Midcourse Review

HEALTHY PEOPLE 2010

Immunization and Infectious Diseases

14

Lead Agency:

Centers for Disease Control and Prevention

Contents

Goal: Prevent disease, disability, and death from infectious diseases, including vaccine-preventable diseases.

Introduction*

Infectious diseases remain a major cause of illness, disability, and death.[1] They impose a tremendous burden on society, both physically and financially.[1] Proper use of antibiotics, improvements in diagnostic tests, local health department activities, and vaccines are important defenses against infectious diseases.

Several objectives of the Immunization and Infectious Diseases focus area made progress since the launch of Healthy People 2010. This progress contributed toward achieving the two Healthy People 2010 overarching goals of increasing quality and years of healthy life and eliminating health disparities. A number of objectives reached their targets, including those related to diphtheria, polio, hepatitis, bacterial meningitis, pneumococcal infections, meningococcal disease, group B streptococcal disease, hospital-acquired infections, immunization rates of children, and vaccine safety. Meanwhile, the disparity gap within a number of the immunization and infectious diseases objectives lessened.

Modifications to Objectives and Subobjectives

The following discussion highlights the modifications, including changes, additions, and deletions, to this focus area's objectives and subobjectives as a result of the midcourse review.

Chronic hepatitis C became a nationally notifiable disease in January 2003. The objective for identifying persons with chronic hepatitis C infection (14-10) was changed from monitoring the proportion of persons with chronic hepatitis C to the number of States and the District of Columbia that report these persons. States began reporting hepatitis C cases as they established laboratory reporting and developed registries.

Objective 14-13 was reworded from "increase the proportion of contacts and other high-risk persons with latent tuberculosis infection who complete a course of treatment" to "increase the proportion of persons with latent tuberculosis infection who complete a course of treatment."

Monitoring antibiotic use in intensive care units (ICUs) (14-21) was changed to focus exclusively on vancomycin use. A focus on vancomycin as a specific antimicrobial agent rather than a varying collection of antimicrobials is important because vancomycin is a last line of defense in combating some infections.

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* Unless otherwise noted, data referenced in this focus area come from Healthy People 2010 and can be located at http://wonder.cdc.gov/data2010. See the section on DATA2010 in the Technical Appendix for more information.

Two subobjectives were added for effective vaccination coverage levels for universally recommended vaccines among children aged 19 to 35 months: four doses of pneumococcal vaccine (14-22g) and one dose of influenza vaccine (recommended for children aged 6 to 23 months) (14-22h). In response to recommendations for new vaccines from the Advisory Committee on Immunization Practices (ACIP),[2] two subobjectives were added to vaccination coverage for children in day care. The first (14-23k) monitors pneumococcal conjugate vaccine, and the second (14-23l) tracks *Haemophilus influenzae* type (Hib) vaccine. Objective 14-25 was reworded from "increase the proportion of providers who have measured the vaccination coverage levels among children in their practice population within the past 2 years" to "increase the proportion of providers who have had vaccination coverage levels among children in their practice population measured within the past 2 years." In addition, a new subobjective was added to track influenza vaccine rates of health care workers (14-29g).

To reflect the commitment of the U.S. Department of Health and Human Services (HHS) to the safety of vaccines, objective 14-31 was modified to "increase the scientific knowledge on vaccines and adverse events," and two subobjectives were added. Subobjective 14-31a aims to increase the number of persons under active surveillance for vaccine safety (previously 14-31, now 14-31a). Subobjective 14-31b seeks to increase the proportion of total Vaccine Adverse Event Reporting System (VAERS) reports submitted electronically. VAERS serves as the national surveillance system for detecting possible new vaccine safety concerns.[3]

As stated in *Healthy People 2010*: "Most developmental objectives have a potential data source with a reasonable expectation of data points by the year 2004 to facilitate setting 2010 targets in the mid-decade review. Developmental objectives with no baseline at the midcourse will be dropped." Accordingly, at the midcourse review, the objective for prevention services for international travelers (14-15) was deleted because it lacked a data source. However, HHS and the agencies that serve as the leads for the Healthy People 2010 initiative will consider ways to ensure that these public health issues retain prominence despite the current lack of data.

Progress Toward Healthy People 2010 Targets

The following discussion highlights objectives that met or exceeded their 2010 targets; moved toward the targets, demonstrated no change, or moved away from the targets; and those that lacked data to assess progress. Progress is illustrated in the Progress Quotient bar chart (see Figure 14-1), which displays the percent of targeted change achieved for objectives and subobjectives with sufficient data to assess progress.

Objectives that met or exceeded their targets. Twenty-three of the 67 objectives and subobjectives with tracking data met or exceeded their targets. These objectives represent each of the five subsections within this focus area: diseases preventable through universal vaccination, diseases preventable through targeted vaccination, infectious diseases and emerging antimicrobial resistance, vaccination coverage and strategies, and vaccine safety.

Six objectives and subobjectives relating to diseases preventable through vaccination achieved or exceeded their targets. The targets for reducing cases of diphtheria in persons under 35 years of age (14-1b), polio in persons of all ages (14-1h), and hepatitis B in occupationally exposed workers (14-3g) were met. Also, bacterial meningitis among children aged 1 to 23 months (14-4) exceeded its target of 8.6 cases, declining from a baseline of 13.0 new cases per 100,000 children aged 1 to 23 months in 1998 to 8.0 new cases in

2002. The targets for reducing new cases of invasive pneumococcal infections and penicillin-resistant pneumococcal infections in children under 5 years of age (14-5a and c) were exceeded.

The target for reducing new cases of hepatitis A (14-6) was surpassed. Between 1997 and 2003, the rate fell from 11.2 new cases per 100,000 population to 2.6 cases per 100,000 population—below the target of 4.3 cases. This decline reflects the impact of routine vaccination of children in States that historically had elevated rates of hepatitis A.[4] In October 2005, ACIP voted to expand the recommendations for hepatitis A vaccination to include routine vaccination of all children 12 to 23 months of age. The rate for meningococcal disease among all age groups (14-7) exceeded its target.

Four objectives and subobjectives concerning infectious diseases and emerging antimicrobial resistance met or exceeded their targets. Invasive early onset group B streptococcal (GBS) disease (14-16) decreased, exceeding its target in 2002. The use of intrapartum antibiotic prophylaxis among women colonized late in pregnancy with GBS has contributed to the progress.[5] To further facilitate progress, the Centers for Disease Control and Prevention (CDC) is monitoring and improving the implementation of universal prenatal GBS screening recommendations.[6] States are performing various supportive activities to decrease GBS disease. Some States have made perinatal GBS disease a reportable condition, and 11 States have adopted GBS-related questions available through the Pregnancy Risk Assessment and Management Survey, which will allow them to monitor prevention implementation. With the evaluation of labor and delivery records from 2003 and 2004, partner States that participate in the Emerging Infections Program will be able to identify missed opportunities for prevention and problems with implementation.[7]

ICU-acquired infections (14-20) also decreased and met the target. Catheter-associated urinary tract infection (14-20a), central-line associated bloodstream infection (14-20b), and central-line associated bloodstream infection in neonatal ICU infants weighing less than 1,000 grams (14-20d) exceeded their targets. Subobjective 14-20d achieved 133 percent of its targeted change. This reduction may be the result of efforts to focus on compliance with prevention practices and guidelines that have been proven effective.[8]

Nine subobjectives within vaccination coverage and strategies met or exceeded their targets. Vaccine coverage rates for children aged 19 to 35 months for *Haemophilus influenzae* type B (14-22b), hepatitis B (14-22c), measles-mumps-rubella (MMR) (14-22d), and polio (14-22e) met or exceeded their targets. The subobjectives with sufficient data to measure immunization progress for diphtheria-tetanus-acellular pertussis (DTaP) (14-23a), MMR (14-23b), and polio vaccine (14-23c) coverage rates of children in day care (14-23) achieved their targets. These results may be due to education and programmatic efforts made by health care providers, public- and private-sector partners, State and local government agencies, and Federal agencies such as CDC. Among children in day care, 95 percent were covered by DTaP (14-23a), and 96 percent were covered by the polio vaccine (14-23c). Immunization coverage rates in adolescents aged 13 to 15 years for MMR vaccine (14-27b) and tetanus-diphtheria booster (14-27c) both met their targets.

Finally, two subobjectives monitoring vaccine safety met or exceeded their targets. Vaccine-associated paralytic polio (14-30a) dropped from five cases in 1997 to zero in 2000. Between 1998 and 2001, febrile seizures following pertussis vaccination (14-30b) dropped from 152 cases to 53 cases, below the target of 75 cases. However, febrile seizures following pertussis vaccination (14-30b) has seen considerable upward and downward fluctuation over the past 5 years. This latest measurement representing a decline may not be representative of the overall trend.

Objectives that moved toward their targets. Similar to the range of measures that met or exceeded their targets, the 39 objectives and subobjectives that moved toward their targets span most of the sections of this focus area.

Fourteen objectives and subobjectives from the section related to diseases preventable through universal vaccination made progress in the first half of the decade. Many were subobjectives related to cases of vaccine-preventable diseases: congenital rubella syndrome (14-1a), hepatitis B in persons aged 2 to 18 years (14-1d), measles (14-1e), mumps (14-1f), rubella (14-1i), tetanus (14-1j), and varicella (14-1k). Although the elimination of measles (14-1e) did not meet its target of zero cases, the disease has not been considered endemic in the United States since 2000.[9] Cases of rubella (14-1i) declined to seven cases in 2003, approaching its target of zero cases. Absence of transmission of rubella virus is supported by a pattern of virus genotypes consistent with rubella virus originating in other parts of the world.

Cases of chronic hepatitis B virus infections in infants and children aged 2 years and under (14-2) declined, achieving 63 percent of the targeted change. Cases of acute hepatitis B also decreased for other populations: 19- to 24-year-olds (14-3a) achieved 58 percent of the targeted change, 25- to 39-year-olds (14-3b) achieved 41 percent, and persons aged 40 years and older (14-3c) achieved 67 percent. Within specific risk groups, the number of hepatitis B cases among injection drug users (14-3d) declined, and this objective achieved 75 percent of the targeted change; the number of cases among heterosexually active persons (14-3e) achieved 61 percent. While the number of cases among occupationally exposed workers (14-3g) declined and the subobjective met its target, the number of cases among men who have sex with men (14-3f) increased, and this subobjective moved away from its target.

Numerous activities are in place to support hepatitis B-related objectives. Efforts are also focused on implementing national perinatal hepatitis B prevention programs and the routine hepatitis B vaccination of children. Recommendations have also been developed to increase hepatitis B vaccination of adults at risk of infection and are an important component of the national strategy to eliminate hepatitis B virus infection.[10]

Invasive pneumococcal infections in older adults (14-5b) improved and came close to meeting its target of 42 cases per 100,000 persons aged 65 years or older, achieving 95 percent of the targeted change.

Six objectives related to infectious diseases and emerging antimicrobial resistance progressed toward their targets, including objectives regarding hepatitis C (14-9), tuberculosis (TB) (14-11) and curative therapy for TB (14-12), peptic ulcer hospitalizations (14-17), and antibiotics prescribed for ear infections (14-18) and the common cold (14-19).

Cases of acute hepatitis C (14-9) achieved 60 percent of its targeted change by 2003, approaching its target of 1 new case per 100,000 population. Through CDC, HHS continues to implement the *National Hepatitis C Prevention Strategy*.[11] Furthermore, more than half of all States have developed or are preparing comprehensive viral hepatitis prevention plans. The use of existing public health programs and facilities—such as sexually transmitted disease and AIDS treatment facilities, HIV/AIDS counseling and testing sites, and drug treatment programs—will help reach more persons at risk.

Progress was made for total cases of TB (14-11) and curative therapy for the disease (14-12). After substantial progress between 1998 and 2002, the rate of decline in new cases of TB between 2002 and 2003 was small, raising concerns that progress toward TB elimination may be slowing.[12] In 2003, the rate for TB was 5.1 new cases per 100,000 population. Reaching the target of 1 new TB case per 100,000

population will require an acceleration of TB control efforts and better methods to reach underserved racial and ethnic populations. Increasingly, TB is being seen in foreign-born persons now residing in the United States. Case detection and management present challenges in this population due to financial, linguistic, and cultural barriers. Most TB control activities occur at State and local levels, and partners include TB programs in all U.S. States and Territories. Through CDC, HHS supports 50 State and 10 city health departments to implement evidence-based TB control measures. These measures are focused on detecting and treating persons with the disease, identifying and treating persons known to be exposed to persons with TB, and screening high-risk populations.[13]

Several other infectious diseases showed a decline in the rates of new cases. Timely identification and treatment of *Helicobacter pylori* stomach and duodenal infections improved. Consequently, the new cases of infection dropped, mostly among children. As a result, hospitalizations secondary to severe peptic ulcer disease (14-17) dropped from 71 hospitalizations per 100,000 population to 63 hospitalizations per 100,000 population.[14]

Reducing the number of courses of antibiotics prescribed for ear infections in children (14-18) moved toward its target. Efforts to reach this target are supported by the "Get Smart"[15] campaign. This effort addresses antibiotic use and guidelines issued by provider organizations regarding the treatment of children with ear infections when the treatment involves observation without a prescription of an antibiotic. The number of antibiotics prescribed for the common cold (14-19) also decreased, and the objective moved toward its target.

