Comments received by the National Vaccine Program Office from Vaccine Industry and Vaccine Researchers on the draft strategic National Vaccine Plan through January 30, 2009.

General Comments:

Bain & Company, Inc. (Andy Pasternak, Partner)

Overall Plan Considerations
The development of an overall long-term plan for the u.s. vaccines enterprise is a critical endeavor. The current plan as drafted has many merits, including a small number of high-level goals, key performance indicators to track success and a thorough consideration of the range of strategies that can contribute to furthering the goals set forth. Clearly, careful thought has gone into the current draft of the plan, and the contributors to date should be commended for their significant accomplishment.

That said, there are several aspects of the plan structure that are worthy of further consideration, as follows:

- *Clarifying the role of individual stakeholders in the plan:* As noted in the draft plan, multiple stakeholders typically contribute to strategies that achieve one of the five goals in the plan. However, to promote accountability, it is critical to delineate the respective roles with some degree of specificity across these stakeholders. In particular, the role of federal government agencies (and especially DHHS) in achieving the 5 goals should be clearly articulated for two reasons: 1) most of the stakeholders outside of the federal government represent a fragmented group of constituents (e.g., industry, providers, academia, public) and thus achieving their alignment around specific strategies will be less feasible than doing so by the federal government; 2) while input is being sought from the full range of stakeholders, the final decision on the elements of the plan rests with DHHS; thus its committed role in executing the proposed strategies and achieving the stated goals is important to articulate and appropriate to expect.

- *Ensuring accountability:* The draft plan very clearly describes goals and metrics for success, but does not describe how various stakeholders will be held accountable for achieving these goals. The plan asserts that "what gets monitored gets done/' but that is only the case when those being monitored are held accountable for achieving the outcome. One idea DHHS may consider is asking various stakeholders to make a written commitment to the aspects of the plan that they intend to actively promote. In addition, consistent with the roles and responsibilities point above, federal government agencies should be held accountable for their contributions to this plan, with separately articulated indicators associated with their performance.

- *Clarifying the purpose of articulating specific strategies:* Because measurements of success will be at the "Goal" level and not at the "Strategy" level the plan

should clarify expectations relative to specified strategies. Are strategies suggestions, or interchangeable alternatives for achieving the goal? Will the plan be deemed a success if an overall goal and associated indicators are achieved, but certain articulated strategies are not? If the achievement of specific strategies is deemed paramount in the overall endeavor, independent of the goal and associated indicators, they should be noted as such and metrics for tracking progress of those strategies should be developed.

- *Prioritizing strategies:* Assuming that the achievement of certain strategies is important independent of the overarching goals, the plan should prioritize those strategies. Currently, there are 146 different strategies proposed across the goals and objectives. It is clear that the value potential in terms of achieving the goals is not evenly distributed among these strategies, A key success factor in most endeavors is focusing on a smaller, rather than larger, number of strategies around which resources and oversight can be mobilized; otherwise, effort and oversight can become overly diffused, thereby jeopardizing the success of all proposed strategies. A prioritization should be conducted on the basis of an evidenced-driven determination of relative impact across strategies on public health outcomes. This prioritization should distinguish "must-have" strategies from those that are desirable but less critical to the overall goals of the plan.

Health Industry Distributors' Association (HIDA - Andrew E. Van Ostrand, Vice President of Policy & Research, HIDA)

The current prioritization of Goals 1-5 is appropriate. However, given the less than optimal utilization by healthcare workers of some vaccines (ex. influenza) it may be prudent to move Goal #4 *(Ensure a stable supply of recommended vaccines and achieve better use of existing vaccines to prevent disease, disability and death in the United States)* to the Goal #1 position. By doing this, and by tackling the underutilization of existing vaccines, we can better ensure that the effort expended in developing new vaccines is maximized.

Merck & Company (Mark Feinberg, MD, PhD, FACP, Vice President, Medical Affairs and Policy)

Our comments focus on Table 1, Measurable Indicators by Goal in the Draft Strategic National Vaccine Plan. Our comments are tabulated in the right column of the Table. Where we make no comments, we concur with the indicators as stated. We provide the following general comments on the entire list of goals and indicators:

- We strongly recommend that the plan provide a detailed implementation plan for the goals and indicators enumerated in the table below and in the plan. The implementation plan should specify agencies with lead responsibility for

achieving the goal or sub-goals. In other words, the plan should provide a level of detail more granular than that specified on pages 28 to 61 of the document. Such a level of detail informs clearer thinking that should facilitate successful actualization of the indicators.

