditions. The Reader's Guide provides a step-by-step explanation of the content of this chapter, including criteria for highlighting objectives in the Selected Findings.[1]

Status of Objectives

Figure 3–1. Midcourse Status of the Arthritis, Osteoporosis, and Chronic Back Conditions Objectives
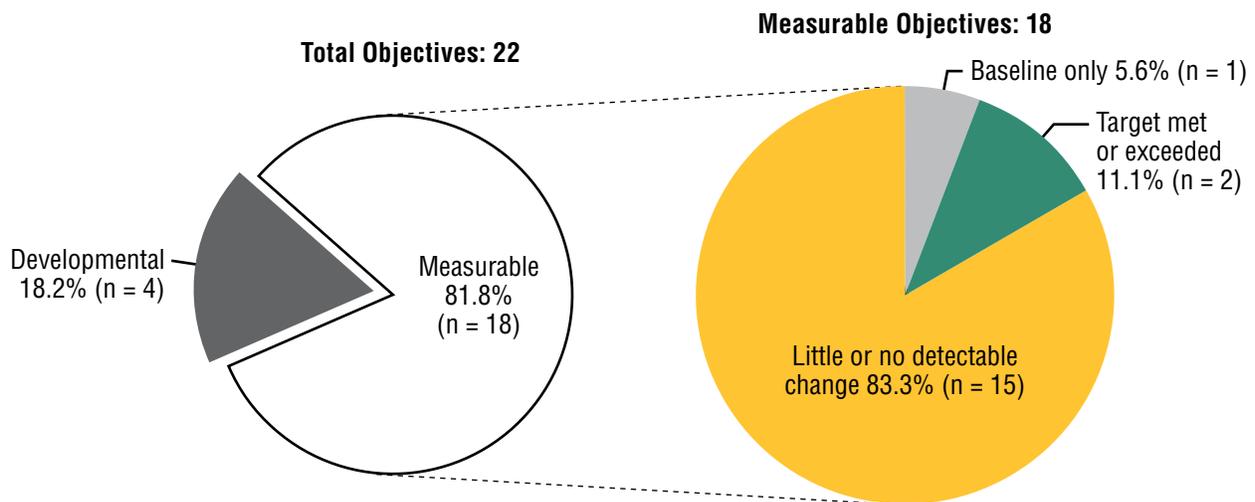
Of the 22 objectives in the Arthritis, Osteoporosis, and Chronic Back Conditions Topic Area, 4 were developmental[2] and 18 were measurable[3] (Figure 3–1, Table 3–1). The midcourse status of the measurable objectives (Table 3–2) was as follows:

- 2 objectives had met or exceeded their 2020 targets,[4]
- 15 objectives had demonstrated little or no detectable change,[5] and
- 1 objective had baseline data only.[6]

Selected Findings

Arthritis

- There was little or no detectable change in the age-adjusted **mean level of joint pain among adults aged 18 and over with doctor-diagnosed arthritis** (AOCBC-1) between 2006 and 2014 (5.6 and 5.7, respectively) (Table 3–2).
  - » In 2014, there were statistically significant disparities by sex, race and ethnicity, education,

family income, and disability status in the age-adjusted mean level of joint pain among adults aged 18 and over with doctor-diagnosed arthritis (AOCBC-1). The disparity by geographic location was not statistically significant (Table 3–3).

- There was little or no detectable change in the age-adjusted proportion of **adults aged 18 and over with activity limitations due to doctor-diagnosed arthritis** (AOCBC-2) between 2008 and 2014 (39.4% and 40.1%, respectively) (Table 3–2).
  - » In 2014, there were statistically significant disparities by sex, education, and family income in the age-adjusted proportion of adults aged 18 and over with activity limitations due to doctor-diagnosed arthritis (AOCBC-2). The disparities by race and ethnicity and geographic location were not statistically significant (Table 3–3).

- There was little or no detectable change in the age-adjusted proportion of **adults aged 18 and over with doctor-diagnosed arthritis who had difficulty walking a quarter of a mile** (AOCBC-3.1) between 2008 and 2014 (15.2% and 15.1%, respectively) (Table 3–2).

» In 2014, there were statistically significant disparities by sex, race and ethnicity, education, family income, and geographic location in the age-adjusted proportion of adults aged 18 and over with doctor-diagnosed arthritis who had difficulty walking a quarter of a mile (AOCBC-3.1) (Table 3–3).

■ There was little or no detectable change in the age-adjusted proportion of **adults aged 18 and over with doctor-diagnosed arthritis who had difficulty climbing 10 steps without resting** (AOCBC-3.2) between 2008 and 2014 (10.8% and 10.9%, respectively) (Table 3–2).

» In 2014, there were statistically significant disparities by sex, race and ethnicity, education, family income, and geographic location in the age-adjusted proportion of adults aged 18 and over with doctor-diagnosed arthritis who had difficulty climbing 10 steps without resting (AOCBC-3.2) (Table 3–3).

