Human Health Chapter

Section1 : Health Status in the U.S.

Life Expectancy
Reviewed by the Human Health Group

Consensus Statements		EPA Response
Overall recommendation	**Include with modifications.**	
Critical modifications	None.	
Suggested modifications	EPA should track life expectancy from age 1 year instead of at birth.	EPA considered this recommendation and respectfully disagrees. Although CDC does provide life expectancy at different age intervals, the standard generally used as a measure of overall health of a nation is life expectancy at birth. World wide comparisons are based on life expectancy calculated "at birth" not at age one year. Thus, EPA decided to maintain this standard rather than deviate. EPA considered this recommendation and has added to our graphic which now provides racial breakdowns.
	EPA should add a data summary table, with race and ethnicity breakdown.	
Other comments	None.	

Infant Mortality
Reviewed by the Human Health Group

Consensus Statements		EPA Response
Overall recommendation	**Include with modifications.**	
Critical modifications	None.	
Suggested	EPA should display race and ethnicity data.	EPA has included race and ethnicity data for this indicator.

Consensus Statements		EPA Response
modifications	"What the data show" in the indicator write-up focuses on birth defects as a cause of infant mortality. The following points need to brought out: 1) Disorders related to short gestation and low birth weight are the most significant cause for certain minority populations and 2) Sudden infant death syndrome (SIDS) and what is known about the role of the environment.	EPA has expanded the write-up to mention the top three causes of infant mortality rather than just mentioning the top one (congenital anomalies). Because this indicator is answering a question regarding the overall health of the nation, EPA does not target nor mention specific risk factors for infant mortality in the indicator text. Thus, EPA has not expounded on the role of the environment on SIDS in this write-up.
Other comments	None.	

General Mortality
Reviewed by the Human Health Group

Consensus Statements		EPA Response
Overall recommendation	**Include with modifications.**	
Critical modifications	The overall utility of this indicator is questionable. More specificity is needed. This indicator only represents a crude "count" of the number of people who died.	EPA considered this recommendation and respectfully disagrees. This indicator is meant to answer the question "What are the trends in health status in the U.S.?" Mortality has been and continues to be used as a means to track the health status of a nation. The World Health Organization maintains a mortality database for representative countries and reports mortality in their annual reports (see http://www.who.int/healthinfo/statistics/mortality/en/index.html). CDC continually publishes yearly mortality statistics and states the following, "Mortality data in this report can be used to monitor and evaluate the health status of the Nation in terms of current mortality levels and long-term mortality trends, as well as to identify segments of the U.S. population at greatest risk of death from specific diseases and injuries." (see http://www.cdc.gov/nchs/data/nvsr/nvsr53/nvsr53_05.pdf) We present overall age-adjusted mortality rates across time. We also present a ranking of leading causes of mortality. EPA explored the availability of data to address the recommendation to include YPLL measures, and have added this data to complement leading causes of death. We compare cause-specific leading causes of death with YPLL leading causes of death.

Consensus Statements		EPA Response
	Leading causes of death are useful, but EPA should use years of potential life lost (YPLL) instead of a crude ranking of death. If EPA is unwilling to use YPLL (or some other indicator that addresses this concern), then this indicator should be eliminated.	
Suggested modifications	None.	
Other comments	None.	

Section 2: Human Disease and Conditions for which Environmental Pollutants may be a Risk Factor

Cancer Incidence and Mortality
Reviewed by the Human Health Group

Consensus Statements		EPA Response
Overall recommendation	**Include with modifications.**	
Critical modifications	EPA should be tracking cancer incidence and not mortality. Trends in cancer mortality are largely influenced by advances in treatment, not by incidence or environmental exposures.	EPA has removed mortality from this indicator, which completely eliminates the regional analysis and graphics. The indicator title has been changed to "Cancer Incidence".
Suggested modifications	EPA should track organ-specific cancers instead of overall cancer incidence, consistent with papers by Bailar (1997), Dinse et al. (1999), Schottenfeld (2005), and by others that have reviewed the weight of evidence with regards to which cancers are more likely to have environmental risk factors (e.g., breast, prostate, bladder, non-Hodgkins lymphoma, brain, leukemia). Specify the primary site of origin only (e.g., leukemias), not the subtype (e.g., acute myelocytic leukemia).	EPA has added the 10 leading causes of cancer in males and females in 2002 and graphically displays the trends of the 5 leading causes of cancer in males and females.
Other comments	None.	