Eighteen objectives and subobjectives dealing with vaccination coverage and strategies made progress toward their targets. These included universally recommended vaccinations (14-22), fully immunized young children (14-24a), childhood vaccination coverage tracked by health care providers (14-25), children participating in population-based immunization registries (14-26), vaccination coverage among adolescents (14-27), hepatitis B vaccination among high-risk groups (14-28), and influenza and pneumococcal vaccination of high-risk adults (14-29).

Vaccination rates of all age groups demonstrated progress. Among children 19 to 35 months of age, achieving and maintaining effective vaccination coverage levels for universally recommended vaccines—including DTaP (14-22a), varicella (14-22f), and pneumococcal conjugate vaccine (PCV) (14-22g)—moved toward their targets. Because of these and other gains, the proportion of fully immunized young children (14-24a) achieved 29 percent of the targeted change.

Just as the objectives related to the vaccinations themselves are important, so are the objectives related to evidence-based strategies for raising vaccination coverage rates. The proportion of public and private health care providers who have measured childhood vaccination coverage levels (14-25) and the proportion of children participating in population-based immunization registries (14-26) moved toward their targets.

Subobjectives related to routine vaccination coverage levels for adolescents (14-27) also moved toward their targets. Hepatitis B vaccination in adolescents aged 13 to 15 years achieved 79 percent of its targeted change (14-27a), and varicella vaccine coverage (14-27d) for the same age group achieved 71 percent of its targeted change.

Children are not the only at-risk population among which vaccinations increased. Hepatitis B vaccination coverage in long-term hemodialysis patients (14-28a) achieved 46 percent of the targeted change, men who have sex with men (14-28b) achieved 8 percent, and occupationally exposed workers (14-28c) achieved 31 percent.

Influenza and pneumococcal vaccination of high-risk adults (14-29) also demonstrated progress. The subobjectives within this objective cover individuals 65 years and older and institutionalized persons aged 18 years and older. The increase in adult vaccination rates may have been influenced by the ACIP adult recommendation schedule, by the doubling of reimbursement for the administration of the influenza vaccine for Medicare recipients in 2002 by the Centers for Medicare & Medicaid Services (CMS), CMS's enabling the implementation of standing orders in long-term care facilities in 2003, the establishment of the National Influenza Vaccine Summit in 2001, and the inclusion of pneumococcal vaccine in national guidelines for care of persons with diabetes. Evidence suggests that giving pneumococcal vaccine to children has contributed to a decline in new cases of invasive pneumococcal disease in adults.[16]

A subobjective dealing with vaccine safety also progressed toward its target. Increasing the number of persons under active surveillance for vaccine safety via linked databases (14-31a) moved toward its target. In 2000, 8 million persons were being monitored, 5 million less than the target of 13 million. Concerns of health care management organizations about patient confidentiality may present a challenge to achieving this target.

Objectives that moved away from their targets. Five objectives and subobjectives moved away from their targets: cases of Hib (14-1c), cases of pertussis (14-1g), hepatitis B in men who have sex with men (14-3f), invasive penicillin-resistant pneumococcal infections in persons aged 65 years and older (14-5d), and Lyme disease (14-8).

Increasing numbers of invasive *Haemophilus influenzae* (Hi) infections caused by either Hib or Hi of unknown type were noted in children under age 5 years (14-1c). The number of cases of invasive Hi (14-1c) increased from 163 cases in 1998 to the most recent total of 259 cases in 2003.[17] One aspect of this increase can be attributed to a decrease in the proportion of reported invasive Hi infections in children under age 5 years who were typed from 55 percent in 1998 to 41 percent in 2003.[17] Furthermore, serotyping discrepancies—or differences in classification—between State and CDC surveillance laboratories exist.[18] Through CDC, HHS is working to encourage State health departments to collect the Hi isolates that cause invasive disease in children under age 5 years and forward them to CDC for classification confirmation. The number of cases of pertussis in children under 7 years of age (14-1g) increased, and the objective moved away from its target. A real increase in circulation of *Bordetella pertussis* may have occurred, but how much of this increase may reflect increased transmission and increased recognition, diagnosis, and reporting is difficult to assess. Recently, the first pertussis antigen-containing vaccines for persons over 6 years of age were licensed, and ACIP has recommended their use in adolescents and adults.[19]

Cases of hepatitis B among men who have sex with men (MSM) (14-3f) increased from a baseline of 5,209 cases in 1997 to 5,510 cases in 2003, moving away from the 2010 target of 1,302 cases. This change appears to be associated with a resurgence in unsafe sexual practices.[20]

Pneumococcal infections due to penicillin-resistant bacteria (14-5d) increased from 8 new cases per 100,000 persons aged 65 years and older in 1997 to 10 new cases in 2002, moving away from the target of 7 new cases per 100,000 persons aged 65 years and older. Antibiotic-resistant

pneumococci are spreading in part due to the overuse of antibiotics. Through CDC, HHS is working on improving coverage of the new PCV for young children and pneumococcal polysaccharide vaccine for high-risk adults.[21]

Within endemic States, annual cases of Lyme disease (14-8) climbed from a baseline of 17.4 new cases per 100,000 population to 32.5 new cases per 100,000 population. When the goal of 9.7 cases per 100,000 population was set in 2000, it was based on the availability of a Lyme disease vaccine. In February 2002, the only vaccine for Lyme disease licensed by the Food and Drug Administration was removed from the market by the manufacturer.[22] The absence of a viable vaccine for Lyme disease poses a significant obstacle to meeting the Healthy People 2010 target.

Objectives that could not be assessed. As of January 2005, no data were available to access progress on identification of persons with chronic hepatitis C (14-10) or universally recommended vaccine among adolescents (14-24b). Data beyond baseline were not available for treatment for latent TB infection (14-13), timely laboratory confirmation of TB cases (14-14), vancomycin use in intensive care units (14-21), ventilator-associated pneumonia in intensive-care-unit patients (14-20c) and infants weighing 1,000 grams or less at birth in intensive care (14-20e), vaccination coverage for children in licensed day care facilities (14-23d, e, and 1) and kindergarten (14-23f through k), hepatitis B coverage among MSM (14-28b), influenza vaccine for health care workers (14-29g), and electronically submitted reports of vaccine-adverse events (14-31b).

Progress Toward Elimination of Health Disparities

The following discussion highlights progress toward the elimination of health disparities. The disparities are illustrated in the Disparities Table (see Figure 14-2), which displays information about disparities among select populations for which data were available for assessment.

The relative lack of disparities in childhood vaccination coverage has been a successful outcome of the Childhood Immunization Initiative.[23] Since the beginning of the decade, substantial progress was made in eliminating racial and ethnic disparities for new cases of congenital rubella syndrome, measles, rubella, and mumps.[4, 24, 25, 26]

However, disparities still exist. The white non-Hispanic population had the best immunization rates of children aged 19 to 35 months for five of the seven antigens tracked (14-22), as well as the best rate for completed series (14-24a). The best rate for varicella immunization was observed in Hispanic children (14-22f), while Asian children had the best rate for PCV immunization (14-22g). Near-poor children aged 19 to 35 months had better immunization rates than poor children for the four subobjectives with significant disparities by income. Middle/high-income children had the best rate for completed immunization series (14-24a). Between 2002 and 2003, increases in disparity were seen for PCV immunization between American Indian or Alaska Native children and black non-Hispanic children and Asian children (14-22g).

Disparities between population rates for hepatitis A infections decreased (14-6). Rates for hepatitis A declined substantially between 1997 and 2003 for racial and ethnic populations, all of which achieved the 2010 target of 4.3 new cases per 100,000 population. The decline among the American Indian or Alaska Native population, which historically has had rates five or more times those of other racial and ethnic populations, was the largest. The rate for this population, which was more than 100 cases per 100,000 population in 1994,[27] had already declined to 22.7 new cases per 100,000 population by the 1997 baseline

and then continued to decline, reaching a rate of 1.2 new cases per 100,000 population in 2003. Rates for the Hispanic population also declined, substantially dropping from 23.4 new cases per 100,000 population in 1997 to 2.7 per 100,000 population in 2003. Nonetheless, the Hispanic population still had a rate more than twice that of the American Indian or Alaska Native (best) population. Reasons for this disparity are not certain, but a reduction through nationwide implementation of routine vaccination of all children aged 12 to 23 months of age is likely.

Hepatitis B rates for adults (aged 19 to 24 years, 25 to 39 years, and 40 years and older [14-3a, b, and c]) declined in most racial and ethnic populations. Among persons 19 to 39 years of age (14-3a and b), the Hispanic or Latino population had the best rates, while among persons aged 40 years and older (14-3c), the best rate was for the white non-Hispanic population. Substantial progress was made in reducing the disparity between the Asian and Pacific Islander population and the best group; the rate of the Asian and Pacific Islander population approached that of the best group for all three age categories. The black non-Hispanic and American Indian or Alaska Native populations continued to have rates that were generally at least twice that of the best population. Higher rates for the black non-Hispanic population and the American Indian or Alaska Native population may reflect the rate for high-risk behaviors, such as drug use in the context of communities where the underlying rate for infection is high.

The national Vaccines for Children program and Section 317 grants which provide hepatitis A[28] and hepatitis B[29] vaccinations for children and adolescents have been helpful in eliminating disparities.[10, 30, 31] While universal vaccination of infants and young children against hepatitis A and hepatitis B will ultimately reduce the remaining disparities, targeted vaccination of adults in risk populations may help achieve the targets sooner.

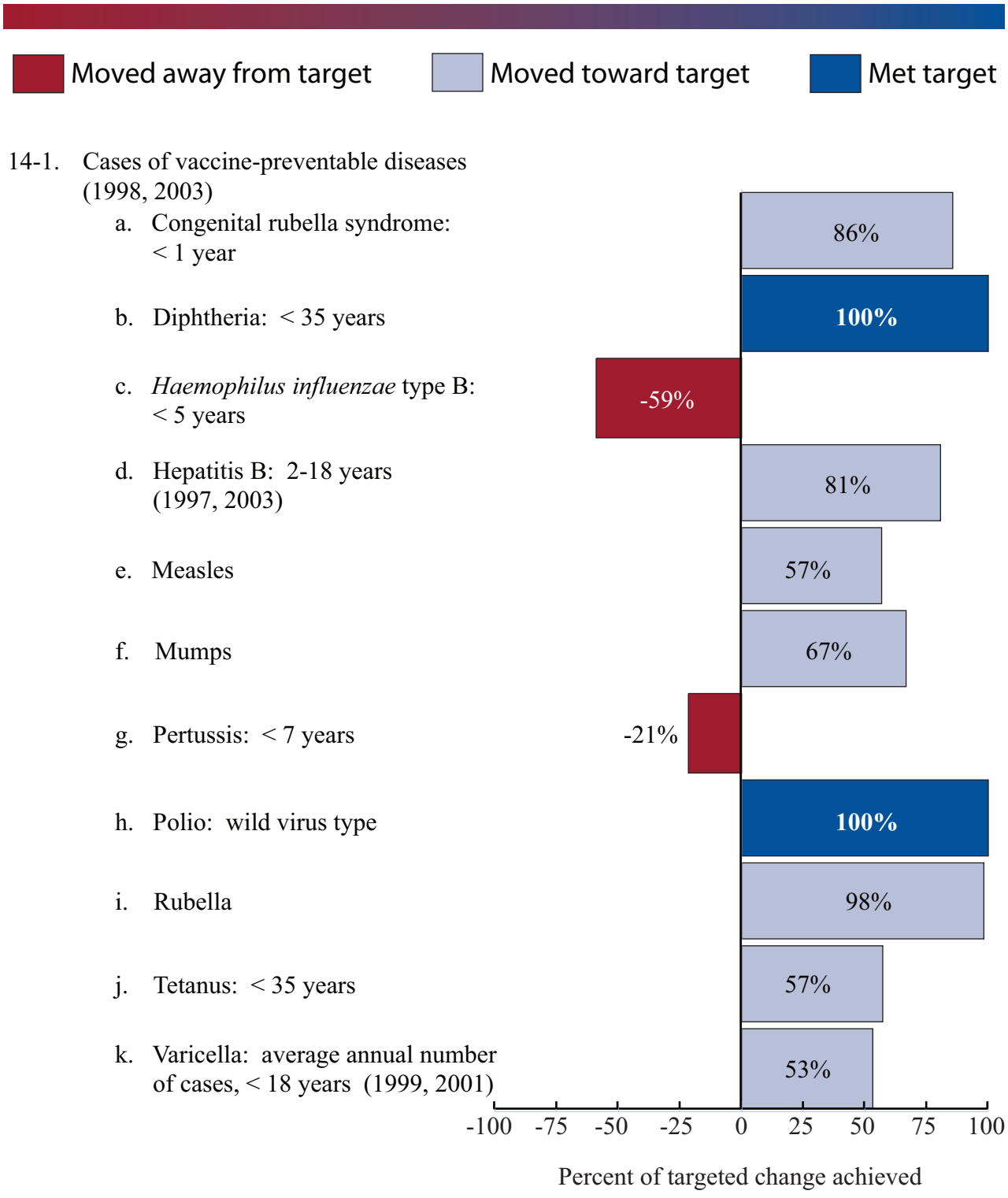
The black population also continued to have persistent disparities for several other infectious disease objectives. Rates for invasive pneumococcal infections (14-5) demonstrated disparity gaps ranging from 20 percent to greater than 100 percent from the best group rates. While the reasons behind the disparities in disease rates are unclear, introduction of a new pneumococcal vaccine for children in 2000 is helping to reduce the disparity in invasive pneumococcal infections among children under 5 years of age. However, during the period of 1997 to 2002, disparities between the black population and the best group increased for invasive pneumococcal infections in the population aged 65 years and older (14-5b) and penicillin-resistant pneumococcal infections in children under 5 years of age (14-5c).[32] Cases of invasive early onset group B streptococcal disease (14-16) also showed a disparity of more than 100 percent between the black and white (best) populations. While rates for both populations declined between 1996 and 2002, the disparity gap widened.