- In addition, we recommend that the detailed implementation plan should integrate specific tasks for federal state and local agencies. The plan should also explicitly call on the agencies to collaborate to achieve the goals and indicators of the Plan.

sanofi Pasteur (Phil Hosbach, Vice President Immunization Policy & Government Relations)

[Priorities:]
The success of the National Vaccine Plan is dependent on both public and private participation. In fact, the very success of the US national vaccine program was based upon public-private partnership and cooperation. It is critical this partnership continue to exist and does not become further fractured than it is currently perceived by those in the private sector. It will be a significant benefit to this plan that a healthy and vibrant private sector be maintained. This includes both physicians and manufacturers. In the absence of cooperation and coordination—and an appropriate balance between the public and private sectors—this plan cannot be achieved.

[Other comments:]
More details should be included about how we are going to achieve the Healthy People 2020 goals. What specific actions, programs, etc. (and associated resources [FTEs and dollars]) will be put in place to achieve this goal?

Comments on Executive Summary and Introduction:

Merck & Company (Mark Feinberg, MD, PhD, FACP, Vice President, Medical Affairs and Policy)

- Page 17, Purpose, Perspective & Scope, second paragraph: The Plan should be aligned with Healthy People 2020 objectives, insofar as national disease outcomes are being assessed.
- Page 19, first full paragraph: Most of the indicators reflect Federal actions, rather than national ones. It may be appropriate to add indicators to assess performance of clinicians, health systems, health payers, and other stakeholders.
- Page 21: "attitude" in first paragraph connotes a subjective nature to vaccine development; recommend deletion.

Goal 1 Comments: Develop new and improved vaccines

Bain & Company, Inc. (Andy Pasternak, Partner)

- In strategy 1.1.1, a qualification should be added as it relates to a prioritization that "considers the leading causes of morbidity and mortality from infectious diseases... ". This qualification should note that not only current causes, but future potential causes of morbidity and mortality should be considered in ongoing disease prioritization. For example, while invasive pneumococcal disease has been dramatically lowered among children due to the use of conjugate vaccines, continued serotype replacement may lead to the need over time for alternative technologies (e.g., universal protein vaccines). Another example would be vector-borne diseases such as dengue fever, which while not prevalent in the U.s. today are likely to become more significant health threats over time due to climate change. Vaccine development against future priorities needs to happen in the present given the long timeframe to product licensure and use.

- A strategy should be included that promotes the establishment of clear regulatory guidance on the use of novel adjuvants in vaccines. Newer adjuvants represent an important advance in vaccinology; however, a lack of clear regulatory guidance on their acceptability for various populations and situations will constrain additional innovation utilizing these tools.

- Continued support of HIV vaccine development should be an explicit strategy, and one which also applies to Goal 5, given the long time horizon of this plan. Federal government agencies have a critical role to play in supporting "push" strategies that are necessary to continue HIV vaccine development efforts, as market forces alone will not be sufficient to drive adequate private sector investment due to the tremendous technological obstacles and resulting high candidate failure rates.

- Strategy 1.4.4 (further identification of biomarkers and immune correlates of protection) is particularly important for encouraging the development of improved vaccines and increased supply, as this reduces the cost and timeframe for clinical development.

Baxter Bioscience, Vaccines (Peter Khoury, PhD)

- Developing *New and improved vaccines* should have well defined endpoints. For new vaccines, certain disease targets such as WNV, Lyme, Chikungunya or categories of targets such as Neglected Tropical Diseases or Newly Emerging Diseases should be specifically cited.

- More specificity around which government organization (DHS, USAID, HHS, DoD, etc.) will perform which objective. Assignment of the objectives and goals

is not clear to the reader.

- For the sake of pandemic or biodefense vaccines, should research of adjuvants be a specific goal? Similarly should research of vaccine enhancements such as stabilizing agents and alternative delivery methods that may ease administration in the developing world or in emergency use situations be specifically broken out as a goal?

Better definition of the roles and responsible government agency would be helpful to the reader. A table that describes pathogen, research area, and which stage of support or funding will be helpful for industry to better target areas for research. Currently there does not seem to be definitive delineations on priorities between the different government agencies, and little detail on transfer of programs during the development process. It is encouraging that one of the targets for the new plan is to facilitate better communication and teamwork between government organizations and with the industry.

Health Industry Distributors' Association (HIDA - Andrew E. Van Ostrand, Vice President of Policy & Research, HIDA)

Goal 1: Support the development of new manufacturing and production technologies (e.g., reverse genetics, etc.) that will enable vaccines to be produced faster and in greater volume to meet both emergency preparedness needs (ex. pandemic) and expanding ACIP recommendations (261 million Americans advised to get seasonal flu vaccine in 2008-09).

Merck & Company (Mark Feinberg, MD, PhD, FACP, Vice President, Medical Affairs and Policy)

For the prioritized list of new vaccines called for in Goal 1 to be meaningful, the agency charged with developing a prioritized list must coordinate and align with the agency responsible for addressing reimbursement issues so that a Goal-1 vaccine would readily receive reimbursement once licensed. Similarly, the Food and Drug Administration (FDA) and the Centers for Disease Control and Prevention (CDC) should synchronize their post-licensure safety assessments, and more clearly delineate which agency has the lead role in various assessment scenarios.