Cardiovascular Disease (CVD) Mortality
Reviewed by the Human Health Group

Consensus Statements		**EPA Response**
Overall recommendation	**Include with modifications.**	
Critical modifications	EPA should include CVD prevalence as part of the CVD indicator. Prevalence is a better measure of the CVD than mortality. CVD prevalence data are available through the National Health Interview Survey (NHIS).	EPA determined that the CVD prevalence was added to this indicator. The indicator title has been changed to **"**Cardiovascular Disease Prevalence and Mortality**".**
Suggested modifications	The indicator write-up should: o Emphasize that quality and access to health care play a major role in CVD mortality. Further, the cause of death is often recorded as respiratory infection or heart attack, not the underlying disease. o Acknowledge the limitations of death certificates. o Emphasize the significance of smoking and environmental tobacco smoke (ETS) in CVD.	EPA determined that the limitations of death certificates and emphasis of ETS and smoking are in the indicator text write-up.
	Figure 078-1 (CVD mortality) should be eliminated, showing just the breakdown of CVD into CHD mortality (Figures 078-2) and stroke mortality (Figure 078-3).	EPA eliminated the CVD mortality figure. Figure 078-1 is now CVD Prevalence.
Other comments	None.	

Asthma Mortality and Prevalence
Reviewed by the Human Health Group

Consensus Statements		**EPA Response**
Overall recommendation	**Include with modifications.**	EPA included the indicator with modifications as detailed below.
Critical modifications	EPA should combine adult and childhood asthma into a single indicator. The disease is a continuum over a lifetime. Most adult asthma can be traced to early life exposures, with the exception of occupational triggers.	EPA agrees and has combined the indicators.

Consensus Statements		EPA Response
Suggested modifications	EPA should be tracking asthma prevalence and not mortality. Trends in asthma mortality are influenced largely by advances in treatment, not by prevalence or environmental exposures. Although environmental conditions exacerbate asthma, most asthma related deaths are completely preventable with appropriate medical treatment. Asthma prevalence and attack are more related to the environment (both ambient and indoor).	EPA had deleted the text and figures associated with asthma mortality and have included data on asthma prevalence. EPA presents the asthma prevalence data with racial, age and gender breakouts. Age is stratified 0-17 years and 18 and older, race is provide for white, black, American Indian/Alaska Native, and Asian. EPA has omitted the graphics and associated text on asthma mortality in general as well as the regional asthma mortality rates.
	EPA should display demographic breakdown, including race and ethnicity data.	
	EPA should present the childhood asthma prevalence in smaller age categories (now 0-17 years) because the prevalence is higher in younger children and because rates in younger children (0-4 years) may be a more sensitive indicator of environmental change.	
	Because the asthma case fatality rate is low, trend data for asthma mortality are not robust, especially when broken down into 10 EPA regions. This underscores the reviewers' recommendation not to track mortality.	
Other comments	None.	

Indicator: Childhood Asthma Mortality and Prevalence
Reviewed by the Human Health Group

Consensus Statements		EPA Response
Overall recommendation	**Do not include.**	
Critical modifications	EPA should combine adult and childhood asthma into a single indicator. The disease is a continuum over a lifetime. Most adult asthma can be traced to early life exposures, with the exception of occupational triggers.	EPA agrees and has combined the indicators.
Suggested modifications	EPA should display demographic breakdown, including race and ethnicity data.	
	EPA should present the childhood asthma prevalence in smaller age categories (now 0-17 years) because the prevalence is higher in younger children and because rates in younger children (0-4 years) may be a more sensitive indicator of environmental change.	

Consensus Statements		EPA Response
	In terms of the indicator itself: EPA should be tracking asthma prevalence and not mortality. Trends in asthma mortality are influenced largely by advances in treatment, not by prevalence or environmental exposures. Although environmental conditions exacerbate asthma, most asthma related deaths are completely preventable with appropriate medical treatment. With asthma, prevalence and attack are more related to the environment (both ambient and indoor). Because the asthma case fatality rate is low, trend data for asthma mortality are not robust, especially when broken down into 10 EPA regions. This underscores the reviewers' recommendation not to track mortality.	EPA had deleted the text and figures associated with asthma mortality and have included data on asthma prevalence. EPA presents the asthma prevalence data with racial, age and gender breakouts. Age is stratified 0-17 years and 18 and older, race is provide for white, black, American Indian/Alaska Native, and Asian. EPA has omitted the graphics and associated text on asthma mortality in general as well as the regional asthma mortality rates.
Other comments	None.	