TB (14-11) was another area where large disparities continued to exist across multiple racial and ethnic populations. The rates for other racial and ethnic populations were more than 100 percent higher than the white non-Hispanic (best) population rate, and disparities increased for the Hispanic and black non-Hispanic populations. Understanding and eliminating racial and ethnic disparities in TB will require identifying and targeting populations at high risk for TB; remaining actively involved in global efforts against TB; maintaining adequate resources; and developing new diagnostic tests, new treatments, and an effective vaccine.[33]

Emerging Issues

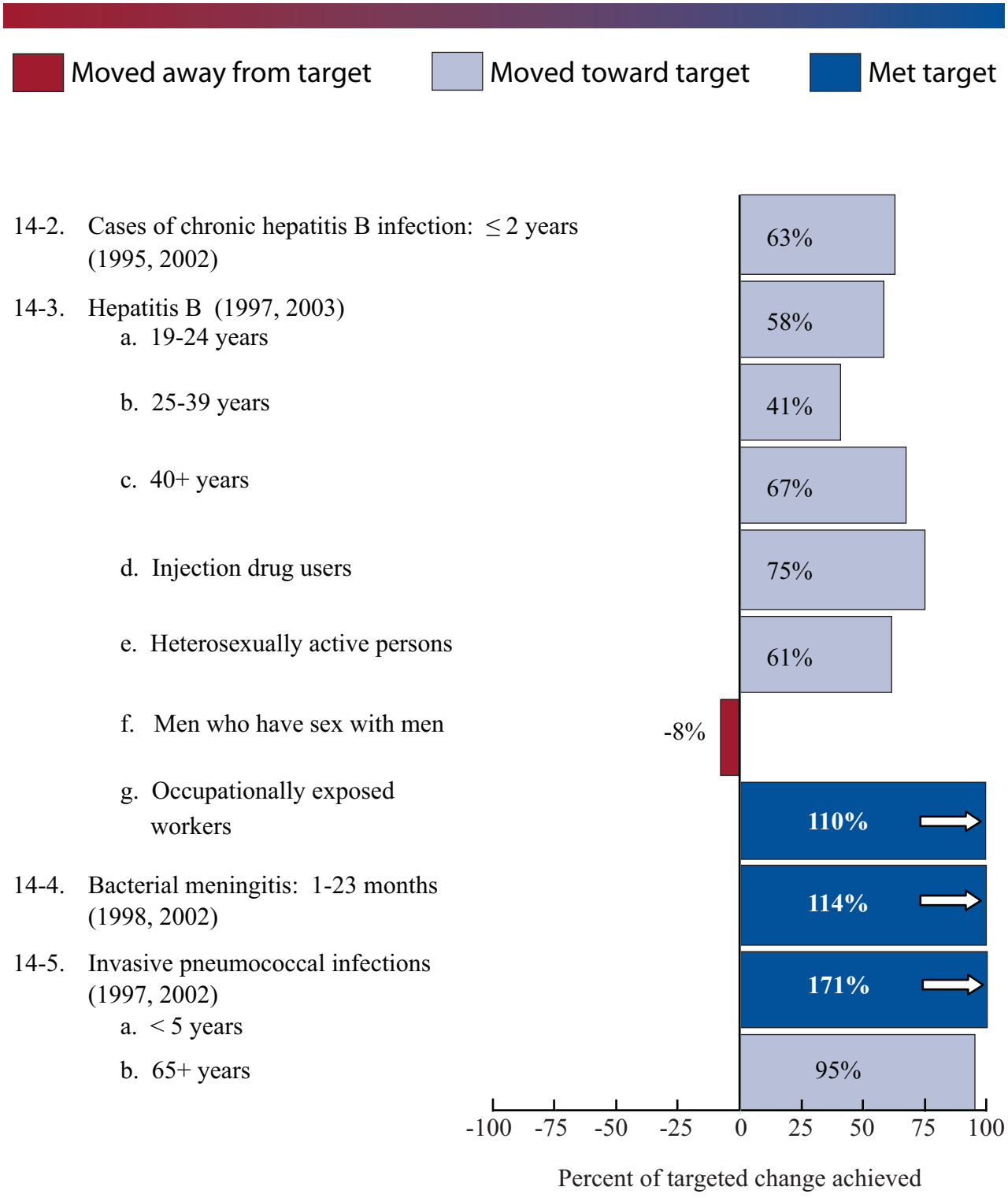
The development of new vaccines and the evolution of the vaccine recommendations create opportunities for better health. At the same time, these changes pose challenges for immunization programs. Immunization programs have been faced with implementing a considerable number of new vaccine recommendations, including expanded recommendations for influenza vaccines, a new meningococcal vaccine, and a new pertussis-containing vaccine for adolescents. These opportunities and challenges will continue as vaccines are licensed in future years.

Figure 14-1. Progress Quotient Chart for Focus Area 14: Immunization and Infectious Diseases