Table 1. Measurable Indicators by Goal in the Draft Strategic National Vaccine Plan		
Goal	**Indicator**	**Merck Comments**
Goal 1: Develop new and improved vaccines	Within one year, create an evidence-based list of new vaccine targets to prevent infectious diseases that are high priorities for development.	This indicator is very important. The list should be carefully prioritized based on the public-health burden (current and emergent) of these diseases. The list should be used as the common priority list for activities of all federal agencies. The list should be detailed enough to describe the indication or target population of greatest public-health need, not simply a listing of pathogens by name (e.g., RSV for infants versus elderly). Vaccine needs for the elderly, immunocompromised people, and other subpopulations should be explicitly prioritized. Strategies to achieve this goal should include research to more completely define the epidemiology of a broad range of infectious diseases, to better define these needs. Merck is willing to participate on work groups convened for this task. The United States is underinvested in infectious disease epidemiology. Investments by government to more specifically describe disease burden would reduce uncertainty and help prioritize and assess where public and private investment in vaccine development would be most valuable. Merck would be willing to assist in developing a prioritized list of needs toward addressing broadly useful epidemiology questions and help in study design.

	Identify X candidate vaccines (*e.g.*, for HIV, malaria, TB, and a cross-protective vaccine for influenza) and advance Y priority vaccine candidates along the research and development pipeline including Z candidates into advanced clinical trials.	A time element for this indicator should be added. It may also be useful to cluster candidate vaccines for this purpose into categories (e.g., antibiotic-resistant organisms).
	Advance X new delivery strategies that will improve effectiveness, feasibility, acceptability, safety, or ease of administration of new or improved vaccines into clinical trials.	The meaning of "delivery strategies" should be clarified with examples. Insofar as "delivery strategies" encompasses new adjuvants (which may be critical for protecting special populations such as the elderly), the plan should focus on developing guidance, direction, and support for alternate and innovative adjuvants and immune modulators.
	In X years, have the capability to test potential vaccine candidates in clinical trials developed in response to an emerging infectious disease health threat within six months of the identification of the need for a vaccine.	Capability as used in the indicator may need further definition or quantification. Please clarify what event the 6-month interval is based on (e.g., candidate development, trial development, disease emergence). A timeframe of 6 month may not allow standard preclinical testing and feedback from regulatory agencies prior to clinical testing.
		The United States also needs a highly responsive capability to develop new vaccine candidates rapidly, a step that must occur before clinical trials can begin. Merck and other manufacturers may be able to play a role in this regard, especially in collaboration with the US Government.
		Goal 1 should also reflect the Nation's needs in biosecurity.

		An indicator should be added (under one of the goals of this plan) to ensure that the development of vaccines which may have the effect of benefiting unborn children is not discouraged (e.g., by including those claiming injury due to exposure in utero as covered claimants under the National Childhood Vaccine Injury Act, which would also have the effect of allowing such individuals to seek compensation under the VICP).

- Page 25, third paragraph, line 8: Change "ill" to "will."
- Page 29, Strategy 1.4.9: The US Government should provide additional resources to the FDA to permit more frequent communication (e.g., early feedback, consultation during review) and more transparent review (e.g., more consultation and consistent expectations during review) with vaccine sponsors.

sanofi Pasteur (Phil Hosbach, Vice President Immunization Policy & Government Relations)

[Priorities:]
As drug resistant infections such as MRSA and *Clostridium difficile* continue to rise in hospital and community settings at alarming rates, developing vaccines for these infections should be a near-term priority.

- The total burden of *C. difficile* infections exceeds 500,000 cases annually, contributing to at least 15,000 deaths in the U.S. each year at a cost of $3+ billion for treatment in hospitals.
- Prioritizing vaccines for *C. difficile* will prove to be a realistic near-term goal that will meet an immediate medical need.

It should be made clear how identified research priorities will influence CDC recommendations. Future immunization policies/recommendations need to be more predictable and better forecasted for private industry to commit large investments of resources and time in developing target vaccines.

[Other comments:]
The timeframe calling for candidate vaccines to be in clinical trials within six months of identifying the need for the vaccine may be too ambitious. It is extremely unlikely that this portion of Goal 1 can be achieved given current and anticipated capabilities in the near term. **(p. 11)**

The Plan's first goal of developing and improving vaccines is a good one, but the goal's first indicator of creating an evidence-based list of new vaccine targets may need to be further clarified.

- It is important to recognize that there are a number of factors that should be examined when considering any vaccine targets for an evidence-based list, such as severity of the disease, current science and technology, and feasibility and capability of manufacturing the vaccine.
- Ensure that priority is given to scientific evidence as well as the severity and the frequency of disease. These factors should be considered more important than analyses of cost-effectiveness that could deter industry from producing a vaccine and/or prohibit recommendations for use. **(p. 25)**

Industry should be fully and continuously engaged in the process of vaccine policy development.