Peer reviewers agreed unanimously that EPA should not include Childhood Asthma Mortality and Prevalence as a separate indicator. Instead, the group agreed that adult and childhood asthma be combined as a single indicator. See the summary of peer reviewer discussions on this topic under Asthma Mortality and Prevalence above.

Chronic Obstructive Pulmonary Disease (COPD) Mortality
Reviewed by the Human Health Group

Consensus Statements		EPA Response
Overall recommendation	**Include with modifications.**	EPA included the indicator with modifications as detailed below.

Consensus Statements		EPA Response
Critical modifications	EPA should include COPD prevalence as part of the COPD indicator. Prevalence is a better measure of COPD than mortality. COPD prevalence data are available through NHIS—chronic bronchitis (Code 601) and emphysema (Code 609) can be combined.	EPA included information on prevalence for this indicator. The indicator title has been changed to "Chronic Obstructive Pulmonary Disease Prevalence and Mortality**".**
Suggested modifications	The indicator write-up should: o Emphasize that access to and quality of care play a major role in COPD mortality. Further, cause of death is often recorded as respiratory infection or heart attack, not the underlying disease. o Acknowledge the limitations of death certificates. o Emphasize the significance of smoking and ETS in COPD.	EPA included these suggested text additions either in the indicator write-up or in the chapter text.
	For clarity, EPA should consider labeling the indicator as "Chronic Obstructive Lung Disease" instead of COPD.	EPA considered this recommendation and respectfully disagrees. Although Chronic Obstructive Lung Disease is an alternate name for COPD, EPA has decided to keep the traditional name used for this disease - COPD. Based on the Medical Encyclopedia from the U.S. National Library of Medicine and the National Institute of Health, Chronic Obstructive Pulmonary Disease is the main entry with Chronic Obstructive Lung Disease listed as see Chronic Obstructive Pulmonary Disease (see: http://www.nlm.nih.gov/medlineplus/ency/article/000091.htm).
Other comments	None.	

Infectious Gastrointestinal Diseases and Arthropod-borne Disease Prevalence
Reviewed by the Human Health Group

Consensus Statements		EPA Response
Overall recommendation	**Include with modifications.**	

Consensus Statements		EPA Response
Critical modifications	EPA should split the indicator into two indicators: infectious gastrointestinal diseases and arthropod-borne diseases.	EPA considered this recommendation and has changed the indicator name to "Infectious Diseases Associated with Environmental Exposures or Conditions" and has presented the gastrointestinal diseases, arthropod-borne diseases, and legionellosis as distinct entities under this one indicator. References to "prevalence" of these diseases have been removed.
	EPA should not refer to available measures of disease as prevalence. Refer to the "number of reported new cases," <u>not</u> prevalence.	
Suggested modifications	Though stated in the indicator write-up, EPA should emphasize more strongly the likely underreporting or possible misreporting of gastrointestinal diseases. EPA should also emphasize that reported cases are not measures of disease burden. In other words, it should be made clear that these indicators are useful for tracking trends but are not absolute numbers.	EPA has modified the write-up to include these clarifying points.
	EPA should display reports of the individual diseases on separate graphs or in tabular format because rates vary. Log scale is not appropriate for this presentation; it distorts the data.	EPA considered this recommendation and has maintained the log scale for the graphics, and now display the data in three separate graphs.
	EPA should give thorough consideration to including the following reportable infectious diseases: o Gastrointestinal diseases: Giardia and cyclosporidia, both of waterborne origin and associated with exposure through contaminated irrigation water. o Arthropod-borne diseases: Malaria, dengue, and viral encephalopathies other than West Nile Virus. Competent vectors are abundant in the U.S. (CDC, 2005). o Legionellosis: Legionella are found in indoor air and should be tracked in a separate category. o Zoonotic (animal-borne) diseases: Hanta virus, plague, and rabies. EPA should assess major zoonotic diseases over time. If they are becoming more widespread, EPA should consider adding them as indicators.	GI diseases: We have included Giardia. Arthropod-borne diseases: Almost all of the malaria cases reported in the U.S are imported either by traveling or by immigration. No distinction is made between imported and not imported transmission in the counts presented for this disease. Thus, EPA will not include this disease in the ROE06 but will revisit this suggestion for the next iteration of the report. Presently, dengue is only monitored passively; it is not a nationally notifiable disease. EPA will not include dengue. At this time, West Nile Virus has been the primary encephalopathy associated with spread across the U.S. and potential climate change. EPA will not include the other encephalopathies in the ROE06, but will revisit in the next iteration. EPA has included Legionellosis. EPA will consider adding zoonotic diseases to the next iteration of the report.