See notes at end of chart. *(continued)*

Figure 14-1. *(continued)*



See notes at end of chart. *(continued)*

Figure 14-1. *(continued)*

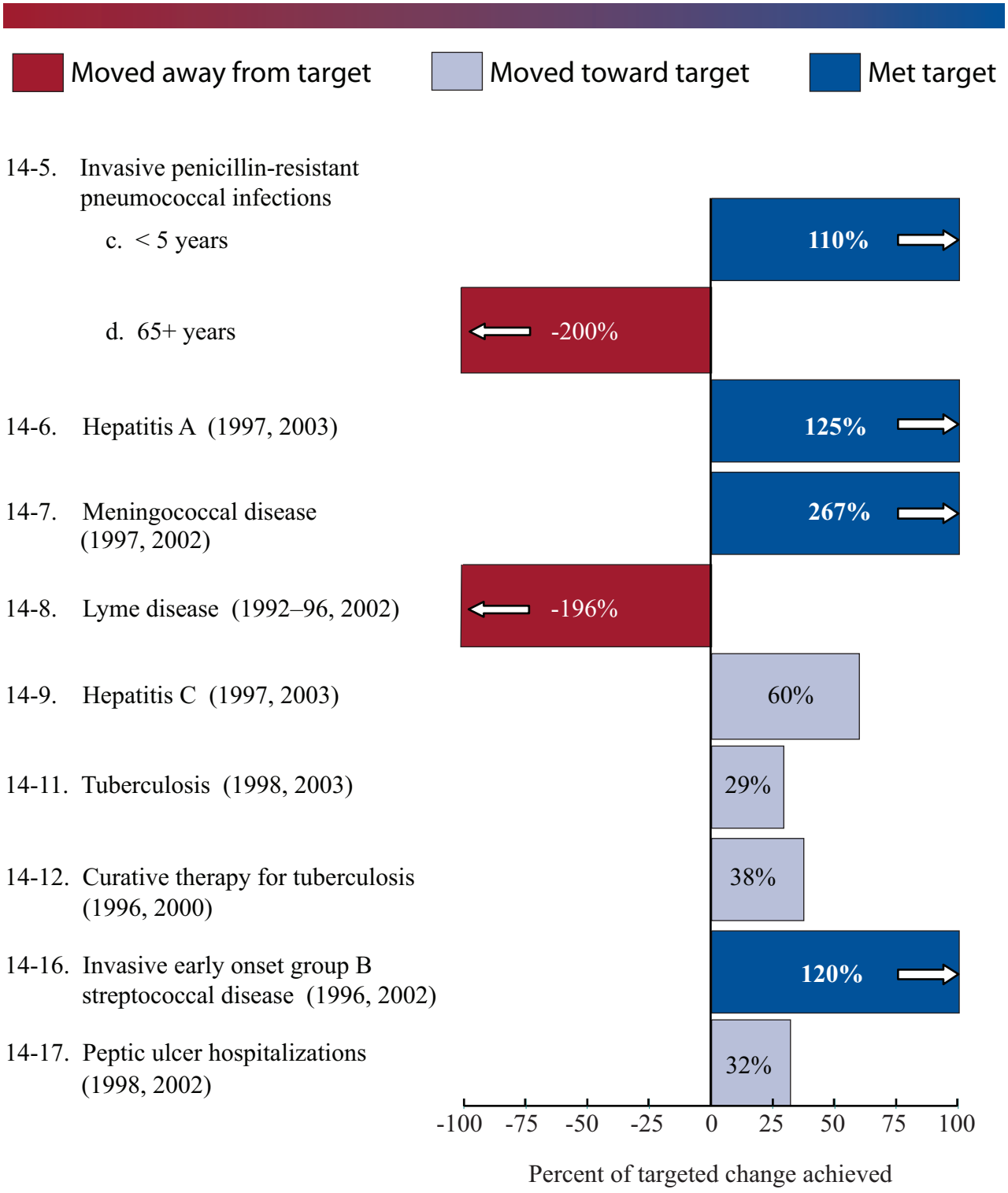


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Figure 14-1. *(continued)*

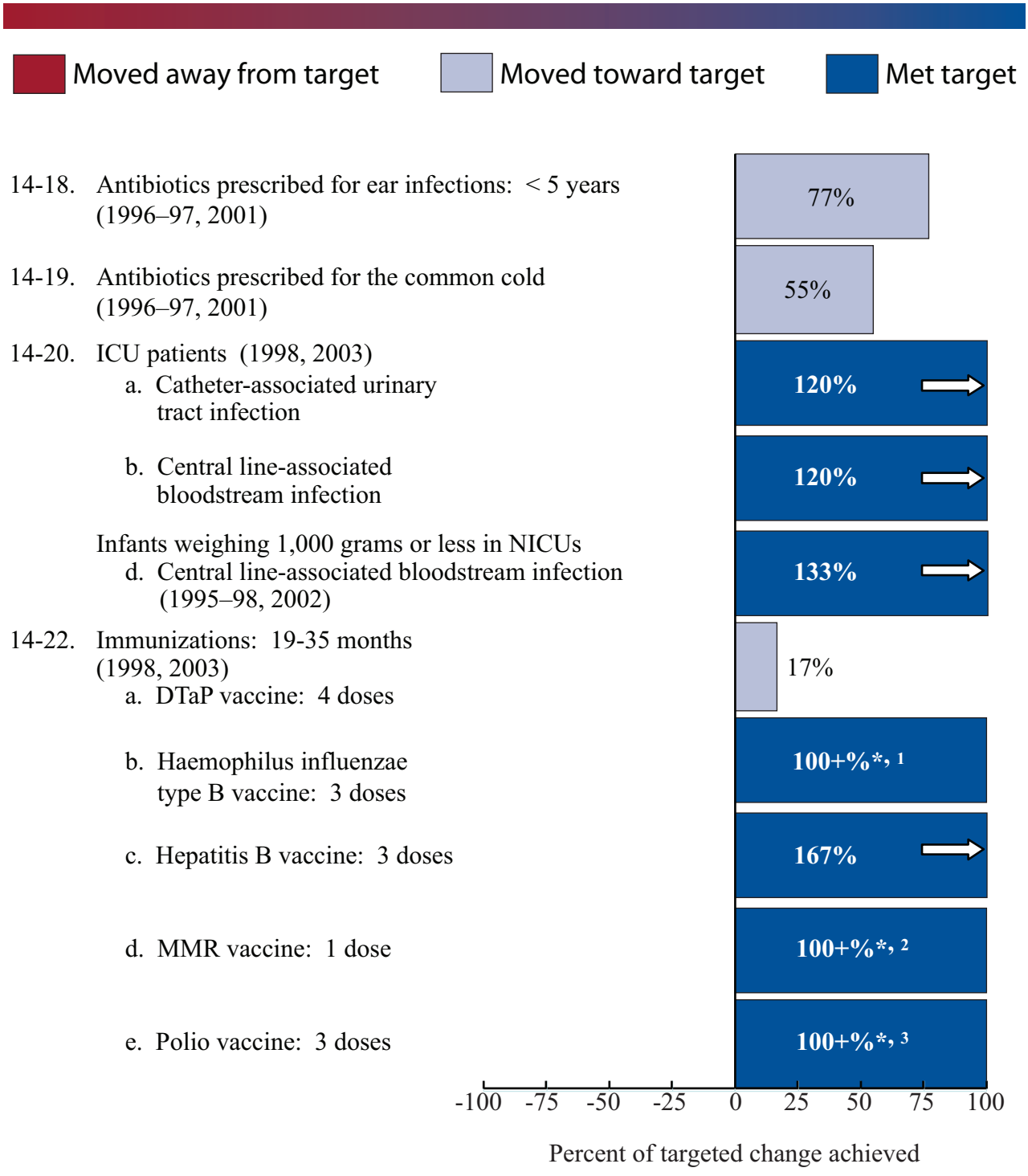

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Figure 14-1. *(continued)*

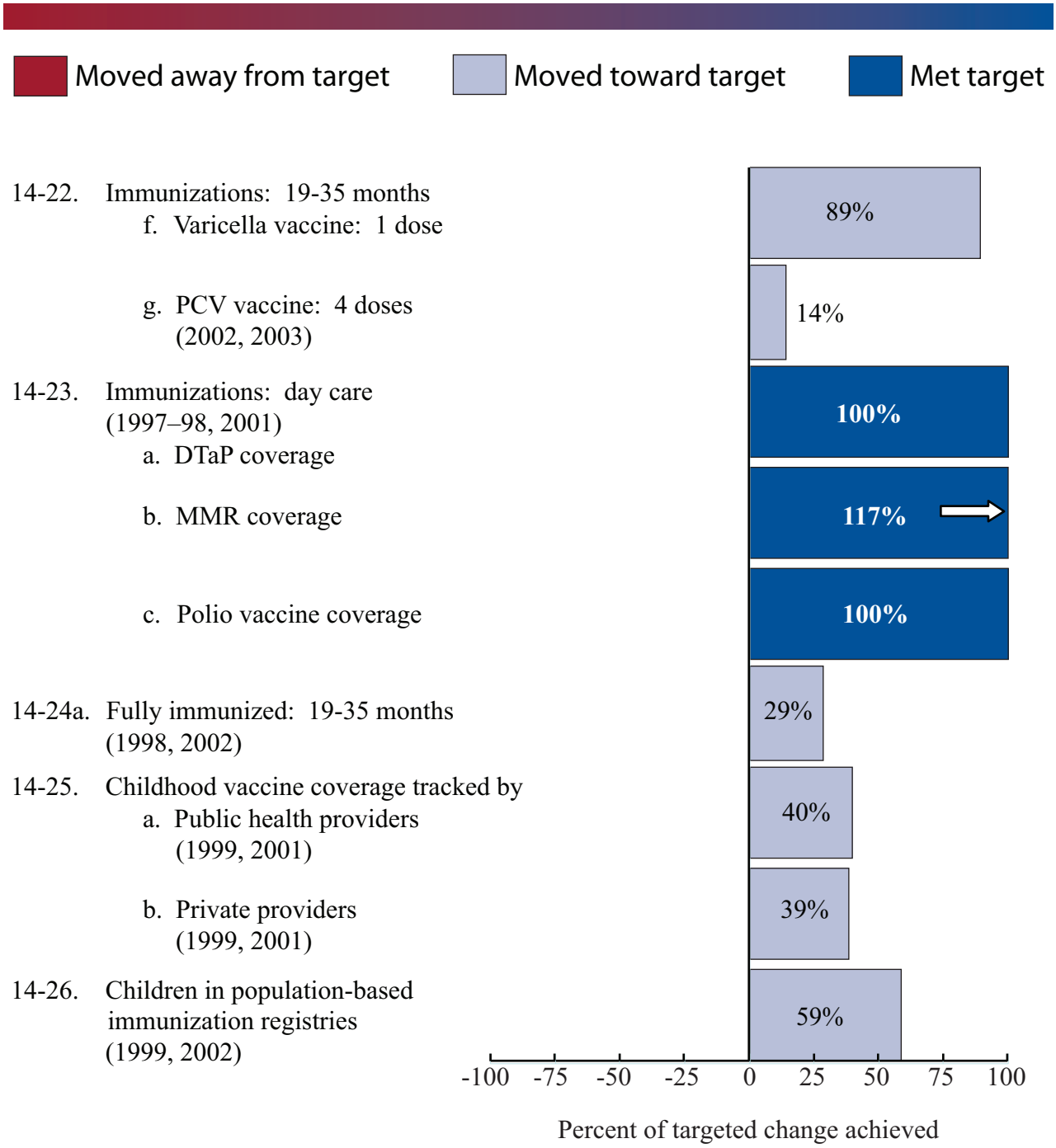

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Figure 14-1. *(continued)*

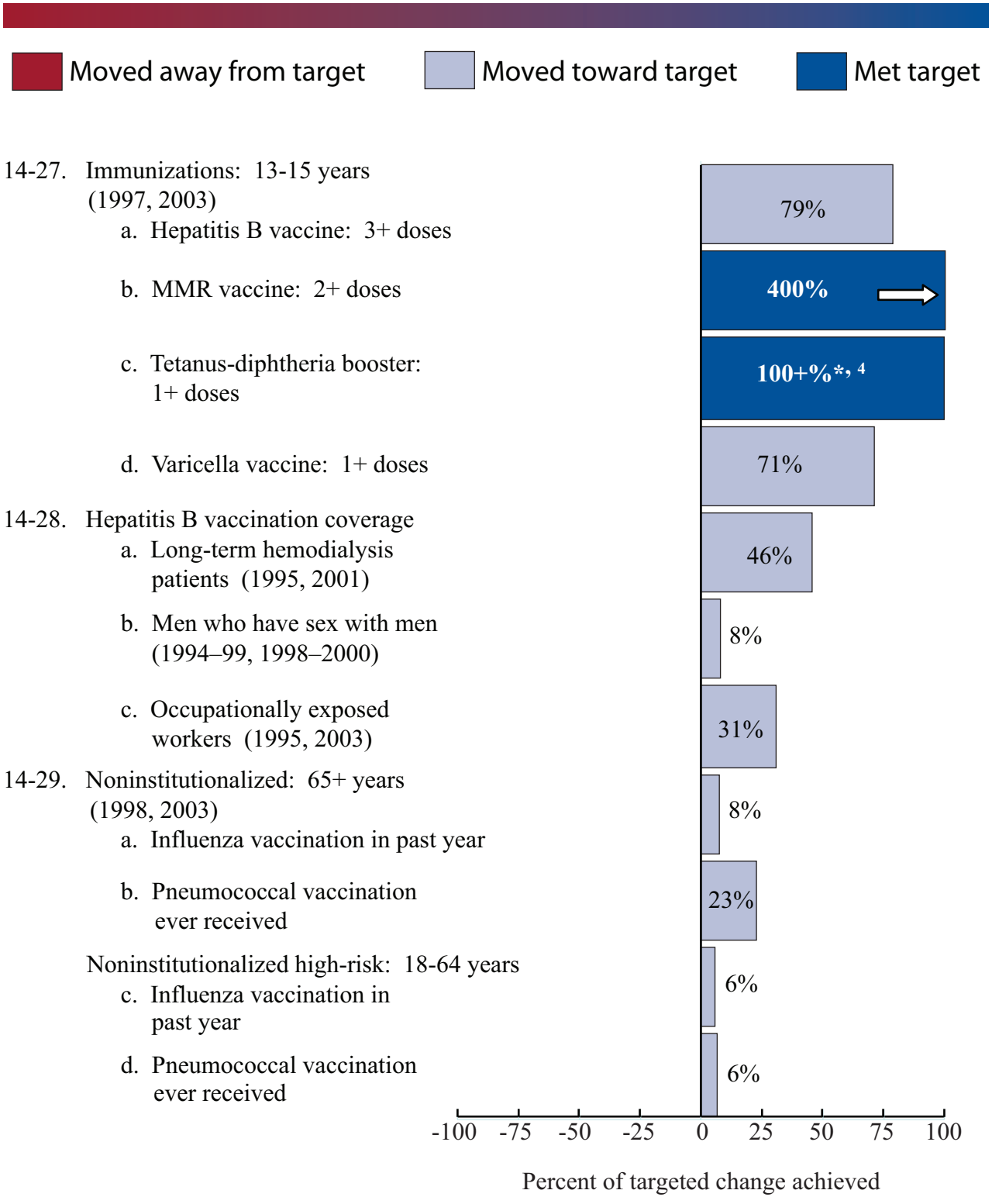

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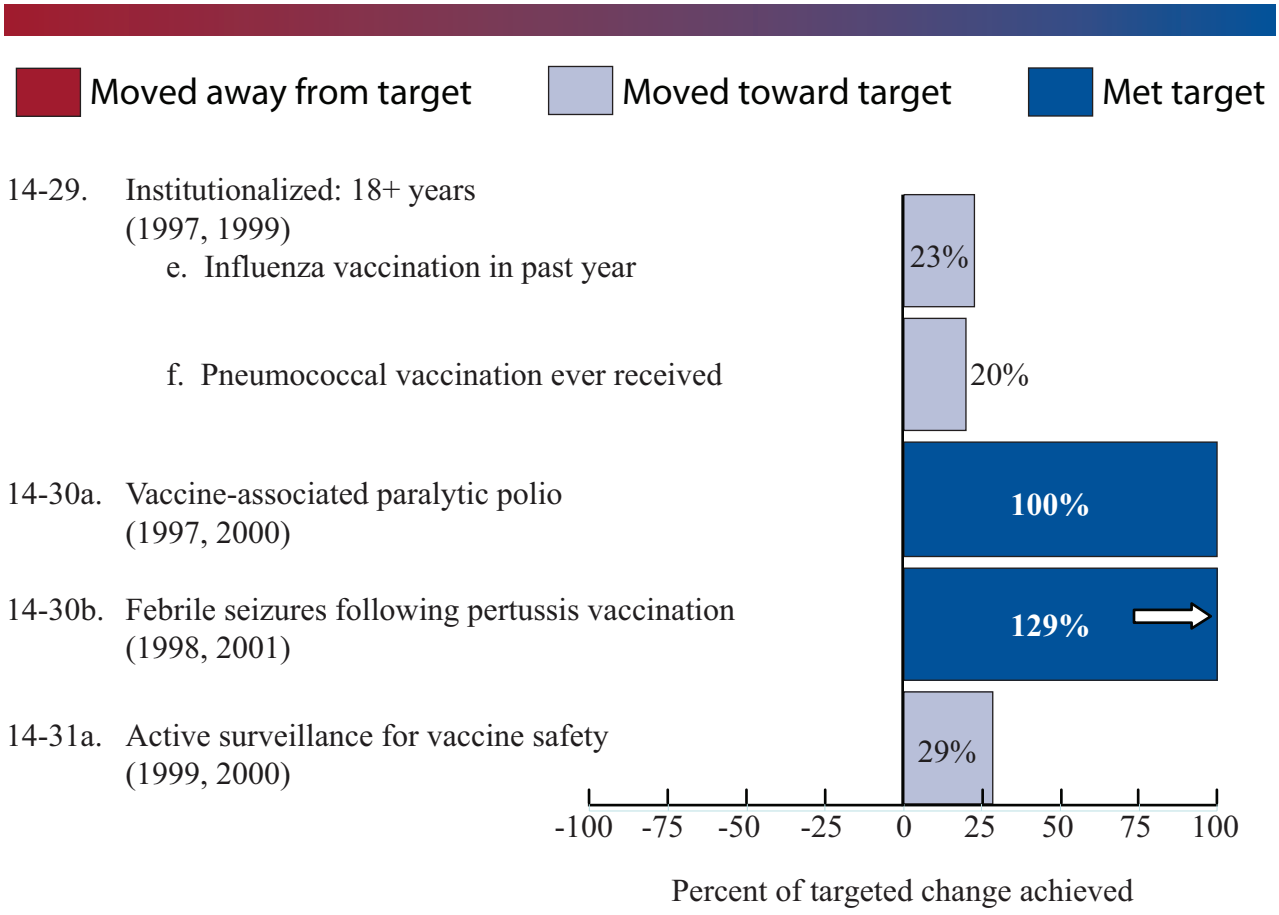
Figure 14-1. *(continued)*



Notes: Tracking data for objectives 14-10, 14-13, 14-14, 14-20c and e, 14-21, 14-22h, 14-23d through l, 14-24b, 14-29g, and 14-31b are unavailable. Objective 14-15 was deleted at the midcourse.

Years in parentheses represent the baseline data year and the most recent data year used to compute the percent of the Healthy People 2010 target achieved.

$$\text{Percent of targeted change achieved} = \left(\frac{\text{Most recent value} - \text{baseline value}}{\text{Year 2010 target} - \text{baseline value}}\right) \text{X } 100$$

* Percent of target achieved cannot be calculated.
[1] The most recent value is 94%; the baseline value is 93%; the target value is 90%.
[2] The most recent value is 93%; the baseline value is 92%; the target value is 90%.
[3] The most recent value is 92%; the baseline value is 91%; the target value is 90%.
[4] The most recent value is 91%; the baseline value is 93%; the target value is 90%.

Figure 14-2. Disparities Table for Focus Area 14: Immunization and Infectious Diseases

Disparities from the best group rate for each characteristic at the most recent data point and changes in disparity from the baseline to the most recent data point.