■ There was little or no detectable change in the age-adjusted proportion of **adults aged 18 and over with doctor-diagnosed arthritis who had difficulty stooping, bending, or kneeling** (AOCBC-3.3) between 2008 and 2014 (21.7% and 21.4%, respectively) (Table 3–2).

» In 2014, there were statistically significant disparities by sex, education, family income, and geographic location in the age-adjusted proportion of adults aged 18 and over with doctor-diagnosed arthritis who had difficulty stooping, bending, or kneeling (AOCBC-3.3). The disparity by race and ethnicity was not statistically significant (Table 3–3).

■ There was little or no detectable change in the age-adjusted proportion of **adults aged 18 and over with doctor-diagnosed arthritis who had difficulty grasping or handling small objects** (AOCBC-3.4) between 2008 and 2014 (4.4% and 4.3%, respectively) (Table 3–2).

» In 2014, there were statistically significant disparities by race and ethnicity, education, family income, and geographic location in the age-adjusted proportion of adults aged 18 and over with doctor-diagnosed arthritis who had difficulty grasping or handling small objects (AOCBC-3.4). The disparity by sex was not statistically significant (Table 3–3).

■ There was little or no detectable change in the age-adjusted proportion of **adults aged 18 and over with doctor-diagnosed arthritis who had difficulty performing 2 or more personal care activities**

(AOCBC-4) between 2008 and 2014 (2.7% and 3.0%, respectively) (Table 3–2).

» In 2014, there were statistically significant disparities by race and ethnicity, education, and family income in the age-adjusted proportion of adults aged 18 and over with doctor-diagnosed arthritis who had difficulty performing 2 or more personal care activities (AOCBC-4). The disparities by sex and geographic location were not statistically significant (Table 3–3).

■ There was little or no detectable change in the age-adjusted proportion of **adults aged 18 and over with doctor-diagnosed arthritis who experienced serious psychological stress** (AOCBC-5) between 2008 and 2014 (7.3% and 6.9%, respectively) (Table 3–2).

» In 2014, there were statistically significant disparities by race and ethnicity, education, and family income in the age-adjusted proportion of adults aged 18 and over with doctor-diagnosed arthritis who experienced serious psychological stress (AOCBC-5). The disparities by sex and geographic location were not statistically significant (Table 3–3).

■ There was little or no detectable change in the age-adjusted **unemployment rate among adults aged 18–64 with doctor-diagnosed arthritis** (AOCBC-6.1) between 2008 and 2014 (34.0% and 35.2%, respectively) (Table 3–2).

» In 2014, there were statistically significant disparities by sex, education, family income, disability status, and geographic location in the age-adjusted unemployment rate among adults aged 18–64 with doctor-diagnosed arthritis (AOCBC-6.1). The disparity by race and ethnicity was not statistically significant (Table 3–3).

■ There was little or no detectable change in the age-adjusted proportion of **adults aged 18–64 with doctor-diagnosed arthritis who were limited in their ability to work for pay** (AOCBC-6.2) between 2006 and 2014 (33.1% and 33.0%, respectively) (Table 3–2).

» In 2014, there were statistically significant disparities by sex, education, family income, and geographic location in the age-adjusted proportion of adults aged 18–64 with doctor-diagnosed arthritis who were limited in their ability to work for pay (AOCBC-6.2). The disparity by race and ethnicity was not statistically significant (Table 3–3).

■ Between 2006 and 2014, the age-adjusted proportion of **overweight and obese adults aged 18 and over**

with doctor-diagnosed arthritis who received weight-reduction counseling from their health care provider (AOCBC-7.1) increased from 41.2% to 45.3%, meeting the 2020 target (Table 3–2).

» In 2014, there were statistically significant disparities by sex, disability status, and geographic location in the age-adjusted proportion of overweight and obese adults aged 18 and over with doctor-diagnosed arthritis who received weight-reduction counseling from their health care provider (AOCBC-7.1). The disparities by race and ethnicity, education, and family income were not statistically significant (Table 3–3).

■ Between 2006 and 2014, the age-adjusted proportion of **adults aged 18 and over with doctor-diagnosed arthritis who received physical activity or exercise counseling from their health care provider** (AOCBC-7.2) increased from 52.2% to 61.0%, exceeding the 2020 target (Table 3–2).

» In 2014, there were statistically significant disparities by sex in the age-adjusted proportion of adults aged 18 and over with doctor-diagnosed arthritis who received physical activity or exercise counseling from their health care provider (AOCBC-7.2). The disparities by race and ethnicity, education, family income, disability status, and geographic location were not statistically significant (Table 3–3).

■ There was little or no detectable change in the age-adjusted proportion of **adults aged 18 and over with doctor-diagnosed arthritis who received arthritis education** (AOCBC-8) between 2006 and 2014 (10.6% and 11.4%, respectively) (Table 3–2).