Consensus Statements		EPA Response
Other comments	None.	

Low Birthweight (LBW)
Reviewed by the Human Health Group

Consensus Statements		EPA Response
Overall recommendation	**Include with modifications.**	EPA included the indicator and made modifications as detailed below.
Critical modifications	Birth weight is a function of growth and gestational age. As constructed, LBW and preterm delivery indicators are not independent. Therefore, EPA should utilize a method that would track births that are small for gestational age (SGA). Recommended methods include tracking LBW (<2,500 grams) for term babies only or tracking births by LBW for gestational age (<10th percentile).	EPA modified the indicator and associated graphics to show LBW for both pre-term and term babies.
	An important consideration is the growth of assisted reproductive technology; this technology is responsible for increased rates of multiple births. Because multiple birth babies tend to be SGA and are more frequently born preterm, EPA should monitor singleton births only.	EPA has restricted the analysis to include singleton births only.
	EPA should include 18-39 year age group only because women less than 18 years and those over 39 years have much higher rates of preterm birth and SGA babies, and because the rates of birth to such women are changing over time.	EPA has chosen to include the data for all women and stratify by age as follows: < 20 yrs (due to database restrictions stratification begins at < 20 years) 20-39 yrs 40 and over
Suggested modifications	None.	
Other comments	None.	

Birth Defect Incidence and Mortality
Reviewed by the Human Health Group

Consensus Statements		EPA Response
Overall recommendation	**Include with modifications.**	EPA included the indicator with modifications as detailed below.

Consensus Statements		EPA Response
Critical modifications	Trends in birth defect mortality are influenced largely by access to and quality of medical treatment, not by incidence or environmental exposures. Therefore, EPA should place an emphasis on prevalence over mortality.	EPA has emphasized prevalence over mortality where data are available.
Suggested modifications	EPA should refer to the data as prevalence data, not incidence data.	EPA has changed the indicator to "Birth Defects Rates and Mortality". EPA agrees that there are problems with both the birth certificate data and mortality data. However, at this time, these are the best available sources. We will actively work to partner with CDC and other agencies to develop a better network of tracking birth defects as well as developmental disabilities.
	Birth certificates tend to be incomplete (e.g., approximately 40% of actual birth defects are missed); therefore, the overall quality of the underlying indicator data was questioned. There are two problems: 1) Across the country, birth defects data are recorded incompletely and inconsistently on birth certificates and 2) A significant portion of major birth defects are identified after a newborn is discharged from the hospital so that they will not be on the birth certificate. State birth defects registries identify these birth defects by reviewing hospital discharges during the first 12 months of life and provide a more complete assessment of birth defects prevalence. EPA should include birth defect prevalence as an indicator, but seek better quality data sets: o EPA should work with the National Birth Defects Monitoring Network on developing a better indicator of birth defects prevalence. EPA should determine whether state efforts under this network can be used in this report, analogous to SEER. o EPA should identify subcategories of birth defects to track (e.g., neural tube defects, genitourinary, cardiac, cleft lip and palate, etc.).	EPA has presented information on mortality from these specific subcategories.

Consensus Statements		EPA Response
Other comments	EPA should track individual developmental disabilities (most notably ADHD, dyslexia and other learning disabilities, cerebral palsy, mental retardation, autism) as well as malformations. EPA should draw on the best available data whether from government or nongovernmental sources (e.g., March of Dimes). If the data are not currently available, EPA should encourage data collection to meet this information need. CDC's National Center on Birth Defects and Developmental Disabilities should be a partner in this. Developmental disabilities should be a separate indicator from birth defects. These recommendations are important because advances in the science of developmental toxicology is enhancing our understanding of the influence of environmental toxicants on developmental effects (NRC, 2000).	EPA agrees that there are problems with both the birth certificate data and mortality data. However, at this time, these are the best available sources. EPA will work to partner with CDC and other agencies to develop a better network of tracking birth defects as well as developmental disabilities. EPA considered this recommendation and at the present time, there are not data available to track nationally, developmental disabilities (e.g., ADHD, dyslexia, autism). However, we will recognize developmental disabilities in our chapter text as emerging issues.