- Vaccine development and production is a complex and costly process that requires the commitment and agility of producers.
- As the timeline involved in moving from initial R&D to final production can be long and complex, it is important that policy makers adequately value the critical role of vaccines in promoting public health.

Adequate funding for FDA-CBER is essential to a consistent vaccine supply and to approve new and innovative vaccines to protect public health.

- CBER must have the resources necessary to conduct reviews and approvals of vaccines as quickly as possible.
- CBER must also have resources available to examine vaccine facilities as quickly as possible and release vaccine lots in a timely manner.

Stakeholders will need to work together to accomplish goals such as advancing new delivery strategies and expediting testing of vaccine candidates in response to health threats.

We think it is important to strengthen the number and expertise of FDA staff that are knowledgeable about vaccine issues. There are relatively few experts dedicated to the study of vaccines, and a number of these are involved in clinical research with manufacturers. Perhaps there needs to be a way to more effectively utilize these experts, with full disclosure of their activity and transparency throughout the process. They are among the most knowledgeable observers, but often their views are not solicited or included in the policy debate.

Goal 2 Comments: Enhance the safety of vaccines and vaccination practices

Health Industry Distributors' Association (HIDA - Andrew E. Van Ostrand, Vice President of Policy & Research, HIDA)

Goal 2: Increase transparency about the FDA/CBER vaccine inspection process and timelines to further bolster consumer confidence and healthcare worker (HCW) confidence in vaccine safety.

Merck & Company (Mark Feinberg, MD, PhD, FACP, Vice President, Medical Affairs and Policy)

Goal 2: Enhance the safety of vaccines and vaccination practices	Conduct and disseminate the results of active and passive surveillance-based safety assessments for newly recommended vaccines or for vaccines with expanded recommendations: • Within 1 year of publication in CDC's Morbidity and Mortality Weekly Report of new or revised ACIP recommendations. • Within 1 year after X million doses have been distributed	The national goal must balance speed with quality. Timely results, based on poor quality data or design, do not serve the nation's interests. Results need to be vetted with learned intermediaries (e.g., ACIP work groups) before public release. A consistent method for conducting these assessments and disseminating their results should be developed and implemented. Consider performing assessments at several stages, such as after X million, 2X million, and 4X million doses have been administered. This approach would avoid depending only on a short-interval study that may have an inadequate comparator group (or inadequately understood baseline rates), be inadequately powered, or when reporting may be brisk and rare events may not be identified following initial introduction of the vaccine. The title of Goal 2 is somewhat misleading. The safety profile of a given vaccine is an inherent characteristic that cannot be

		enhanced. Additional studies could allow better understanding of the safety profile, but the profile, *per se*, cannot be changed. We propose to revise the title to read "Improve the knowledge and understanding of the safety profile of vaccines to enhance vaccination practices."
	Develop and disseminate plans for further investigation, if any, of newly detected AEFI signals and the rationale for those plans within X months of signal detection.	This indicator should focus on the International Conference on Harmonization (ICH) end-to-end (E2E) risk management plan (RMP) for each vaccine (which addresses known risks, potential risks, unknown risks). The ICH E2E program exists as a global standard. Good pharmacovigilance practice requires sponsors to have RMPs and procedures in place to identify and investigate emerging safety signals.
		AE report quality: An indicator should be added to increase the proportion of adverse event reports that include the vaccine's lot number, concomitant medications, underlying disease states, and other clinical details that would improve interpretation of vaccine safety data.
	By X year, X % of infants, children, adolescents, adults, and pregnant women will be under active surveillance for AEFIs	The percentages may need to vary for each of the specified cohorts. Rather than stating a percentage goal, consider stating a number of lives for each cohort, based on biostatistical needs, to assess incident events or incidence rates with defined degrees of confidence. Scientifically appropriate control groups are also essential.

	Conduct research to explore host factors and biological mechanisms associated with serious AEFIs and annually report results to the Assistant Secretary for Health, vaccine advisory committees, vaccine policy makers and other stakeholders	Such research is important, but should be approached in a prioritized manner with government involvement.
		An indicator should be added to enhance the ability to conduct controlled, randomized database studies. The US Government should enable more HMOs to establish electronic medical records (EMRs), to permit high-quality collaborative research. With more uniformity and compatibility (to allow concatenation), vaccine safety research would be enhanced.
		The US Government should support EMR standards that enhance the ability to conduct effectiveness and safety studies. One objective might be to overcome potential coding biases related to healthcare provider behavior (e.g., when reimbursement rates may influence code selection).
		The US Government should commission studies on the baseline epidemiology of AEFIs that have been associated temporally with vaccines historically (e.g., Guillain-Barré syndrome, myocarditis, unexplained death in young adults).
		The US Government should commission systems research on ways to optimize the quality of data obtained from research using administrative databases (e.g., ability to distinguish between

		incident and prevalent cases of a specific event or condition).
		The US Government and qualified independent experts should state their conclusions about vaccine safety more forthrightly and clearly describe their advocacy position to enhance the public health benefits of vaccination appropriately, with strong, evidence-based messages understandable by the broad American public.
		The US Government should add an indicator to monitor effectiveness of its efforts to detect and prevent distribution of counterfeit products.