» In 2014, there were statistically significant disparities by disability status and geographic location in the age-adjusted proportion of adults aged 18 and over with doctor-diagnosed arthritis who received arthritis education (AOCBC-8). The disparities by sex, race and ethnicity, education, and family income were not statistically significant (Table 3–3).

■ There was little or no detectable change in the age-adjusted proportion of **adults aged 18 and over with chronic joint symptoms who have seen a health care provider for their symptoms** (AOCBC-9) between 2008 and 2014 (72.0% and 71.3%, respectively) (Table 3–2).

» In 2014, there were statistically significant disparities by sex and disability status in the age-adjusted proportion of adults aged 18 and over with chronic joint symptoms who were seeing a

health care provider for their symptoms (AOCBC-9). The disparities by race and ethnicity, education, family income, and geographic location were not statistically significant (Table 3–3).

Osteoporosis

■ Data beyond the baseline were not available for the age-adjusted **proportion of adults aged 50 and over with osteoporosis** (AOCBC-10), which was 5.9% in 2005–2008, so progress toward the 2020 target could not be assessed (Table 3–2).

» In 2005–2008, there were statistically significant disparities by sex, race and ethnicity, education, family income, and disability status in the age-adjusted proportion of adults aged 50 and over with osteoporosis (Table 3–3).

Chronic Back Conditions

■ There was little or no detectable change in the age-adjusted rate of **adults aged 18 and over with activity limitations due to chronic back conditions** (AOCBC-12) between 2008 and 2014 (30.7 and 32.1 per 1,000, respectively) (Table 3–2).

» In 2014, there were statistically significant disparities by race and ethnicity, education, family income, and geographic location in the age-adjusted rate of adults aged 18 and over with activity limitations due to chronic back conditions (AOCBC-12). The disparity by sex was not statistically significant (Table 3–3).

More Information

In 2014, the Healthy People 2020 Arthritis, Osteoporosis, and Chronic Back Conditions Workgroup added four new developmental objectives on high-impact chronic pain to align with the National Pain Strategy: AOCBC-13, AOCBC-14, AOCBC-15, and AOCBC-16 (Figure 3–1 and Table 3–1). For more information on the National Pain Strategy, see: https://iprcc.nih.gov/National_Pain_Strategy/NPS_Main.htm.

Readers interested in more detailed information about the objectives in this topic area are invited to visit the HealthyPeople.gov website, where extensive substantive and technical information is available:

■ For the background and importance of the topic area, see: http://www.healthypeople.gov/2020/topics-objectives/topic/Arthritis-Osteoporosis-and-Chronic-Back-Conditions

- For data details for each objective, including definitions, numerators, denominators, calculations, and data limitations, see: http://www.healthypeople.gov/2020/topics-objectives/topic/Arthritis-Osteoporosis-and-Chronic-Back-Conditions/objectives

  Select an objective, then click on the "Data Details" icon.

- For objective data by population group (e.g., sex, race and ethnicity, or family income), including rates, percentages, or counts for multiple years, see: http://www.healthypeople.gov/2020/topics-objectives/topic/Arthritis-Osteoporosis-and-Chronic-Back-Conditions/objectives

  Select an objective, then click on the "Data2020" icon.

Data for the measurable objectives in this chapter were from the following data sources:

- National Health and Nutrition Examination Survey: http://www.cdc.gov/nchs/nhanes.htm

- National Health Interview Survey: http://www.cdc.gov/nchs/nhis.htm

- National Hospital Discharge Survey: http://www.cdc.gov/nchs/nhds.htm

Footnotes

[1]The Technical Notes provide more information on Healthy People 2020 statistical methods and issues.

[2]**Developmental** objectives did not have a national baseline value.

[3]**Measurable** objectives had a national baseline value.

[4]**Target met or exceeded**—One of the following, as specified in the Midcourse Progress Table:
» At baseline the target was not met or exceeded and the midcourse value was equal to or exceeded the target. (The percentage of targeted change achieved was equal to or greater than 100%.)
» The baseline and midcourse values were equal to or exceeded the target. (The percentage of targeted change achieved was not assessed.)

[5]**Little or no detectable change**—One of the following, as specified in the Midcourse Progress Table:
» Movement was toward the target, standard errors were available, and the percentage of targeted change achieved was not statistically significant.
» Movement was toward the target, standard errors were not available, and the objective had achieved less than 10% of the targeted change.

» Movement was away from the baseline and target, standard errors were available, and the percentage change relative to the baseline was not statistically significant.
» Movement was away from the baseline and target, standard errors were not available, and the objective had moved less than 10% relative to the baseline.
» There was no change between the baseline and the midcourse data point.

[6]**Baseline only**—The objective only had one data point, so progress toward target attainment could not be assessed.

Suggested Citation

National Center for Health Statistics. Chapter 3: Arthritis, Osteoporosis, and Chronic Back Conditions. Healthy People 2020 Midcourse Review. Hyattsville, MD. 2016.

Table 3–1. Arthritis, Osteoporosis, and Chronic Back Conditions Objectives

LEGEND

 Data for this objective are available in this chapter's Midcourse Progress Table.