Childhood Cancer Incidence
Reviewed by the Human Health Group

Consensus Statements		EPA Response
Overall recommendation	**Include with modifications.**	EPA included the indicator with modifications as detailed below.
Critical modifications	None.	
Suggested modifications	EPA should be tracking cancer incidence and not mortality. Trends in mortality are largely influenced by advances in treatment, not by incidence or environmental exposures.	EPA removed mortality from this indicator, which eliminates the regional analysis and graphics. The indicator title has been changed to "Childhood Cancer Incidence". EPA has added the trends of the 5 leading causes of childhood cancer in males in females.
	EPA should track organ-specific cancers instead of overall cancer incidence. EPA should consider the following cancers: leukemia, brain, neuroblastoma, Wilms tumor, non-Hodgkins lymphoma (NHL), and bone, as well as other significant childhood cancers. Specify the primary site of origin only (e.g., leukemias), not the sub-type (e.g., acute myelocytic leukemia).	
Other comments	None.	

Preterm Delivery
Reviewed by the Human Health Group

Consensus Statements		EPA Response
Overall recommendation	**Include with modifications.**	EPA included the indicator with modifications as detailed below.
Critical modifications	An important consideration is the growth of assisted reproductive technology; this technology is responsible for increased rates of multiple births (citation to be added). Because multiple birth babies tend to be SGA and are more frequently born preterm, EPA should monitor singleton births only.	EPA has restricted the data and analysis to include singleton births only. EPA has chosen to include the data for all women and stratify by age as follows:
	EPA should include the 18-39 year age group only because women less than 18 years and those over 39 years have much higher rates of preterm birth and SGA babies, and because the rates of birth to such women are changing over time.	<20 yrs (due to database restrictions stratification begins at <20 years) 20-39 yrs 40 and over
Suggested modifications	In the indicator discussion, EPA should acknowledge that causes of preterm births are not fully known; causes are multi-factorial in origin and are believed to include environmental factors.	EPA has included these points in the text.
Other comments	None.	

Section3: Biomeasures of Exposure

Blood Lead Level
Reviewed by the Human Health Group

Consensus Statements		EPA Response
Overall recommendation	**Include with modifications.**	EPA included the indicator with modifications as detailed below.
Critical modifications	None.	
Suggested modifications	The inclusion of demographic data in Table 098_105Lead serves as a good model for other indicators, but a graphical display of race and ethnicity trends would be easier to read.	EPA decided to leave the data in tabular format for this report. As data are released from subsequent survey years (e.g., 2003-2004, 2005-2006) graphical

Consensus Statements		EPA Response
	EPA should display available temporal trend data (e.g., plot the 1-5 year group over time); much data exist.	display of true trends will be possible. EPA determined that the data from the 1-5 year group are presented for the years that are available in the CDC's periodically issued National Report on Human Exposure to Environmental Chemicals. In the text write-up, referrals to NHANES II and III are made.
Other comments	None.	

Blood Mercury Level
Reviewed by the Human Health Group

Consensus Statements		EPA Response
Overall recommendation	**Include with modifications.**	EPA included the indicator with modifications as detailed below.
Critical modifications	None.	
Suggested modifications	Male exposure data are not presented, which represents a hole in the dataset. Mercury is associated with other outcomes (e.g., cardiovascular disease, hypertension, immune system effects). EPA should present data for males as well as females, although reviewers agree with providing a breakout of women of childbearing age.	EPA agreed that data for males is important to present. However, CDC only measures the bloods of 1-5 year olds and females of reproductive age; they do not measure the male serum. EPA decided to leave the data in tabular format for this report. As data are released from subsequent survey years (e.g., 2003-2004, 2005-2006) graphical display of true trends will be possible. EPA determined that the CDC's Third National Report on Human Exposure to Environmental Chemicals is now published; consequently, data can be presented for two time periods. The need for continued data acquisition for longer term comparisons is noted. In the text write-up, referral to NHANES III is made.
	The inclusion of demographic data in Table 098_105Lead serves as a good model for other indicators, but a graphical display of race and ethnicity trends would be easier to read.	
	Where available, EPA should display temporal trend data.	
Other comments	None.	

Blood Cadmium Level
Reviewed by the Human Health Group

Consensus Statements		**EPA Response**
Overall recommendation	**Include.**	EPA included the indicator with modifications as detailed below.
Critical modifications	None.	
Suggested modifications	EPA should acknowledge that cadmium data from CDC's Second National Report on Human Exposure to Environmental Chemicals represent one point and time; only as more data become available can longer-term trends be tracked.	EPA determined that the CDC's Third National Report on Human Exposure to Environmental Chemicals is now published; consequently, data can be and is presented for two time periods. The need for continued data acquisition for longer term comparisons is noted.
Other comments	None.	