sanofi Pasteur (Phil Hosbach, Vice President Immunization Policy & Government Relations)

[Priority:] The report should consider the establishment of systems that capture the baseline for naturally occurring events in the US population. The goal would be to establish a baseline rate for events that can be temporally associated with immunization. The objective would be to better determine whether an increase/decrease exists from an epidemiological standpoint.

[Other comments:]
The executive summary describes the NVP goals as achieving "optimal prevention of infectious diseases…and optimal prevention of adverse reactions." To be precise, it is difficult to suggest that adverse reactions can be prevented to the same degree that the infectious disease can be prevented. Consider using a phrase such as "while enhancing vaccine safety."

The original 1994 language of Goal 2, which was, "ensure the safety and effectiveness of vaccines and immunization" is preferred over the less clear revision, "Enhance the safety of vaccines and vaccination practices." **(p. 32)**

Goal 3 Comments: Support informed vaccine decision-making by the public, providers, and policy-makers

Baxter Bioscience, Vaccines (Peter Khoury, PhD)

Although the research, development and approval of new vaccines are important in furthering disease prevention, we currently have vaccines available that are underutilized. Communication of vaccine recommendations to recipients is an important issue. The availability of patient education supplied through manufacturers and through the CDC benefits the physician and health care staff in providing this education. Unfortunately the groups that are outspoken against vaccines, question vaccine safety and link vaccine use to unfounded side effects, are highly vocal and must be strongly rebutted. It is important not only for vaccine recipients to know which vaccines to get and how, but to also realize the safety and overall benefits of vaccination. It is important to communicate the truth regarding vaccines, communicate it to the public through many different channels and take an aggressive stance against the misinformation that circulates about immunizations.

Health Industry Distributors' Association (HIDA - Andrew E. Van Ostrand, Vice President of Policy & Research, HIDA)

Goal 3: HIDA supports the recommendation that all health professional schools and training programs include vaccine and vaccine-preventable disease content in their curricula. Assessment of this knowledge should occur routinely. We additionally recommend that education about the vaccine supply chain be incorporated into this training to help HCWs understand how vaccine reaches them and to eliminate confusion or frustration on their part that may negatively impact their desire and/or ability to immunize.

A continuing education credit for practicing HCWs surrounding vaccine supply chain education could also assist veteran HCWs as they schedule immunization clinics, make plans to purchase vaccine, and work to answer patient questions about vaccination timelines, safety, and security.

Furthermore, increased education about vaccines, vaccine preservatives (i.e., thimerosal), and related issues can empower and inform HCWs and patients – making sure ALL available vaccines are utilized and thereby preventing the introduction and spread of redundant or prohibitive legislation that delays the manufacture and/or distribution of vaccines for target populations.

HIDA supports the National Vaccine Plan and is available to assist with the educational aspects regarding the suggested additions to Goals 3 and 4. The association is also willing to assist to the best of its ability with any requests from the NVPO. Thank you.

Merck & Company (Mark Feinberg, MD, PhD, FACP, Vice President, Medical Affairs and Policy)

Goal 3: Support informed vaccine decision-making by the public, providers, and policy-makers	Enhance communication with stakeholders and the public to more rapidly inform them (within _X_ days) about urgent and high-priority vaccine and vaccine-preventable disease issues (e.g., outbreaks, supply shortages, vaccine safety concerns).	The document should clearly state the initial time point to be used to calculate the "within X days" interval. The standard should be set carefully, to allow for scenarios where poorly understood situations would have to be reported before adequate guidance to the public could accompany it.
		In addition to more timely communication of "bad news," the US Government should commit to more timely communication of "good news" (e.g., shortening the gap between ACIP decisions and publication in the *MMWR*).
		The US Government should develop processes to more proactively communicate reliable science on disease risks and vaccine benefits and risks to the public, in terms broadly understood by the public, to refute unsubstantiated misconceptions on vaccine safety. Such routine and repeated culturally-appropriate communication will promote educated decision making by individuals.
		Each of the following indicators within Goal 3 would benefit from parallel construction aligned with the Healthy People 2020 objectives, which use a target percentage increase