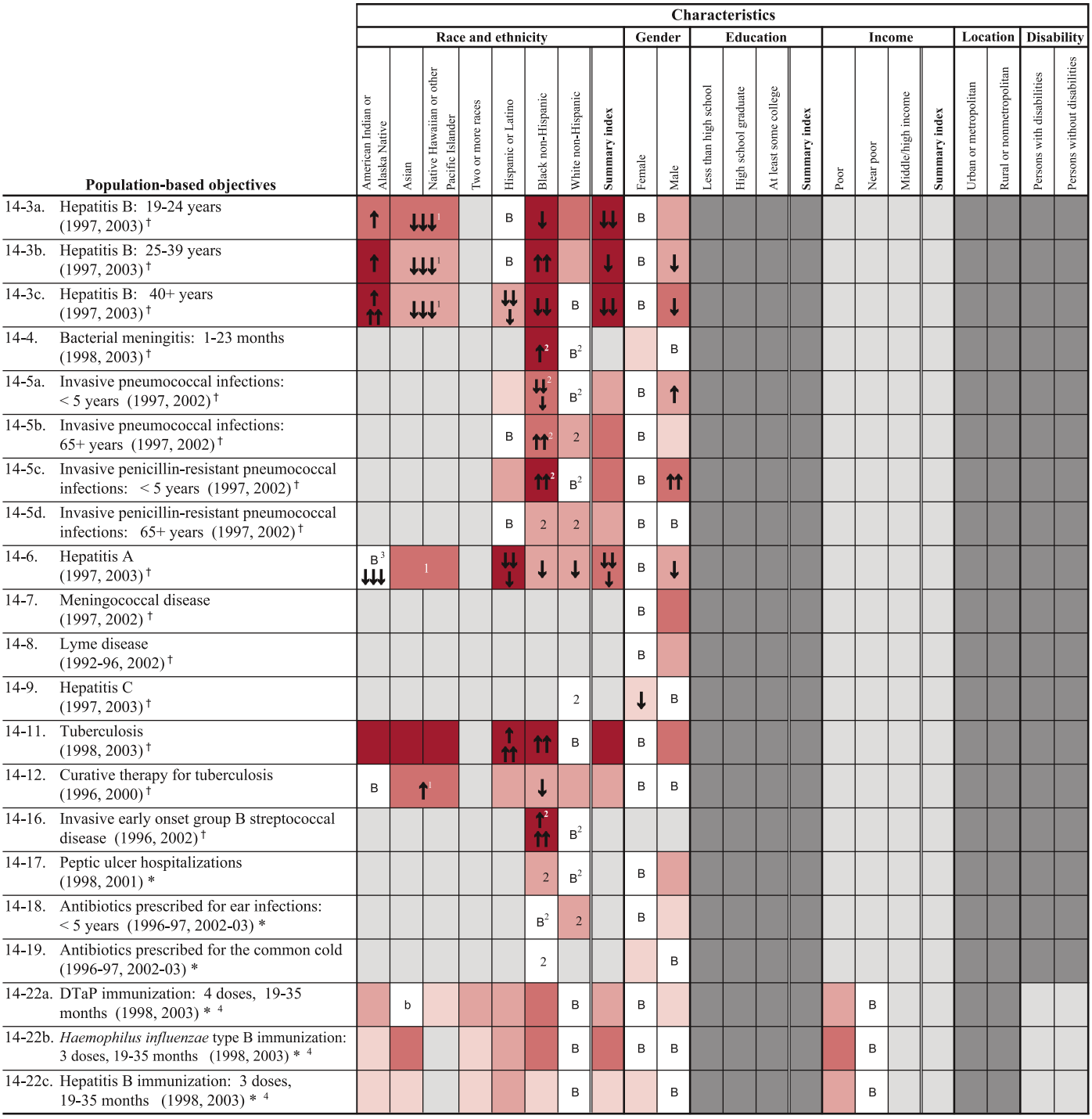


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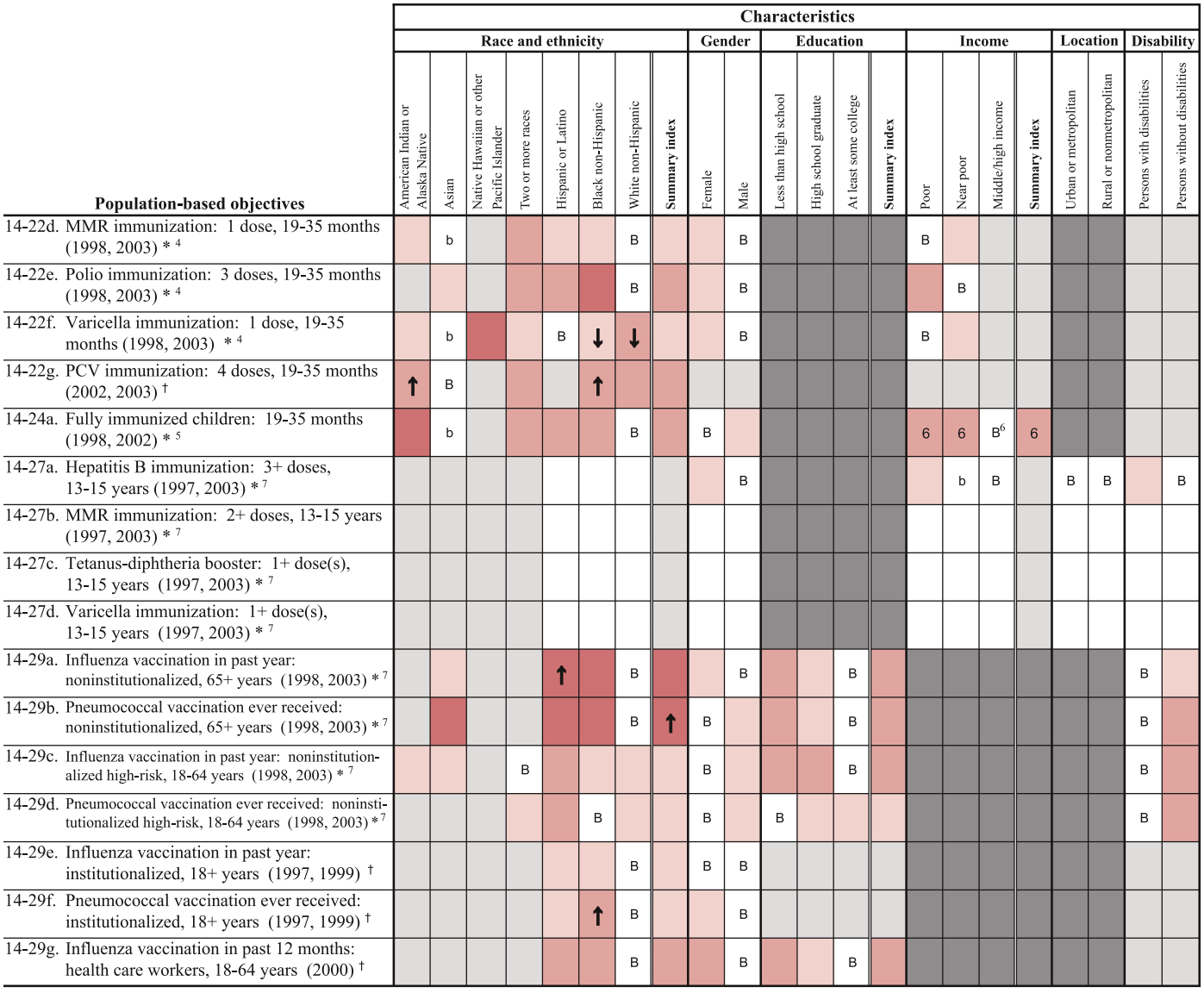
Figure 14-2. *(continued)*



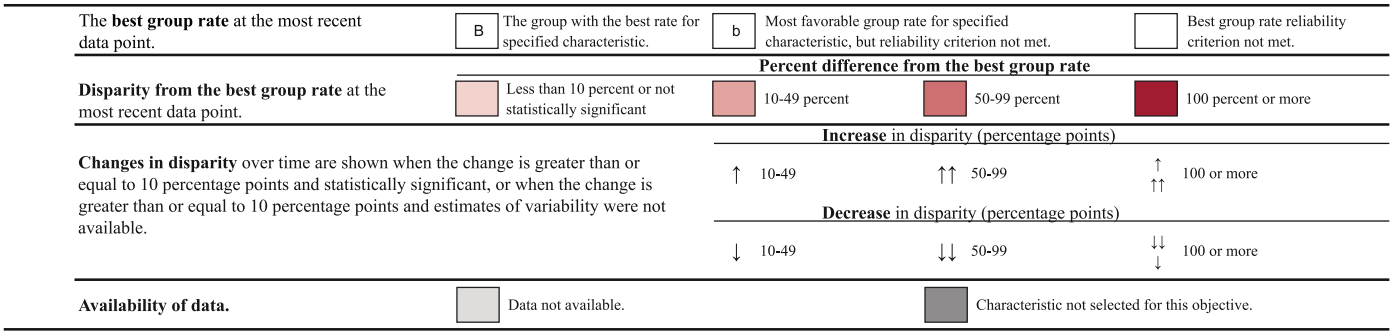
Notes: Data for objectives 14-1a through k, 14-2, 14-3d through g, 14-10, 14-13, 14-14, 14-20a through e, 14-21, 14-22h, 14-23a through k, 14-24b, 14-25a and b, 14-26, 14-28a, b, and c, 14-30a and b, and 14-31a and 14-31b are unavailable or not applicable. Objective 14-15 was deleted at the midcourse.

Years in parentheses represent the baseline data year and the most recent data year (if available).

Disparity from the best group rate is defined as the percent difference between the best group rate and each of the other group rates for a characteristic (for example, race and ethnicity). The summary index is the average of these percent differences for a characteristic. Change in disparity is estimated by subtracting the disparity at baseline from the disparity at the most recent data point. Change in the summary index is estimated by subtracting the summary index at baseline from the summary index at the most recent data point. See Technical Appendix for more information.

(continued)

Figure 14-2. *(continued)*



* The variability of best group rates was assessed, and disparities of ≥ 10% are statistically significant at the 0.05 level. Changes in disparity over time, noted with arrows, are statistically significant at the 0.05 level. See Technical Appendix.

† Measures of variability were not available. Thus, the variability of best group rates was not assessed, and the statistical significance of disparities and changes in disparity over time could not be tested. See Technical Appendix.

[1] Data are for Asians or Pacific Islanders.

[2] Data include persons of Hispanic origin.

[3] Disparity declined substantially for American Indians or Alaska Natives relative to Asians or Pacific Islanders, the group with the best rate at baseline.

[4] Baseline data by race and ethnicity are for 2000.

[5] Baseline data by race and ethnicity are for 2001.

[6] Baseline data only.

[7] Baseline data by race and ethnicity are for 1999.

Objectives and Subobjectives for Focus Area 14: Immunization and Infectious Diseases

Goal: Prevent disease, disability, and death from infectious diseases, including vaccine-preventable diseases.

As a result of the Healthy People 2010 Midcourse Review, changes were made to the Healthy People 2010 objectives and subobjectives. These changes are specific to the following situations:

- Changes in the wording of an objective to more accurately describe what is being measured.
- Changes to reflect a different data source or new science.
- Changes resulting from the establishment of a baseline and a target (that is, when a formerly developmental objective or subobjective became measurable).
- Deletion of an objective or subobjective that lacked a data source.
- Correction of errors and omissions in *Healthy People 2010.*

Revised baselines and targets for measurable objectives and subobjectives do not fall into any of the above categories and, thus, are not considered a midcourse review change.[1]

When changes were made to an objective, three sections are displayed:

1. In the Original Objective section, the objective as published in *Healthy People 2010* in 2000 is shown.
2. In the Objective With Revisions section, strikethrough indicates text deleted, and underlining is used to show new text.
3. In the Revised Objective section, the objective appears as revised as a result of the midcourse review.

Details of the objectives and subobjectives in this focus area, including any changes made at the midcourse, appear on the following pages.

[1] See Technical Appendix for more information on baseline and target revisions.

Diseases Preventable Through Universal Vaccination

NO CHANGE IN OBJECTIVE
(Data updated and footnoted)

14-1. Reduce or eliminate indigenous cases of vaccine-preventable diseases.

Target and baseline:

Objective	Reduction in Vaccine-Preventable Diseases	1998 Baseline (unless noted)	2010 Target
		Number of Cases	
14-1a.	Congenital rubella syndrome (children under age 1 year)	7	0
14-1b.	Diphtheria (persons under age 35 years)	1	0
14-1c.	*Haemophilus influenzae* type b* (children under age 5 years)	163	0
14-1d.	Hepatitis B (persons aged 2 to 18 years)	708†[1]	7[2]
14-1e.	Measles (persons of all ages)	74	0
14-1f.	Mumps (persons of all ages)	666	0
14-1g.	Pertussis (children under age 7 years)	3,417	2,000
14-1h.	Polio (wild-type virus) (persons of all ages)	0	0
14-1i.	Rubella (persons of all ages)	364	0
14-1j.	Tetanus (persons under age 35 years)	14	0
14-1k.	Varicella (chicken pox) (persons aged 17 years and under)	2,228,000 (1999)‡[3]	223,000[4]

* Includes cases with type b and unknown serotype.
† Estimated hepatitis B cases for 1997.
‡ Data based on average from 1999 for persons of all ages.