Blood Persistent Organic Pollutants (POPs) Level
Reviewed by the Human Health Group

Consensus Statements		**EPA Response**
Overall recommendation	**Include.**	EPA included the indicator with modifications as detailed below.
Critical modifications	None.	
Suggested modifications	EPA should acknowledge that POP data from CDC's Second National Report on Human Exposure to Environmental Chemicals represent one point and time; only as more data become available can longer-term trends be tracked.	CDC's Third National Report on Human Exposure to Environmental Chemicals is now published; consequently, data can be and is presented for two time periods. The need for continued data acquisition for longer term comparisons is noted.
Other comments	None.	

Urinary Pesticide/Herbicide Level
Reviewed by the Human Health Group

Consensus Statements		**EPA Response**
Overall recommendation	**Include with modifications.**	EPA has included the indicator with modifications as detailed below.

Consensus Statements		EPA Response
Critical modifications	None.	
Suggested modifications	EPA should rename the indicator "Urinary Pesticide Level," using the term pesticide only. Herbicides and insecticides are types of pesticides.	EPA has renamed the indicator to "Urinary Pesticide Level" as suggested.
	EPA should acknowledge that urinary pesticide levels are not a good clinical indicator of exposure due to generally short half-lives, but over a population urinary pesticide levels are a reasonable measure of exposure. However, measuring pesticide metabolites does not necessarily point to a specific pesticide exposure.	EPA has captured these reviewer points in the indicator text.
	EPA should use, explain, and justify the use of creatinine-corrected data.	EPA has included clarifying text on the need for correcting the data for creatinine levels in the text of the chapter itself, not in the indicator write-up. EPA considered this recommendation and respectfully disagrees because this is a technical document for a more specialized audience, we are retaining and displaying both the uncorrected and creatinine-corrected data.
	Both uncorrected and creatinine-corrected data do not need to be presented. Reviewers believe that the creatinine-corrected data are modestly better and, therefore, EPA should present the corrected data only.	
	EPA should provide age, race, and ethnicity breakdowns.	EPA considered this recommendation and determined that in many cases it was not possible to present stratified results because too many measurements were below the LOD. Thus, we did not include this breakdown in the tables. EPA considered this recommendation and determined that the CDC's Third National Report on Human Exposure to Environmental Chemicals is now published; consequently, data can be and is presented for two time periods. The need for continued data acquisition for longer term comparisons is noted.
	EPA should include new pesticide data available in CDC's Third National Report on Human Exposure to Environmental Chemicals, including pyrethroids.	
Other comments	None.	

Phthalate Exposure
Reviewed by the Human Health Group

Consensus Statements	EPA Response

Consensus Statements		EPA Response
Overall recommendation	**Include with modifications.**	EPA included the indicator with modifications as detailed below.
Critical modifications	None.	
Suggested modifications	Rename the indicator "Urinary Phthalate Levels" for clarity and consistency with other biomeasure indicators.	EPA has renamed the indicator "Urinary Phthalate Level" as suggested EPA has included clarifying text on the need for correcting the data for creatinine levels in the text of the chapter itself, not in the indicator write-up. EPA considered this recommendation and respectfully disagrees because this is a technical document for a more specialized audience, we are retaining and displaying both the uncorrected and creatinine-corrected data. We have included in the indicator text write-up a discussion about gender and racial differences for some of the metabolites. With 12 different metabolites, the tables would become unmanageable and thus, we opted not to present this information in the tables. We will revisit this issue in subsequent updates of the ROE as more data are released and trends can be tracked.
	EPA should use, explain, and justify the use of creatinine-corrected data.	
	Both uncorrected and creatinine-corrected data do not need to be presented. Reviewers believe that the creatinine-corrected data are modestly better and, therefore, EPA should present the corrected data only.	
	EPA should include age, gender, and race/ethnicity data; particularly important are women of childbearing age because animal toxicity data indicate *in utero* period could be a vulnerable window of exposure.	
Other comments	The reviewers acknowledged the comment from the American Chemistry Council, but disagree that the phthalate indicator should be eliminated. Exposure to phthalates is a rapidly emerging public health and medical concern and therefore must be given high priority by EPA. The reviewers recommend that the introduction to this indicator reference the National Toxicology Program (NTP) Center for the Evaluation of Risks to Human Reproduction review of these six phthalate compounds.	EPA agrees that the indicator is important and has included appropriate supporting references.