 Disparities data for this objective are available, and this chapter includes a Midcourse Health Disparities Table.

 A state or county level map for this objective is available at the end of the chapter.

| Not Applicable | Midcourse data availability is not applicable for developmental and archived objectives. **Developmental** objectives did not have a national baseline value. **Archived** objectives are no longer being monitored due to lack of data source, changes in science, or replacement with other objectives. |

Objective Number	Objective Statement	Data Sources	Midcourse Data Availability
Arthritis			
AOCBC-1	Reduce the mean level of joint pain among adults with doctor-diagnosed arthritis	National Health Interview Survey (NHIS), CDC/NCHS	
AOCBC-2	Reduce the proportion of adults with doctor-diagnosed arthritis who experience a limitation in activity due to arthritis or joint symptoms	National Health Interview Survey (NHIS), CDC/NCHS	
AOCBC-3.1	Reduce the proportion of adults with doctor-diagnosed arthritis who find it "very difficult" to walk a quarter of a mile—about 3 city blocks	National Health Interview Survey (NHIS), CDC/NCHS	
AOCBC-3.2	Reduce the proportion of adults with doctor-diagnosed arthritis who find it "very difficult" to walk up 10 steps without resting	National Health Interview Survey (NHIS), CDC/NCHS	
AOCBC-3.3	Reduce the proportion of adults with doctor-diagnosed arthritis who find it "very difficult" to stoop, bend, or kneel	National Health Interview Survey (NHIS), CDC/NCHS	
AOCBC-3.4	Reduce the proportion of adults with doctor-diagnosed arthritis who find it "very difficult" to use fingers to grasp or handle small objects	National Health Interview Survey (NHIS), CDC/NCHS	
AOCBC-4	Reduce the proportion of adults with doctor-diagnosed arthritis who have difficulty in performing two or more personal care activities, thereby preserving independence	National Health Interview Survey (NHIS), CDC/NCHS	
AOCBC-5	Reduce the proportion of adults with doctor-diagnosed arthritis who report serious psychological distress	National Health Interview Survey (NHIS), CDC/NCHS	
AOCBC-6.1	Reduce the unemployment rate among adults with doctor-diagnosed arthritis	National Health Interview Survey (NHIS), CDC/NCHS	
AOCBC-6.2	Reduce the proportion of adults with doctor-diagnosed arthritis who are limited in their ability to work for pay due to arthritis	National Health Interview Survey (NHIS), CDC/NCHS	
AOCBC-7.1	Increase the proportion of overweight and obese adults with doctor-diagnosed arthritis who receive health care provider counseling for weight reduction	National Health Interview Survey (NHIS), CDC/NCHS	

Table 3–1. Arthritis, Osteoporosis, and Chronic Back Conditions Objectives—Continued

LEGEND

| | Data for this objective are available in this chapter's Midcourse Progress Table. | | Disparities data for this objective are available, and this chapter includes a Midcourse Health Disparities Table. | | A state or county level map for this objective is available at the end of the chapter. |

| Not Applicable | Midcourse data availability is not applicable for developmental and archived objectives. **Developmental** objectives did not have a national baseline value. **Archived** objectives are no longer being monitored due to lack of data source, changes in science, or replacement with other objectives. |

Objective Number	Objective Statement	Data Sources	Midcourse Data Availability
Arthritis—Continued			
AOCBC-7.2	Increase the proportion of adults with doctor-diagnosed arthritis who receive health care provider counseling for physical activity or exercise	National Health Interview Survey (NHIS), CDC/NCHS	(traffic light) (disparities)
AOCBC-8	Increase the proportion of adults with doctor-diagnosed arthritis who have had effective, evidence-based arthritis education as an integral part of the management of their condition	National Health Interview Survey (NHIS), CDC/NCHS	(traffic light) (disparities)
AOCBC-9	Increase the proportion of adults with chronic joint symptoms who have seen a health care provider for their symptoms	National Health Interview Survey (NHIS), CDC/NCHS	(traffic light) (disparities)
Osteoporosis			
AOCBC-10	Reduce the proportion of adults with osteoporosis	National Health and Nutrition Examination Survey (NHANES), CDC/NCHS	(traffic light) (disparities)
AOCBC-11.1	Reduce hip fractures among females aged 65 years and older	National Hospital Discharge Survey (NHDS), CDC/NCHS	(traffic light)
AOCBC-11.2	Reduce hip fractures among males aged 65 years and older	National Hospital Discharge Survey (NHDS), CDC/NCHS	(traffic light)
Chronic Back Conditions			
AOCBC-12	Reduce activity limitation due to chronic back conditions	National Health Interview Survey (NHIS), CDC/NCHS	(traffic light) (disparities)
AOCBC-13	(Developmental) Decrease the prevalence of adults having high impact chronic pain	(Potential) National Health Interview Survey (NHIS), CDC/NCHS	Not Applicable
AOCBC-14	(Developmental) Increase public awareness/knowledge of high impact chronic pain	(Potential) National Health Interview Survey (NHIS), CDC/NCHS	Not Applicable
AOCBC-15	(Developmental) Increase self-management of high impact chronic pain	(Potential) National Health Interview Survey (NHIS), CDC/NCHS	Not Applicable
AOCBC-16	(Developmental) Decrease the impact of high impact chronic pain on family/significant others	(Potential) National Health Interview Survey (NHIS), CDC/NCHS	Not Applicable