Target setting method: Total elimination for congenital rubella syndrome, diphtheria, *Haemophilus influenzae* type b, measles, mumps, polio, rubella, and tetanus; 41 percent improvement for pertussis; 99 percent improvement for hepatitis B and varicella.

Data sources: National Notifiable Disease Surveillance System (NNDSS), CDC, EPO; National Congenital Rubella Syndrome Registry (NCRSR), CDC, NIP—congenital rubella syndrome; Active Bacterial Core Surveillance (ABCs), Emerging Infections Programs, CDC, NCID—*Haemophilus influenzae* type b; National Health Interview Survey (NHIS), CDC, NCHS—varicella.

NO CHANGE IN OBJECTIVE *(continued)*
(Data updated and footnoted)

[1] Baseline revised from 945 after November 2000 publication.
[2] Target revised from 9 because of baseline revision after November 2000 publication.
[3] Baseline and baseline year revised from 4 million and 1990–94 after November 2000 publication.
[4] Target revised from 400,000 because of baseline revision after November 2000 publication.

NO CHANGE IN OBJECTIVE

14-2. Reduce chronic hepatitis B virus infections in infants and young children (perinatal infections).

Target: 400 infections.

Baseline: 1,682 chronic hepatitis B virus infections in infants and children aged 2 years and under were reported in 1995.

Target setting method: 76 percent improvement.

Data sources: Perinatal Hepatitis B Prevention Program, CDC, NCID; National Vital Statistics System (NVSS), CDC, NCHS; State Perinatal Hepatitis B Prevention Programs; State Vital Statistics Systems.

NO CHANGE IN OBJECTIVE
(Data updated and footnoted)

14-3. Reduce hepatitis B.

Target and baseline:

Objective	Reduction in Hepatitis B	1997 Baseline	2010 Target
	Adults	*Rate per 100,000 Population*	
14-3a.	19 to 24 years	18.5[1]	1.8[2]
14-3b.	25 to 39 years	20.5[3]	5.2[4]
14-3c.	40 years and older	14.7[5]	3.7[6]
	High-risk groups	*Number of Cases*	
14-3d.	Injection drug users	7,135[7]	1,784[8]
14-3e.	Heterosexually active persons	15,021[9]	1,223[10]
14-3f.	Men who have sex with men	5,209[11]	1,302[12]
14-3g.	Occupationally exposed workers	239[13]	60[14]

NO CHANGE IN OBJECTIVE *(continued)*
(Data updated and footnoted)

Target setting method: For 14-3a, 14-3b, and 14-3c, better than the best; for 14-3d, 14-3f, and 14-3g, 75 percent improvement; for 14-3e, 92 percent improvement.

Data sources: National Notifiable Disease Surveillance System (NNDSS), CDC, EPO; Sentinel Counties Study of Viral Hepatitis, CDC, NCID.

[1] Baseline revised from 24.0 after November 2000 publication.
[2] Target revised from 2.4 because of baseline revision after November 2000 publication.
[3] Baseline revised from 20.2 after November 2000 publication.
[4] Target revised from 5.1 because of baseline revision after November 2000 publication.
[5] Baseline revised from 15.0 after November 2000 publication.
[6] Target revised from 3.8 because of baseline revision after November 2000 publication.
[7] Baseline revised from 7,232 after November 2000 publication.
[8] Target revised from 1,808 because of baseline revision after November 2000 publication.
[9] Baseline revised from 15,225 after November 2000 publication.
[10] Target revised from 1,240 because of baseline revision after November 2000 publication.
[11] Baseline revised from 7,232 after November 2000 publication.
[12] Target revised from 1,808 because of baseline revision after November 2000 publication.
[13] Baseline revised from 249 after November 2000 publication.
[14] Target revised from 62 because of baseline revision after November 2000 publication.

NO CHANGE IN OBJECTIVE

14-4. Reduce bacterial meningitis in young children.

Target: 8.6 new cases per 100,000 children aged 1 through 23 months.

Baseline: 13.0 new cases of bacterial meningitis per 100,000 children aged 1 through 23 months were reported in 1998.

Target setting method: 34 percent improvement. (Better than the best will be used when data are available.)

Data source: Active Bacterial Core Surveillance (ABCs), Emerging Infections Program Network, CDC, NCID.

NO CHANGE IN OBJECTIVE
(Data updated and footnoted)

14-5. Reduce invasive pneumococcal infections.

Target and baseline:

Objective	Reduction in Invasive Pneumococcal Infections	1997 Baseline	2010 Target
		Rate per 100,000	
	New invasive pneumococcal infections		
14-5a.	Children under age 5 years	77[1]	46[2]
14-5b.	Adults aged 65 years and older	62	42
	Invasive penicillin-resistant pneumococcal infections		
14-5c.	Children under age 5 years	16	6
14-5d.	Adults aged 65 years and older	8[3]	7[4]

Target setting method: Better than the best.

Data sources: Active Bacterial Core Surveillance (ABCs), Emerging Infections Program Network, CDC, NCID; Arctic Investigations Program (for data on pneumococcal disease rates among Alaska Natives), CDC.

[1] Baseline revised from 76 after November 2000 publication.
[2] Target revised from 46 because of baseline revision after November 2000 publication.
[3] Baseline revised from 9 after November 2000 publication.
[4] Target revised from 7 because of baseline revision after November 2000 publication.

Diseases Preventable Through Targeted Vaccination

NO CHANGE IN OBJECTIVE
(Data updated and footnoted)

14-6. Reduce hepatitis A.

Target: 4.3[1] new cases per 100,000 population.

Baseline: 11.2[2] new cases of hepatitis A per 100,000 population were reported in 1997.

Target setting method: Better than the best.

Data source: National Notifiable Disease Surveillance System (NNDSS), CDC, EPO.

[1] Target revised from 4.5 because of baseline revision after November 2000 publication.
[2] Baseline revised from 11.3 after November 2000 publication.

NO CHANGE IN OBJECTIVE

14-7. Reduce meningococcal disease.

Target: 1.0 new cases per 100,000 population.

Baseline: 1.3 new cases of meningococcal disease per 100,000 population were reported in 1997.

Target setting method: Better than the best.

Data sources: Active Bacterial Core Surveillance (ABCs), Emerging Infections Program Network, CDC, NCID; National Notifiable Diseases Surveillance System (NNDSS), CDC, EPO.

Infectious Diseases and Emerging Antimicrobial Resistance

NO CHANGE IN OBJECTIVE

14-8. Reduce Lyme disease.

Target: 9.7 new cases per 100,000 population in endemic States.

Baseline: 17.4 new cases of Lyme disease per 100,000 population were reported in 1992–96.

Target setting method: 44 percent improvement. (Better than the best will be used when data are available.)

Potential data source: National Notifiable Disease Surveillance System (NNDSS), CDC, EPO.

NO CHANGE IN OBJECTIVE
(Data updated and footnoted)

14-9. Reduce hepatitis C.

Target: 1.0 new cases per 100,000 population.

Baseline: 2.5[1] new cases of hepatitis C per 100,000 population in selected counties were reported in 1997.[1, 2]

Target setting method: Better than the best.

Data source: Sentinel Counties Study of Viral Hepatitis, CDC, NCID.

[1] Baseline and baseline year revised from 2.4 and 1996 after November 2000 publication.
[2] Baseline data are from selected counties, all other data are based on national reporting.

ORIGINAL OBJECTIVE

14-10. (Developmental) Increase the proportion of persons with chronic hepatitis C infection identified by State and local health departments.

Potential data sources: State health department databases of persons with HCV infection; National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.

OBJECTIVE WITH REVISIONS

14-10. (Developmental) Increase the ~~proportion of persons with~~number of States and the District of Columbia identifying persons with chronic hepatitis C infection ~~identified by State and local health departments~~.

Potential data sources: National Notifiable Disease Surveillance System (NNDSS), ~~State health department databases of persons with HCV infection; National Health and Nutrition Examination Survey (NHANES),~~ CDC, EOP~~NCHS~~.

REVISED OBJECTIVE

14-10. (Developmental) Increase the number of States and the District of Columbia identifying persons with chronic hepatitis C infection.

Potential data source: National Notifiable Disease Surveillance System (NNDSS), CDC, EPO.

NO CHANGE IN OBJECTIVE

14-11. Reduce tuberculosis.

Target: 1.0 new cases per 100,000 population.

Baseline: 6.8 new cases of tuberculosis per 100,000 population were reported in 1998.

Target setting method: Better than the best.

Data source: National TB Surveillance System, CDC, NCHSTP.

NO CHANGE IN OBJECTIVE

14-12. Increase the proportion of all tuberculosis patients who complete curative therapy within 12 months.

Target: 90 percent of patients.

Baseline: 74 percent of those tuberculosis patients reported in 1996 and started on therapy completed therapy within 12 months.

Target setting method: Better than the best.

Data source: National TB Surveillance System, CDC, NCHSTP.

ORIGINAL OBJECTIVE

14-13. Increase the proportion of contacts and other high-risk persons with latent tuberculosis infection who complete a course of treatment.

Target: 85 percent.

Baseline: 62 percent of tuberculosis contacts and other high-risk persons who started on treatment for latent TB infection in 1997 completed treatment.

Target setting method: 27 percent improvement. (Better than the best will be used when data are available.)

Data source: Aggregate Reports for TB Reports Evaluation, CDC, NCHSTP.

OBJECTIVE WITH REVISIONS

14-13. Increase the proportion of ~~contacts and other high-risk~~ persons with latent tuberculosis infection who complete a course of treatment.

Target: ~~85~~57 percent.

Baseline: 4~~562~~ percent of ~~tuberculosis contacts and other high-risk~~ persons ~~who started on treatment~~ with latent TB infection in ~~1997~~ 2000 completed treatment.

Target setting method: 27 percent improvement. (Better than the best will be used when data are available.)

Data source: Aggregate Reports for TB Reports Evaluation, CDC, NCHSTP.

REVISED OBJECTIVE

14-13. Increase the proportion of persons with latent tuberculosis infection who complete a course of treatment.

Target: 57 percent.

REVISED OBJECTIVE *(continued)*

Baseline: 45 percent of persons with latent TB infection in 2000 completed treatment.

Target setting method: 27 percent improvement. (Better than the best will be used when data are available.)

Data source: Aggregate Reports for TB Reports Evaluation, CDC, NCHSTP.

NO CHANGE IN OBJECTIVE

14-14. Reduce the average time for a laboratory to confirm and report tuberculosis cases.

Target: 2 days for 75 percent of cases.

Baseline: 21 days were needed for a laboratory to confirm and report 75 percent of TB cases in 1996.

Target setting method: 90 percent improvement.

Data source: Survey of State Public Health Laboratories, CDC, NCHSTP.

OBJECTIVE DELETED

14-15. *(Objective deleted due to lack of data source)* (Developmental) Increase the proportion of international travelers who receive recommended preventive services when traveling in areas of risk for select infectious diseases: hepatitis A, malaria, and typhoid.

NO CHANGE IN OBJECTIVE

14-16. Reduce invasive early onset group B streptococcal disease.

Target: 0.5 new cases per 1,000 live births.

Baseline: 1.0 new case of invasive early onset group B streptococcal disease per 1,000 live births was reported in 1996.

Target setting method: Better than the best.

Data source: Active Bacterial Core Surveillance (ABCs), Emerging Infections Program Network, CDC, NCID.

NO CHANGE IN OBJECTIVE

14-17. Reduce hospitalizations caused by peptic ulcer disease in the United States.

Target: 46 hospitalizations per 100,000 population.

Baseline: 71 hospitalizations per 100,000 population occurred in 1998 (age adjusted to the year 2000 standard population).

Target setting method: Better than the best.

Data sources: National Hospital Discharge Survey (NHDS), CDC, NCHS.

NO CHANGE IN OBJECTIVE
(Data updated and footnoted)

14-18. Reduce the number of courses of antibiotics for ear infections for young children.

Target: 56[1] antibiotic courses per 100 children under age 5 years.

Baseline: 69[2] antibiotic courses for otitis media per 100 children under age 5 years were prescribed during 1996–97 (2-year average).

Target setting method: 19 percent improvement.

Data sources: National Ambulatory Medical Care Survey (NAMCS), CDC, NCHS; National Hospital Ambulatory Medical Care Survey (NHAMCS), CDC, NCHS.

[1] Target revised from 88 because of baseline revision after November 2000 publication.
[2] Baseline revised from 108 after November 2000 publication.

NO CHANGE IN OBJECTIVE

14-19. Reduce the number of courses of antibiotics prescribed for the sole diagnosis of the common cold.

Target: 1,268 antibiotic courses per 100,000 population.

Baseline: 2,535 antibiotic courses per 100,000 population were prescribed for the sole diagnosis of the common cold, 1996–97.

Target setting method: 50 percent improvement.