		based on a best practice, when available.
	__X__ % of the public will report that they are satisfied with how their health care provider answers their questions about the benefits and risks of vaccines by Y (year).	
	__X__% of the public will report they have access to information which allows them to make informed vaccination decisions for themselves or their children by Y (year).	The US Government should play an active role in providing additional culturally-appropriate educational materials (with varying levels of information content) on the benefits of vaccination in general and that of specific vaccines to the public.
	__X__% of health care providers will report that they have access to accurate and complete information about vaccine benefits and risks and are able to adequately answer questions of parents and patients by Y (year).	
	__X__ % of key decision- and policy-makers will report they have access to vaccine benefits, risks, and costs to make informed decisions about vaccine policy by Y (year).	
	By Y (year) all health professional schools and training programs will include vaccine and vaccine-preventable disease content in their curricula, and assess students' and trainees' knowledge.	These professionals need not just scientific content, but also communication skill training to convey that content to their patients in an understandable way. The US Government should commission development of additional communication curricula to meet this objective.
	By Y (year) all relevant health professional certifying examinations will include vaccine and vaccine-preventable disease questions.	This indicator is important, but we encourage emphasis on curriculum content.

- Page 43, Strategy 3.3.3: Add web-based means of dissemination.
- Page 44, Strategy 3.4.1 and elsewhere in the document: Change "parents" to the more inclusive "parents and caregivers."
- Page 44, Strategy 3.4.5: Expand to include discussion of the risks of the relevant diseases, in comparison to the immunizations.
- Page 44, Objective 3.5: A strategy should be added to this objective to inform policy-makers about the economics of vaccine manufacture, on the need to recapitalize manufacturing equipment for existing vaccines from time to time to meet evolving stringent expectations of regulators. An analogy can be found in the utility industry that periodically needs to replace capital equipment.
- Page 45, Objective 3.6: Consider adding communication skills to this objective. Further, it may be useful to cross-reference the HHS Office of Minority Health's national standards for culturally and linguistically appropriate services in health care (www.omhrc.gov/templates/browse.aspx?lvl=2&lvlID=15)

sanofi Pasteur (Phil Hosbach, Vice President Immunization Policy & Government Relations)

[Priority:] There should be a particular focus on increasing HHS/CDC communication efforts aimed at educating consumers, health-care professionals (HCP), and third party payers about the value and importance of immunization. **(p. 39)**

- It is essential to reaffirm the value, importance and safety of vaccines to consumers and HCPs to drive the vaccine uptake in the U.S.
- High and consistent consumer demand for existing vaccines has clear public health benefit and also supports a sound vaccine infrastructure.

[Other comments:]
The value of HHS/CDC communication geared towards consumers and physician groups should be a prominent feature of the Plan.

Goal 4 Comments: Ensure a stable supply of recommended vaccines, and achieve better use of existing vaccines to prevent disease, disability, and death in the United States

Bain & Company, Inc. (Andy Pasternak, Partner)

- *Further delineating the objectives within goal* 4: While grouped together, the objectives and strategies within goal 4 are actually two distinct goals: one related to availability of vaccines (supply), and the other related to use (demand). Addressing these goals requires different strategies, and both are critically important. It is recommended that the Plan be expanded to 6 goals, and separate plans be articulated for vaccine availability and use accordingly.

- For supply-constrained vaccines, an indicator should be added that pertains to the absolute level of bulk manufacturing capacity that is increased relative to current levels for U.S. licensed products / facilities.

- Another strategy to consider is the development and communication of supply contingency plans by vaccine manufacturers in the event of supply disruptions,

- An indicator should be added that pertains to the proportion of vaccine expenditures that are reimbursed through private and public health plans. Minimizing out-of-pocket requirements by individuals is essential to maintaining high immunization rates, as the individual transaction decision between patient and provider suboptimizes the public good. Consistent with this point, Strategy 4.2.2 is of particular importance in the plan.

- A strategy should be included that promotes the adherence of the VICP to evidenced-based decision-making. As illustrated by the Hannah Poling case, compensation decisions that are based purely on a "biologic plausibility" standard, even if scientific and clinical evidence suggest otherwise, undermines public confidence in our immunization program.

- Strategy 4.8.3 (prepare, practice and evaluate mass vaccinations activities for containment of an outbreak) is critically important and an area where the federal, state and local governments have a unique and essential role to play. As it relates to pandemic influenza specifically, much progress has been made by the federal government to ensure adequate availability of supply through vaccine stockpiles and surge capacity. However, delivery remains a key bottleneck that if not addressed will mitigate progress that has been made from a supply perspective.

- Strategy 4.2.5 (reducing financial burden on vaccination providers) is of particular importance, as increasingly unfavorable financial implications are becoming a growing impediment for vaccine availability among providers. The strategy should promote harmonized provider economics at acceptable levels.

Baxter Bioscience, Vaccines (Peter Khoury, PhD)

- Is a goal of 6 months for stockpile supply enough to meet the governments' needs? Would this amount have addresses a majority of historic shortages of vaccines? If not, would a larger stockpile covering a longer period be of benefit? What will be the determinants on which vaccine will be stockpiled (childhood vaccines, category of biological threat)?