Table 3–2. Midcourse Progress for Measurable[1] Arthritis, Osteoporosis, and Chronic Back Conditions Objectives

LEGEND

✅ Target met or exceeded[2,3]	➕ Improving[4,5]	⊙ Little or no detectable change[6–10]	➖ Getting worse[11,12]	⬜ Baseline only[13]	🟪 Informational[14]

Objective Description	Baseline Value (Year)	Midcourse Value (Year)	Target	Movement Toward Target[15]	Movement Away From Baseline[16]	Movement Statistically Significant[17]
Arthritis						
⊙[8] **AOCBC-1** Mean level of joint pain among adults with arthritis (age-adjusted, mean, 18+ years)	5.6 (2006)	5.7 (2014)	5.0		1.8%	No
⊙[8] **AOCBC-2** Adults with activity limitations due to arthritis (age-adjusted, percent, 18+ years)	39.4% (2008)	40.1% (2014)	35.5%		1.8%	No
⊙[6] **AOCBC-3.1** Adults with arthritis who have difficulty walking a quarter mile (age-adjusted, percent, 18+ years)	15.2% (2008)	15.1% (2014)	13.7%	6.7%		No
⊙[8] **AOCBC-3.2** Adults with arthritis who have difficulty climbing 10 steps without resting (age-adjusted, percent, 18+ years)	10.8% (2008)	10.9% (2014)	9.7%		0.9%	No
⊙[6] **AOCBC-3.3** Adults with arthritis who have difficulty stooping, bending, or kneeling (age-adjusted, percent, 18+ years)	21.7% (2008)	21.4% (2014)	19.5%	13.6%		No
⊙[6] **AOCBC-3.4** Adults with arthritis who have difficulty grasping or handling small objects (age-adjusted, percent, 18+ years)	4.4% (2008)	4.3% (2014)	4.0%	25.0%		No
⊙[8] **AOCBC-4** Personal care limitations in adults with arthritis (age-adjusted, percent, 18+ years)	2.7% (2008)	3.0% (2014)	2.4%		11.1%	No
⊙[6] **AOCBC-5** Serious psychological distress in adults with arthritis (age-adjusted, percent, 18+ years)	7.3% (2008)	6.9% (2014)	6.6%	57.1%		No
⊙[8] **AOCBC-6.1** Unemployment rate among adults with arthritis (age-adjusted, percent, 18–64 years)	34.0% (2008)	35.2% (2014)	30.5%		3.5%	No
⊙[6] **AOCBC-6.2** Adults with arthritis limited in their ability to work for pay (age-adjusted, percent, 18–64 years)	33.1% (2006)	33.0% (2014)	29.8%	3.0%		No
✅[2] **AOCBC-7.1** Overweight/obese adults with arthritis counseled for weight reduction (age-adjusted, percent, 18+ years)	41.2% (2006)	45.3% (2014)	45.3%	100.0%		Yes
✅[2] **AOCBC-7.2** Adults with arthritis counseled for physical activity or exercise (age-adjusted, percent, 18+ years)	52.2% (2006)	61.0% (2014)	57.4%	169.2%		Yes
⊙[6] **AOCBC-8** Adults with arthritis receiving arthritis education (age-adjusted, percent, 18+ years)	10.6% (2006)	11.4% (2014)	11.7%	72.7%		No
⊙[8] **AOCBC-9** Adults with chronic joint symptoms seeing a health care provider for their symptoms (age-adjusted, percent, 18+ years)	72.0% (2008)	71.3% (2014)	79.2%		1.0%	No

Table 3–2. Midcourse Progress for Measurable[1] Arthritis, Osteoporosis, and Chronic Back Conditions Objectives—Continued

LEGEND

| ✓ | Target met or exceeded[2,3] | ✚ | Improving[4,5] | ◉ | Little or no detectable change[6–10] | ▬ | Getting worse[11,12] | ▮ | Baseline only[13] | ▮ | Informational[14] |

	Objective Description	Baseline Value (Year)	Midcourse Value (Year)	Target	Movement Toward Target[15]	Movement Away From Baseline[16]	Movement Statistically Significant[17]
Osteoporosis							
▮ [13]	**AOCBC-10** Adults with osteoporosis (age-adjusted, percent, 50+ years)	5.9% (2005–2008)		5.3%			
◉ [6]	**AOCBC-11.1** Hip fracture hospitalizations among females (age-adjusted per 100,000 population, 65+ years)	823.5 (2007)	778.2 (2010)	741.2	55.0%		No
◉ [6]	**AOCBC-11.2** Hip fracture hospitalizations among males (age-adjusted per 100,000 population, 65+ years)	464.9 (2007)	442.6 (2010)	418.4	48.0%		No
Chronic Back Conditions							
◉ [8]	**AOCBC-12** Adults with activity limitations due to chronic back conditions (age-adjusted per 1,000 population, 18+ years)	30.7 (2008)	32.1 (2014)	27.6		4.6%	No