Data sources: National Ambulatory Medical Care Survey (NAMCS), CDC, NCHS; National Hospital Ambulatory Medical Care Survey (NHAMCS), CDC, NCHS.

ORIGINAL OBJECTIVE

14-20. Reduce hospital-acquired infections in intensive care unit patients.

Target and baseline:

Objective	Reduction in Hospital-Acquired Infections in Intensive Care Units	1998 Baseline	2010 Target
		Infections per 1,000 Days' Use	
	Intensive care unit patients		
14-20a.	Catheter-associated urinary tract infection	5.5[1]	5.0[2]
14-20b.	Central line-associated bloodstream infection	5.5[3]	5.0[4]
14-20c.	Ventilator-associated pneumonia	11.1	10.0
	Infants weighing 1,000 grams or less at birth in intensive care		
14-20d.	Central line-associated bloodstream infection	12.2	11.0
14-20e.	Ventilator-associated pneumonia	4.9	4.4

Target setting method: 10 percent improvement. (Better than the best will be used when data are available.)

Data source: National Nosocomial Infections Surveillance System (NNIS), CDC, NCID.

[1] Baseline revised from 5.9 after November 2000 publication.
[2] Target revised from 5.3 because of baseline revision after November 2000 publication.
[3] Baseline revised from 5.3 after November 2000 publication.
[4] Target revised from 4.8 because of baseline revision after November 2000 publication.

OBJECTIVE WITH REVISIONS

14-20. Reduce hospital-acquired infections in intensive care unit patients.

Target and baseline:

Objective	Reduction in Hospital-Acquired Infections in Intensive Care Units	1998 Baseline (unless noted)	2010 Target
		Infections per 1,000 Days' Use	
	Adult and pediatric intensive care unit patients		
14-20a.	Catheter-associated urinary tract infection	5.5[1]	5.0[2]

OBJECTIVE WITH REVISIONS *(continued)*

14-20b.	Central line-associated bloodstream infection	5.5[3]	5.0[4]
14-20c.	Ventilator-associated pneumonia	~~11.1~~ 5.9 (2002–03)	~~10.0~~ 5.3
	Infants weighing 1,000 grams or less at birth in intensive care		
14-20d.	Central line-associated bloodstream infection	12.2	11.0
14-20e.	Ventilator-associated pneumonia	~~4.9~~ 3.0 (2002–03)	~~4.4~~ 2.7

Target setting method: 10 percent improvement. (Better than the best will be used when data are available.)

Data source: National Nosocomial Infections Surveillance System (NNIS), CDC, NCID.

[1] Baseline revised from 5.9 after November 2000 publication.
[2] Target revised from 5.3 because of baseline revision after November 2000 publication.
[3] Baseline revised from 5.3 after November 2000 publication.
[4] Target revised from 4.8 because of baseline revision after November 2000 publication.

REVISED OBJECTIVE

14-20. Reduce hospital-acquired infections in intensive care unit patients.

Target and baseline:

Objective	Reduction in Hospital-Acquired Infections in Intensive Care Units	1998 Baseline (unless noted)	2010 Target
		Infections per 1,000 Days' Use	
	Adult and pediatric intensive care unit patients		
14-20a.	Catheter-associated urinary tract infection	5.5[1]	5.0[2]
14-20b.	Central line-associated bloodstream infection	5.5[3]	5.0[4]
14-20c.	Ventilator-associated pneumonia	5.9 (2002–03)	5.3
	Infants weighing 1,000 grams or less at birth in intensive care		
14-20d.	Central line-associated bloodstream infection	12.2	11.0
14-20e.	Ventilator-associated pneumonia	3.0 (2002–03)	2.7

REVISED OBJECTIVE *(continued)*

Target setting method: 10 percent improvement. (Better than the best will be used when data are available.)

Data source: National Nosocomial Infections Surveillance System (NNIS), CDC, NCID.

[1] Baseline revised from 5.9 after November 2000 publication.
[2] Target revised from 5.3 because of baseline revision after November 2000 publication.
[3] Baseline revised from 5.3 after November 2000 publication.
[4] Target revised from 4.8 because of baseline revision after November 2000 publication.

ORIGINAL OBJECTIVE

14-21. Reduce antimicrobial use among intensive care unit patients.

Target: 120 daily doses per 1,000 patient days.

Baseline: 150 daily doses of antimicrobials per 1,000 patient days were used among intensive care unit patients in 1995.

Target setting method: 20 percent improvement.

Data source: National Nosocomial Infections Surveillance System (NNIS), CDC, NCID.

OBJECTIVE WITH REVISIONS

14-21. Reduce ~~antimicrobial~~ vancomycin use among intensive care unit patients.

Target: ~~120~~ 85.1 doses per 1,000 patient days.

Baseline: ~~150~~106.4 doses of vancomycin per 1,000 patient days were used among intensive care unit patients in ~~1995~~1998–2003.

Target setting method: 20 percent improvement.

Data source: National Nosocomial Infections Surveillance System (NNIS), CDC, NCID.

REVISED OBJECTIVE

14-21. Reduce vancomycin use among intensive care unit patients.

Target: 85.1 doses per 1,000 patient days.

Baseline: 106.4 doses of vancomycin per 1,000 patient days were used among intensive care unit patients in 1998–2003.

REVISED OBJECTIVE *(continued)*

Target setting method: 20 percent improvement.

Data source: National Nosocomial Infections Surveillance System (NNIS), CDC, NCID.

Vaccination Coverage and Strategies

ORIGINAL OBJECTIVE

14-22. Achieve and maintain effective vaccination coverage levels for universally recommended vaccines among young children.

Target and baseline:

Objective	Increase in and Maintenance of Vaccination Coverage Levels Among Children Aged 19 to 35 Months	1998 Baseline	2010 Target
		Percent	
14-22a.	4 doses diphtheria-tetanus-acellular pertussis (DTaP) vaccine	84	90
14-22b.	3 doses *Haemophilus influenzae* type b (Hib) vaccine	93	90
14-22c.	3 doses hepatitis B (hep B) vaccine	87	90
14-22d.	1 dose measles-mumps-rubella (MMR) vaccine	92	90
14-22e.	3 doses polio vaccine	91	90
14-22f.	1 dose varicella vaccine	43	90

Target setting method: Consistent with the Childhood Immunization Initiative.

Data source: National Immunization Survey (NIS), CDC, NCHS and NIP.

OBJECTIVE WITH REVISIONS

14-22. Achieve and maintain effective vaccination coverage levels for universally recommended vaccines among young children.

Target and baseline:

Objective	Increase in and Maintenance of Vaccination Coverage Levels Among Children Aged 19 to 35 Months	1998 Baseline (unless noted)	2010 Target

OBJECTIVE WITH REVISIONS *(continued)*

		Percent	
14-22a.	4 doses diphtheria-tetanus-acellular pertussis (DTaP) vaccine	84	90
14-22b.	3 doses *Haemophilus influenzae* type b (Hib) vaccine	93	90
14-22c.	3 doses hepatitis B (hep B) vaccine	87	90
14-22d.	1 dose measles-mumps-rubella (MMR) vaccine	92	90
14-22e.	3 doses polio vaccine	91	90
14-22f.	1 dose varicella vaccine	43	90
14-22g.	4 doses pneumococcal conjugate vaccine	20 (2002)	90
14-22h.	1 dose influenza vaccine (aged 6 to 23 months)	Developmental	

Target setting method: Consistent with the Childhood Immunization Initiative.

Data source: National Immunization Survey (NIS), CDC, NCHS and NIP.

REVISED OBJECTIVE

14-22. Achieve and maintain effective vaccination coverage levels for universally recommended vaccines among young children.

Target and baseline:

Objective	Increase in and Maintenance of Vaccination Coverage Levels Among Children Aged 19 to 35 Months	1998 Baseline (unless noted)	2010 Target
		Percent	
14-22a.	4 doses diphtheria-tetanus-acellular pertussis (DTaP) vaccine	84	90
14-22b.	3 doses *Haemophilus influenzae* type b (Hib) vaccine	93	90
14-22c.	3 doses hepatitis B (hep B) vaccine	87	90
14-22d.	1 dose measles-mumps-rubella (MMR) vaccine	92	90
14-22e.	3 doses polio vaccine	91	90
14-22f.	1 dose varicella vaccine	43	90
14-22g.	4 doses pneumococcal conjugate vaccine	20 (2002)	90

REVISED OBJECTIVE *(continued)*

14-22h.	1 dose influenza vaccine (aged 6 to 23 months)	Developmental

Target setting method: Consistent with the Childhood Immunization Initiative.

Data source: National Immunization Survey (NIS), CDC, NCHS and NIP.

ORIGINAL OBJECTIVE

14-23. Maintain vaccination coverage levels for children in licensed day care facilities and children in kindergarten through the first grade.

Target and baseline:

Objective	Maintenance of Vaccination Coverage Levels for Children	1997–98 Baseline*	2010 Target
		Percent	
	Children in day care		
14-23a.	Diphtheria-tetanus-acellular pertussis (DTaP) vaccine	96	95
14-23b.	Measles/mumps/rubella vaccines	89	95
14-23c.	Polio vaccine	96	95
14-23d.	Hepatitis B vaccine	Developmental	
14-23e.	Varicella vaccine	Developmental	
	Children in K through 1st grade		
14-23f.	Diphtheria-tetanus-acellular pertussis (DTaP) vaccine	97	95
14-23g.	Measles/mumps/rubella vaccines	96	95
14-23h.	Polio vaccine	97	95
14-23i.	Hepatitis B vaccine	Developmental	
14-23j.	Varicella vaccine	Developmental	

* Weighted means.

Target setting method: Consistent with year 2000 target. (Better than the best will be used when data are available.)

Data source: Immunization Program Annual Reports, CDC, NIP.

OBJECTIVE WITH REVISIONS

14-23. Maintain vaccination coverage levels for children in licensed day care facilities and children in kindergarten ~~through first grade~~.

Target and baseline:

Objective*	Maintenance of Vaccination Coverage Levels for Children	1997–98 Baseline*† (unless noted)	2010 Target
		Percent	
	Children in day care		
14-23a.	Diphtheria-tetanus-acellular pertussis (DTaP) vaccine	96	95
14-23b.	Measles/mumps/rubella vaccines	89	95
14-23c.	Polio vaccine	96	95
14-23d.	Hepatitis B vaccine	93 (2003–04) ~~Developmental~~	95
14-23e.	Varicella vaccine	87 (2003–04) ~~Developmental~~	95
	Children in kindergarten		
14-23f.	Diphtheria-tetanus-acellular pertussis (DTaP) vaccine	~~97~~95 (2002–03)	95
14-23g.	Measles/mumps/rubella vaccines	96 (2002–03)	95
14-23h.	Polio vaccine	~~97~~6 (2002–03)	95
14-23i.	Hepatitis B vaccine	96 (2002–03) ~~Developmental~~	95
14-23j.	Varicella vaccine	93 (2002–03) ~~Developmental~~	95
	Children in day care		
14-23k.*	Pneumococcal conjugate vaccine	53 (2003–04)	95
14-23l.*	*Haemophilus influenzae* type b vaccine	94 (2003–04)	90

* For data control purposes, subobjectives are not renumbered.
† Weighted means.

Target setting method: Consistent with year 2000 target. (Better than the best will be used when data are available.)

Data source: Immunization Program Annual Reports, CDC, NIP.

REVISED OBJECTIVE

14-23. Maintain vaccination coverage levels for children in licensed day care facilities and children in kindergarten.

REVISED OBJECTIVE *(continued)*

Target and baseline:

Objective*	Maintenance of Vaccination Coverage Levels for Children	1997–98 Baseline† (unless noted)	2010 Target
		Percent	
	Children in day care		
14-23a.	Diphtheria-tetanus-acellular pertussis (DTaP) vaccine	96	95
14-23b.	Measles/mumps/rubella vaccines	89	95
14-23c.	Polio vaccine	96	95
14-23d.	Hepatitis B vaccine	93 (2003–04)	95
14-23e.	Varicella vaccine	87 (2003–04)	95
	Children in kindergarten		
14-23f.	Diphtheria-tetanus-acellular pertussis (DTaP) vaccine	95 (2002–03)	95
14-23g.	Measles/mumps/rubella vaccines	96 (2002–03)	95
14-23h.	Polio vaccine	96 (2002–03)	95
14-23i.	Hepatitis B vaccine	96 (2002–03)	95
14-23j.	Varicella vaccine	93 (2002–03)	95
	Children in day care		
14-23k.*	Pneumococcal conjugate vaccine	53 (2003–04)	95
14-23l.*	*Haemophilus influenzae* type b vaccine	94 (2003-04)	90

* For data control purposes, subobjectives are not renumbered.
† Weighted means.

Target setting method: Consistent with year 2000 target. (Better than the best will be used when data are available.)

Data source: Immunization Program Annual Reports, CDC, NIP.

NO CHANGE IN OBJECTIVE

14-24. Increase the proportion of young children and adolescents who receive all vaccines that have been recommended for universal administration for at least 5 years.