Health Industry Distributors' Association (HIDA - Andrew E. Van Ostrand, Vice President of Policy & Research, HIDA)

Goal 4: Adequate production, distribution, and stockpiles of certain existing vaccines could be bolstered by financial support from the government via increased reimbursement for providers who purchase these vaccines, as well as by guaranteed purchases by government to incentivize distributors and manufacturers who currently produce and or buy/distribute vaccine that is not utilized and/or returned due to lack of public interest in preventative immunizations.

In addition, increased information and education about the value of diagnostic testing for certain diseases could help spur greater interest in and administration of vaccines. For example, patients who are tested for flu at a physician's office and learn they do not have it may be more inclined to receive flu vaccination on the spot. Meanwhile patients who do test positive for influenza may be more inclined to encourage their loved ones and daily contacts to be vaccinated against the disease.

HIDA supports the National Vaccine Plan and is available to assist with the educational aspects regarding the suggested additions to Goals 3 and 4. The association is also willing to assist to the best of its ability with any requests from the NVPO. Thank you.

Merck & Company (Mark Feinberg, MD, PhD, FACP, Vice President, Medical Affairs and Policy)

Goal 4: Ensure a stable supply of recommended vaccines and achieve better use of existing vaccines to prevent disease, disability and death in the United States	The United States will have 6 months' supply of all vaccines appropriate to stockpile.	Criteria to define "appropriate to stockpile" should be developed and applied to all vaccines. Some vaccines require more than 6 months to manufacture a single lot, so the inventory level should be developed in an informed manner, recognizing the cycle time for manufacture. This indicator should be reconciled with efforts of the CDC

		Stockpile Working Group, which endeavors to rationalize stockpile levels.
	Reduce financial and non-financial access barriers, such as cost, availability, culture and language, to immunization by 2020 so that: • _X_% of parents of infants and children report no barriers to immunization; • _X_% of parents of adolescents report no barriers to immunization; and • _X_% of adults report no barriers to immunization.	Merck supports the goal of access to affordable health insurance with vaccination benefits for all. Merck believes this is best attained by strengthening the existing public- and private-sector collaboration on vaccine access and financing that has generally enabled high rates of vaccination, especially for children. Strengthening the system requires recognition of the value of vaccination, adequate fiscal appropriations by governments and private-sector stakeholders (e.g., employers, insurers) to provide sufficient resources for vaccine purchase and administration, and increased attention and resources devoted to adult immunization. Because there are numerous barriers to an optimal system, any solutions will need to be comprehensive to have the desired effect. Other barriers to evaluate include logistical issues (e.g., distance from or transportation to a vaccination provider), societal (e.g., healthcare-delivery models that do not prioritize vaccinations programs), and cultural issues (e.g., attitudes toward vaccination).
	Reach or exceed Healthy People 2020 vaccine coverage levels once established, through incrementally increasing coverage rates for	These are important indicators; it is essential that they address disparities evident based on ethnicity or age. Considering,

	pediatric, adolescent and adult populations using coverage levels in 2010 as a baseline.	for example, that pneumococcal 23-valent vaccination levels among adults have plateaued since 2002, considerable extra effort will be needed to reach 2020 goals. Progress toward the Healthy People 2020 goals is the key outcome measure, not the process measures of the preceding indicators.
	X% of electronic health record systems and Y% of immunization information systems will include reminder and recall systems for vaccination by Y (year).	Progress may be more precisely measured by changing the denominator to "lives served by systems."
	Within Y years after its ACIP recommendation, surveillance for at least one major disease outcome for each routinely recommended vaccine will be implemented in X% of states.	We recommend this indicator encompass all States, not just a fraction of them.
	The Vaccine Injury Table is updated as needed (at least every X years).	Consider moving this indicator to Goal 3. If no update to the VIT was needed after X years, which federal official would certify this determination?
		An indicator should be added to enhance the mutual recognition of manufacturing-facility inspectors of certain countries, to avoid diverting industrial resources on redundant inspections. Such mutual recognition should manifest as streamlined, uniform regulatory review with more transparent review guidelines and standards, in a way that does not compromise safety.
		US Government efforts to harmonize recommended vaccination schedules among

		countries would facilitate vaccine development.
		As stated earlier, an indicator should be added (under one of the Goals of this Plan) to overcome liability as a barrier to vaccine development (e.g., in maternal vaccination where a fetus is not covered by liability safeguards).
		An indicator should be added to assess the number of lives (both children and adults) covered by electronic immunization records.
		The US Government should add an indicator to assess and reduce the degree to which the supply chain for imported vaccines (or their components) is vulnerable to disruption overseas in the event of a global or multinational emergency.