Table 3–2. Midcourse Progress for Measurable[1] Arthritis, Osteoporosis, and Chronic Back Conditions Objectives—Continued

NOTES

See HealthyPeople.gov for all Healthy People 2020 data. The Technical Notes provide more information on the measures of progress.

FOOTNOTES

[1]**Measurable** objectives had a national baseline value.
Target met or exceeded:
   [2]At baseline the target was not met or exceeded and the midcourse value was equal to or exceeded the target. (The percentage of targeted change achieved was equal to or greater than 100%.)
   [3]The baseline and midcourse values were equal to or exceeded the target. (The percentage of targeted change achieved was not assessed.)
Improving:
   [4]Movement was toward the target, standard errors were available, and the percentage of targeted change achieved was statistically significant.
   [5]Movement was toward the target, standard errors were not available, and the objective had achieved 10% or more of the targeted change.
Little or no detectable change:
   [6]Movement was toward the target, standard errors were available, and the percentage of targeted change achieved was not statistically significant.
   [7]Movement was toward the target, standard errors were not available, and the objective had achieved less than 10% of the targeted change.
   [8]Movement was away from the baseline and target, standard errors were available, and the percentage change relative to the baseline was not statistically significant.
   [9]Movement was away from the baseline and target, standard errors were not available, and the objective had moved less than 10% relative to the baseline.
   [10]There was no change between the baseline and the midcourse data point.
Getting worse:
   [11]Movement was away from the baseline and target, standard errors were available, and the percentage change relative to the baseline was statistically significant.
   [12]Movement was away from the baseline and target, standard errors were not available, and the objective had moved 10% or more relative to the baseline.
[13]**Baseline only:** The objective only had one data point, so progress toward target attainment could not be assessed.
[14]**Informational:** A target was not set for this objective, so progress toward target attainment could not be assessed.

FOOTNOTES—Continued

[15]For objectives that **moved toward** their targets, movement toward the target was measured as the percentage of targeted change achieved (unless the target was already met or exceeded at baseline):

$$\text{Percentage of targeted change achieved} = \frac{\text{Midcourse value} - \text{Baseline value}}{\text{HP2020 target} - \text{Baseline value}} \times 100$$

[16]For objectives that **moved away** from their baselines and targets, movement away from the baseline was measured as the magnitude of the percentage change from baseline:

$$\text{Magnitude of percentage change from baseline} = \frac{|\text{ Midcourse value} - \text{Baseline value }|}{\text{Baseline value}} \times 100$$

[17]Statistical significance was tested when the objective had a target and at least two data points, standard errors of the data were available, and a normal distribution could be assumed. Statistical significance of the percentage of targeted change achieved or the magnitude of the percentage change from baseline was assessed at the 0.05 level using a normal one-sided test.

DATA SOURCES

AOCBC-1	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-2	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-3.1	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-3.2	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-3.3	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-3.4	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-4	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-5	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-6.1	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-6.2	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-7.1	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-7.2	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-8	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-9	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-10	National Health and Nutrition Examination Survey (NHANES), CDC/NCHS
AOCBC-11.1	National Hospital Discharge Survey (NHDS), CDC/NCHS
AOCBC-11.2	National Hospital Discharge Survey (NHDS), CDC/NCHS
AOCBC-12	National Health Interview Survey (NHIS), CDC/NCHS

Table 3–3. Midcourse Health Disparities[1] for Population-based Arthritis, Osteoporosis, and Chronic Back Conditions Objectives

Most favorable (least adverse) and least favorable (most adverse) group rates and summary disparity ratios[2,3] for selected characteristics at the midcourse data point

LEGEND

At the midcourse data point

- ◼ (blue) Group with the most favorable (least adverse) rate
- ◼ (red) Group with the least favorable (most adverse) rate
- ◻ (gray) Data are available, but this group did not have the highest or lowest rate.
- ◻ (white) Data are not available for this group because the data were statistically unreliable, not collected, or not analyzed.

Characteristics and Groups

The following table gives the Summary Disparity Ratio for each characteristic. Cell color coding: B = most favorable (blue), R = least favorable (red), G = data available but not highest/lowest (gray), W = data not available (white).