Target and baseline:

Objective	Increase in Coverage Levels of Universally Recommended Vaccines	1998 Baseline	2010 Target

NO CHANGE IN OBJECTIVE *(continued)*

		Percent	
14-24a.	Children aged 19 to 35 months who receive the recommended vaccines (4 DTaP, 3 polio, 1 MMR, 3 Hib, 3 hep B)	73	80
14-24b.	Adolescents aged 13 to 15 years who receive the recommended vaccines	Developmental	

Target setting method: Better than the best.

Data source: National Immunization Survey (NIS), CDC, NCHS and NIP; National Health Interview Survey (NHIS), CDC, NCHS.

ORIGINAL OBJECTIVE

14-25. Increase the proportion of providers who have measured the vaccination coverage levels among children in their practice population within the past 2 years.

Target and baseline:

Objective	Increase in Providers Measuring Vaccination Levels	1997 Baseline	2010 Target
		Percent	
14-25a.	Public health providers	66	90
14-25b.	Private providers	6	90

Target setting method: 36 percent improvement for public health providers; 1,400 percent improvement for private providers.

Data source: Immunization Program Annual Reports, CDC, NIP.

OBJECTIVE WITH REVISIONS

14-25. Increase the proportion of providers who have had vaccination coverage levels among children in their practice population ~~have~~ measured ~~the vaccination coverage levels among children in their practice population~~ within the past 2 years.

Target and baseline:

Objective	Increase in Providers Measuring Vaccination Levels	199~~7~~9 Baseline	2010 Target
		Percent	
14-25a.	Public health providers	~~66~~40	~~90~~55
14-25b.	Private providers	611	~~90~~55

OBJECTIVE WITH REVISIONS *(continued)*

Target setting method: 36 percent improvement for public health providers;~~1,400~~ 391 percent improvement for private providers.

Data source: Immunization Program Annual Reports, CDC, NIP.

REVISED OBJECTIVE

14-25. Increase the proportion of providers who have had vaccination coverage levels among children in their practice population measured within the past 2 years.

Target and baseline:

Objective	Increase in Providers Measuring Vaccination Levels	1999 Baseline	2010 Target
		Percent	
14-25a.	Public health providers	40	55
14-25b.	Private providers	11	55

Target setting method: 36 percent improvement for public health providers; 391 percent improvement for private providers.

Data source: Immunization Program Annual Reports, CDC, NIP.

NO CHANGE IN OBJECTIVE
(Data updated and footnoted)

14-26. Increase the proportion of children who participate in fully operational population-based immunization registries.

Target: 62[1] percent of children under age 6 years.

Baseline: 21[2] percent of children under age 6 years participated in an immunization registry in 1999.

Target setting method: 197 percent improvement. (Better than the best will be used when data are available.)

Data source: Immunization Program Annual Reports, CDC, NIP.

[1] Target revised from 95 because of baseline revision after November 2000 publication.
[2] Baseline revised from 32 after November 2000 publication.

NO CHANGE IN OBJECTIVE

14-27. Increase routine vaccination coverage levels for adolescents.

Target and baseline:

Objective	Increase in Vaccination Coverage Levels for Adolescents Aged 13 to 15 Years	1997 Baseline*	2010 Target
		Percent	
14-27a.	3 or more doses of hepatitis B	48	90
14-27b.	2 or more doses of measles, mumps, rubella	89	90
14-27c.	1 or more doses of tetanus-diphtheria booster	93	90
14-27d.	1 or more doses of varicella (excluding children who have had varicella)	45	90

* Data are based primarily on parental recall; provider verification has not occurred.

Target setting method: Consistent with target levels established under the Childhood Immunization Initiative.

Data source: National Health Interview Survey (NHIS), CDC, NCHS.

NO CHANGE IN OBJECTIVE (Data updated and footnoted)

14-28. Increase hepatitis B vaccine coverage among high-risk groups.

Target and baseline:

Objective	Increase in Hepatitis B Vaccine Coverage in High-Risk Groups	1995 Baseline	2010 Target
		Percent	
14-28a.	Long-term hemodialysis patients	35	90
14-28b.	Men who have sex with men	9	60
14-28c.	Occupationally exposed workers	67[1]	93[2]

Target setting method: 157 percent improvement for long-term hemodialysis patients; 567 percent improvement for men who have sex with men; 38 percent improvement for occupationally exposed workers.

Data sources: Young Men's Survey, CDC, NCHSTP; Annual Survey of Chronic Hemodialysis Centers, CDC, NCID, and CMS; periodic vaccine coverage surveys, CDC, NCID.

[1] Baseline revised from 71 after November 2000 publication.
[2] Target revised from 98 because of baseline revision after November 2000 publication.

ORIGINAL OBJECTIVE

14-29. Increase the proportion of adults who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease.

Target and baseline:

Objective	Increase in Adults Vaccinated	1998 Baseline* (unless noted)	2010 Target
		Percent	
	Noninstitutionalized adults aged 65 years and older		
14-29a.	Influenza vaccine	64	90
14-29b.	Pneumococcal vaccine	46	90
	Noninstitutionalized high-risk adults aged 18 to 64 years		
14-29c.	Influenza vaccine	26	60
14-29d.	Pneumococcal vaccine	13	60
	Institutionalized adults (persons in long-term or nursing homes)†		
14-29e.	Influenza vaccine	59 (1997)	90
14-29f.	Pneumococcal vaccine	25 (1997)	90

* Age adjusted to the year 2000 standard population.
† National Nursing Home Survey estimates include a significant number of residents who have an unknown vaccination status. See *Tracking Healthy People 2010* for further discussion of the data issues.

Target setting method: Better than the best.

Data sources: National Health Interview Survey (NHIS), CDC, NCHS—noninstitutionalized populations; National Nursing Home Survey (NNHS), CDC, NCHS—institutionalized populations.

OBJECTIVE WITH REVISIONS

14-29. Increase the proportion of adults who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease.

Target and baseline:

Objective	Increase in Adults Vaccinated	1998 Baseline* (unless noted)	2010 Target
		Percent	
	Noninstitutionalized adults aged 65 years and older		
14-29a.	Influenza vaccine	64	90

OBJECTIVE WITH REVISIONS *(continued)*

14-29b.	Pneumococcal vaccine	46	90
	Noninstitutionalized high-risk adults aged 18 to 64 years		
14-29c.	Influenza vaccine	26	60
14-29d.	Pneumococcal vaccine	13	60
	Institutionalized adults (persons aged 18 years and older in long-term or nursing homes)†		
14-29e.	Influenza vaccine	59 (1997)	90
14-29f.	Pneumococcal vaccine	25 (1997)	90
	Noninstitutionalized adults aged 18 to 64 years		
14-29g.	Influenza vaccine for health care workers	37 (2000)	60

* Age adjusted to the year 2000 standard population.
† National Nursing Home Survey estimates include a significant number of residents who have an unknown vaccination status. See *Tracking Healthy People 2010* for further discussion of the data issues.

Target setting method: Better than the best.

Data sources: National Health Interview Survey (NHIS), CDC, NCHS—noninstitutionalized populations; National Nursing Home Survey (NNHS), CDC, NCHS—institutionalized populations.

REVISED OBJECTIVE

14-29. Increase the proportion of adults who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease.

Target and baseline:

Objective	Increase in Adults Vaccinated	1998 Baseline* (unless noted)	2010 Target
		Percent	
	Noninstitutionalized adults aged 65 years and older		
14-29a.	Influenza vaccine	64	90
14-29b.	Pneumococcal vaccine	46	90
	Noninstitutionalized high-risk adults aged 18 to 64 years		
14-29c.	Influenza vaccine	26	60

REVISED OBJECTIVE *(continued)*

14-29d.	Pneumococcal vaccine	13	60
	Institutionalized adults (persons aged 18 years and older in long-term or nursing homes)†		
14-29e.	Influenza vaccine	59 (1997)	90
14-29f.	Pneumococcal vaccine	25 (1997)	90
	Noninstitutionalized adults aged 18 to 64 years		
14-29g.	Influenza vaccine for health care workers	37 (2000)	60

* Age adjusted to the year 2000 standard population.
† National Nursing Home Survey estimates include a significant number of residents who have an unknown vaccination status. See *Tracking Healthy People 2010* for further discussion of the data issues.

Target setting method: Better than the best.

Data sources: National Health Interview Survey (NHIS), CDC, NCHS—noninstitutionalized populations; National Nursing Home Survey (NNHS), CDC, NCHS—institutionalized populations.

Vaccine Safety

NO CHANGE IN OBJECTIVE

14-30. Reduce vaccine-associated adverse events.

14-30a. Eliminate vaccine-associated paralytic polio (VAPP).

Target: Zero cases.

Baseline: 5 VAPP cases occurred in 1997.

Target setting method: Total elimination.

Data source: National Notifiable Disease Surveillance System (NNDSS), CDC, EPO.

14-30b. Reduce febrile seizures following pertussis vaccines.

Target: 75 febrile seizures.

Baseline: 152 febrile seizures followed pertussis vaccines in 1998.

NO CHANGE IN OBJECTIVE *(continued)*

Target setting method: 50 percent improvement.

Data sources: Vaccine Adverse Event Reporting System (VAERS); Vaccine Safety Datalink (VSD), CDC, NIP.

ORIGINAL OBJECTIVE

14-31. Increase the number of persons under active surveillance for vaccine safety via large linked databases.

Target: 13 million persons.

Baseline: 6 million persons were under active surveillance for vaccine safety via large linked databases in 1999.

Target setting method: 117 percent improvement.

Data source: Vaccine Safety Datalink, CDC, NIP.

OBJECTIVE WITH REVISIONS

14-31. Increase the ~~number of persons under active surveillance for vaccine safety via large linked databases~~ scientific knowledge on vaccines and adverse events.

Target and baseline:

Objective	Increase in the Scientific Knowledge on Vaccines and Adverse Events	1999 Baseline (unless noted)	2010 Target
		Number of Persons (in Millions)	
14-31a.	Persons under active surveillance for vaccine safety via large linked databases	6	13
		Percent	
14-31b.	Proportion of total Vaccine Adverse Event Reporting System (VAERS) reports submitted electronically	12 (2003)	30

Target setting method: For 14-31a, 117 percent improvement; for 14-31b, expert judgment and knowledge of programs currently in place.

Data sources: Vaccine Safety Datalink, CDC, NIP; Vaccine Adverse Events Reporting System (VAERS), CDC, NIP.

REVISED OBJECTIVE

14-31. Increase the scientific knowledge on vaccines and adverse events.

Target and baseline:

Objective	Increase in the Scientific Knowledge on Vaccines and Adverse Events	1999 Baseline (unless noted)	2010 Target
		Number of Persons (in Millions)	
14-31a.	Persons under active surveillance for vaccine safety via large linked databases	6	13
		Percent	
14-31b.	Proportion of total Vaccine Adverse Event Reporting System (VAERS) reports submitted electronically	12 (2003)	30

Target setting method: For 14-31a, 117 percent improvement; for 14-31b, expert judgment and knowledge of programs currently in place.

Data sources: Vaccine Safety Datalink, CDC, NIP; Vaccine Adverse Event Reporting System (VAERS), CDC, NIP.

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Related Objectives From Other Focus Areas

1. Access to Quality Health Services

1-1. Persons with health insurance
1-3. Counseling about health behaviors
1-4. Source of ongoing care
1-5. Usual primary care provider
1-6. Difficulties or delays in obtaining needed health care
1-7. Core competencies in health profession training
1-8. Racial and ethnic representation in health professions
1-9. Hospitalization for ambulatory-care-sensitive conditions
1-14. Special needs of children
1-15. Long-term care services

7. Educational and Community-Based Programs

7-2. School health education
7-4. School nurse-to-student ratio
7-5. Worksite health promotion programs
7-6. Participation in employer-sponsored health promotion activities
7-10. Community health promotion programs
7-11. Culturally appropriate and linguistically competent community health promotion programs
7-12. Older adult participation in community health promotion activities

8. Environmental Health

8-5. Safe drinking water
8-6. Waterborne disease outbreaks
8-29. Global burden of disease
8-30. Water quality in the U.S.-Mexico border region

10. Food Safety

10-1. Foodborne infections
10-2. Outbreaks of foodborne infections
10-3. Antimicrobial resistance of *Salmonella* species
10-5. Consumer food safety practices
10-6. Safe food preparation practices in retail establishments

11. Health Communication

11-1. Households with Internet access
11-2. Health literacy
11-3. Research and evaluation of communication programs
11-4. Quality of Internet health information sources
11-5. Centers for excellence
11-6. Satisfaction with health care providers' communication skills

13. HIV

13-11. HIV testing in TB patients

16. Maternal, Infant, and Child Health

16-22. Medical homes for children with special health care needs

23. Public Health Infrastructure

23-2. Public access to information and surveillance data
23-3. Use of geocoding in health data systems
23-4. Data for all population groups
23-6. National tracking of Healthy People 2010 objectives
23-7. Timely release of data on objectives
23-8. Competencies for public health workers
23-9. Training in essential public health services
23-10. Continuing education for public health personnel
23-11. Performance standards for essential public health services
23-12. Health improvement plans
23-14. Access to epidemiology services
23-15. Review and education of public health laws
23-17. Population-based prevention research

25. Sexually Transmitted Diseases

25-13. Hepatitis B vaccine services in STD clinics