Population-based Objectives	Sex (Male, Female)	Summary Disparity Ratio[2]	Race and Ethnicity (Amer. Indian/Alaska Native, Asian, Native Hawaiian/other Pacific Islander, Two or more races, Hispanic/Latino, Black not Hispanic, White not Hispanic)	Summary Disparity Ratio[3]	Education[4] (Less than high school, High school graduate, At least some college, Associate's degree, 4-year college, Advanced degree)	Summary Disparity Ratio[3]	Family Income[5] (Poor, Near-poor, Middle, Near-high, High)	Summary Disparity Ratio[3]	Disability (Persons with disabilities, Persons without disabilities)	Summary Disparity Ratio[2]	Location (Metropolitan, Nonmetropolitan)	Summary Disparity Ratio[2]
Arthritis												
AOCBC-1 Mean level of joint pain among adults with arthritis (age-adjusted, mean, 18+ years) (2014)	B, R	1.130*	G, B, R, G, G, G, G	1.280*	R, G, G, G, G, B	1.217*	R, G, G, G, B	1.302*	R, B	1.277*	B, R	1.031
AOCBC-2 Adults with activity limitations due to arthritis (age-adjusted, percent, 18+ years) (2014)	B, R	1.173*	B, G, W, R, G, G, G	1.214	R, G, G, G, B, G	1.337*	R, G, G, G, B	1.907*	W, W		R, B	1.022
AOCBC-3.1 Adults with arthritis who have difficulty walking a quarter mile (age-adjusted, percent, 18+ years) (2014)	B, R	1.194*	G, B, W, W, G, R, G	1.773*	R, G, G, G, B, W	1.991*	R, G, G, G, B	3.710*	W, W		B, R	1.292*
AOCBC-3.2 Adults with arthritis who have difficulty climbing 10 steps without resting (age-adjusted, percent, 18+ years) (2014)	B, R	1.409*	G, B, W, G, G, R, G	2.003*	G, R, G, G, B, G	2.172*	R, G, G, G, B	4.404*	W, W		B, R	1.381*
AOCBC-3.3 Adults with arthritis who have difficulty stooping, bending, or kneeling (age-adjusted, percent, 18+ years) (2014)	B, R	1.349*	G, W, W, B, G, R, G	1.435	R, G, G, G, B, W	1.684*	R, G, G, G, B	2.642*	W, W		B, R	1.189*
AOCBC-3.4 Adults with arthritis who have difficulty grasping or handling small objects (age-adjusted, percent, 18+ years) (2014)	B, R	1.046	W, W, W, W, R, G, B	1.723*	R, G, G, B, G, W	3.557*	R, G, B, W, W	1.783*	W, W		B, R	1.524*
AOCBC-4 Personal care limitations in adults with arthritis (age-adjusted, percent, 18+ years) (2014)	B, R	1.426	W, W, W, W, R, B, G	1.820*	R, G, G, G, G, B	4.676*	R, R, G, B, G	3.921*	W, W		B, R	1.414

Table 3–3. Midcourse Health Disparities[1] for Population-based Arthritis, Osteoporosis, and Chronic Back Conditions Objectives—Continued

Most favorable (least adverse) and least favorable (most adverse) group rates and summary disparity ratios[2,3] for selected characteristics at the midcourse data point

LEGEND

At the midcourse data point — ■ Group with the most favorable (least adverse) rate — ■ Group with the least favorable (most adverse) rate — ▭ Data are available, but this group did not have the highest or lowest rate. — ▯ Data are not available for this group because the data were statistically unreliable, not collected, or not analyzed.

Population-based Objectives	Sex		Summary Disparity Ratio[2]	Race and Ethnicity							Summary Disparity Ratio[3]	Education[4]						Summary Disparity Ratio[3]	Family Income[5]					Summary Disparity Ratio[3]	Disability		Summary Disparity Ratio[2]	Location		Summary Disparity Ratio[2]
	Male	Female		American Indian or Alaska Native	Asian	Native Hawaiian or other Pacific Islander	Two or more races	Hispanic or Latino	Black, not Hispanic	White, not Hispanic		Less than high school	High school graduate	At least some college	Associate's degree	4-year college	Advanced degree		Poor	Near-poor	Middle	Near-high	High		Persons with disabilities	Persons without disabilities		Metropolitan	Nonmetropolitan	
Arthritis—Continued																														
AOCBC-5 Serious psychological distress in adults with arthritis (age-adjusted, percent, 18+ years) (2014)			1.168								1.605*							2.909*						2.450*						1.073
AOCBC-6.1 Unemployment rate among adults with arthritis (age-adjusted, percent, 18–64 years) (2014)			1.408*								1.555							2.373*						2.783*			3.050*			1.246*
AOCBC-6.2 Adults with arthritis limited in their ability to work for pay (age-adjusted, percent, 18–64 years) (2014)			1.228*								1.517							1.893*						2.549*						1.222*
AOCBC-7.1 Overweight/obese adults with arthritis counseled for weight reduction (age-adjusted, percent, 18+ years) (2014)			1.199*								1.260							1.083						1.065			1.223*			1.127*
AOCBC-7.2 Adults with arthritis counseled for physical activity or exercise (age-adjusted, percent, 18+ years) (2014)			1.078*								1.135							1.062						1.054			1.031			1.074
AOCBC-8 Adults with arthritis receiving arthritis education (age-adjusted, percent, 18+ years) (2014)			1.079								1.107							1.339						1.125			1.478*			1.402*
AOCBC-9 Adults with chronic joint symptoms seeing a health care provider for their symptoms (age-adjusted, percent, 18+ years) (2014)			1.065*								1.117							1.044						1.019			1.218*			1.027

Table 3–3. Midcourse Health Disparities[1] for Population-based Arthritis, Osteoporosis, and Chronic Back Conditions Objectives—Continued

Most favorable (least adverse) and least favorable (most adverse) group rates and summary disparity ratios[2,3] for selected characteristics at the midcourse data point

LEGEND

At the midcourse data point	▮ (blue) Group with the most favorable (least adverse) rate	▮ (red) Group with the least favorable (most adverse) rate	▯ (gray) Data are available, but this group did not have the highest or lowest rate.	▯ (white) Data are not available for this group because the data were statistically unreliable, not collected, or not analyzed.

Characteristics and Groups

Population-based Objectives	Sex			Race and Ethnicity								Education[4]							Family Income[5]						Disability			Location		
	Male	Female	**Summary Disparity Ratio[2]**	American Indian or Alaska Native	Asian	Native Hawaiian or other Pacific Islander	Two or more races	Hispanic or Latino	Black, not Hispanic	White, not Hispanic	**Summary Disparity Ratio[3]**	Less than high school	High school graduate	At least some college	Associate's degree	4-year college	Advanced degree	**Summary Disparity Ratio[3]**	Poor	Near-poor	Middle	Near-high	High	**Summary Disparity Ratio[3]**	Persons with disabilities	Persons without disabilities	**Summary Disparity Ratio[2]**	Metropolitan	Nonmetropolitan	**Summary Disparity Ratio[2]**
Osteoporosis																														
AOCBC-10 Adults with osteoporosis (age-adjusted, percent, 50+ years) (2005–2008)	▮	▮	4.381*	▯	▯	▯	▯	a	▮	▯	1.621*	▮	▯	b	▯	▮ c	▯	1.606*	▮	▯	▯	▯	▮ d	2.319*	▮ e	▮ f	1.686*	▯	▯	
Chronic Back Conditions																														
AOCBC-12 Adults with activity limitations due to chronic back conditions (age-adjusted, per 1,000 population, 18+ years) (2014)	▮	▮	1.073	▯	▮	▯	▮	▯	▯	▯	3.309*	▮	▯	▯	▯	▯	▮	2.480*	▮	▯	▯	▯	▮	3.654*	▯	▯		▮	▮	1.588*

Table 3–3. Midcourse Health Disparities[1] for Population-based Arthritis, Osteoporosis, and Chronic Back Conditions Objectives—Continued

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NOTES

See HealthyPeople.gov for all Healthy People 2020 data. The Technical Notes provide more information on the measures of disparities.

FOOTNOTES

[1]**Health disparities** were assessed among population groups within specified demographic characteristics (sex, race and ethnicity, educational attainment, etc.). This assessment did not include objectives that were not population-based, such as those based on states, worksites, or those monitoring the number of events.

[2]When there were only two groups (e.g., male and female), the **summary disparity ratio** was the ratio of the higher to the lower rate.

[3]When there were three or more groups (e.g., white non-Hispanic, black non-Hispanic, Hispanic) and the most favorable rate (R_b) was the highest rate, the **summary disparity ratio** was calculated as R_b/R_a, where R_a = the average of the rates for all other groups. When there were three or more groups and the most favorable rate was the lowest rate, the summary disparity ratio was calculated as R_a/R_b.

[4]Unless otherwise footnoted, data do not include persons under age 25 years.

[5]Unless otherwise footnoted, the poor, near-poor, middle, near-high, and high income groups are for persons whose family incomes were less than 100%, 100%–199%, 200%–399%, 400%–599%, and at or above 600% of the poverty threshold, respectively.

*The summary disparity ratio was significantly greater than 1.000. Statistical significance was assessed at the 0.05 level using a normal one-sided test on the natural logarithm scale.

FOOTNOTES—Continued

[a]Data are for Mexican-American persons.
[b]Data are for persons who completed some college or received an associate's degree.
[c]Data are for persons who graduated from college or above.
[d]Data are for persons whose family income was 500% or more of the poverty threshold.
[e]Data are for persons with activity limitations.
[f]Data are for persons without activity limitations.

DATA SOURCES

AOCBC-1	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-2	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-3.1	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-3.2	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-3.3	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-3.4	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-4	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-5	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-6.1	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-6.2	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-7.1	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-7.2	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-8	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-9	National Health Interview Survey (NHIS), CDC/NCHS
AOCBC-10	National Health and Nutrition Examination Survey (NHANES), CDC/NCHS
AOCBC-12	National Health Interview Survey (NHIS), CDC/NCHS