- Page 49, Figure 6: The box labeled "Disease Surveillance" should be shaded.
- Page 49, Strategy 4.1.1: Insert at beginning of sentence "While maintaining high quality and licensure standards…" Further, we suggest changing "two suppliers" to "two sources of supply" (which could be satisfied by a single sponsor) to more readily achieve the desired goal. Another option would be to stockpile bulk vaccine substance, which generally tends to have a longer shelf life than packaged product.
- Page 49, Strategy 4.1.2: Please clarify which vaccine standards need to be harmonized. Presumably these are production standards.
- Page 50, Objective 4.2: Add a strategy that calls for support to the existing system of private-sector vaccine providers, providing them the tangible and intangible resources needed to sustain this form of vaccine delivery.
- Page 50, Strategy 4.2.1: Insert "required" in front of "by publicly funded health insurance plans…" to complete the thought.
- Page 50, Strategy 4.2.5: Insert "and storage" after "for purchase…" to complete the context.
- Page 52, Strategy 4.4.5: Change "Monitor" to "Conduct studies to assess…"

- Page 52: Add Strategy 4.4.7, Support the development and implementation of a web-based reportable disease notification system.
- Page 53, Strategy 4.5.8 and elsewhere in document: Change "compliance" to "adherence"
- Page 54, Strategy 4.8.2: Insert "and regulations" after "state immunization laws…" Insert "pre-school," after "childcare…."
- Page 54, Strategy 4.8.3: Change "Plan" to "Prepare"

sanofi Pasteur (Phil Hosbach, Vice President Immunization Policy & Government Relations)

[Priorities:]

- Physicians play an essential role in the immunization process and adequate physician reimbursement must be addressed in greater detail in the report.

- Reimbursement for the costs of vaccines as well as related administration costs must be prompt and adequate. This would serve as great incentive to ensure increased coverage rates across the nation.
  - In addition, greater attention should be paid to Medicaid payment rates. Medicaid payment rates vary by state with some states reimbursing well below the cost for vaccine administration. These admin fees are paid to VFC providers and could result in a decline in private physician enrollment in the VFC program.

- Various ways to encourage first-dollar coverage by private insurance for vaccines should be explored in greater detail. The goal is that health plans cover all ACIP recommended vaccines for all age groups. One option that should be examined is the use of tax credits and/or other financial incentives for individuals and employers.

- There should continue to be an emphasis on the goal of minimizing the impact of racial disparities.
  - This issue should be made a priority and be included in the body of the Plan (currently discussed in Appendix 4) as more needs to be done on how to reach these populations.
  - We must develop creative solutions to this problem, perhaps testing various short-term pilot projects that can potentially serve as models for implementation.

- The report should also expand its discussion about the best ways to immunize adolescents and adults. These two groups are not immunized as often as they should be immunized, and we need to focus on identifying the most effective ways to reach these populations.

[Other comments:]

Goal 4 should include the timeframe by which we expect to have a six month stockpile of all vaccines.

There should be a more detailed discussion in the Plan of the use of Immunization Information Systems (IIS) and electronic medical records (EMR).

- A comprehensive survey on the status of registries across the nation should be undertaken.
- There needs to be interoperability of registry systems across the country as well as integration of registries with any health information record systems being used.
- Key features of value to "on the ground" vaccinators (e.g., ability to generate reminder/recalls, quick identification of vaccine gaps for individual patients) should be part of registry systems.
- Additional funding for such systems could be provided through grants and contracts to state and local agencies and other non-profit entities.

When considering modifications to the Vaccine Injury Table of VICP, it is essential that any changes be based on sound, science-based evidence; failure to do so can generate unfounded concerns. **(p. 48)**

Private enterprise, particularly larger corporations, should be encouraged to view themselves as immunization stakeholders and often as immunization providers.

- Good preventive care, including immunizations, helps keep employees healthy and "on the job."
- Workplaces can also provide a convenient channel for efficient vaccine delivery and greater emphasis should be placed on this in the report.

Goal 5 Comments: Increase global prevention of death and disease through safe and effective vaccination

Bain & Company, Inc. (Andy Pasternak, Partner)

- *Specifying disease priorities in the plan:* Currently, the plan proposes a process to define a set of disease priorities to promote future vaccine development. However, establishing these priorities is of such critical importance that a process should be initiated now and completed in time to include in the final plan. The GAVI Alliance has conducted such a process for developing world priorities, and this has enabled this plan to reference specific disease targets (and associated coverage goals) in Goals of the plan.

- As it relates to the last indicator (X countries enhance injection safety by Y year), promoting the use of auto-disable syringes and other safety injection approaches should be balanced with the cost implications and resulting impact on affordability, which constrains overall utilization of vaccines. This consideration should be factored into the final language of the indicator.

- Strategy 5.1.3 (strengthening global surveillance) is particularly important. A major constraining factor to policy recommendations, vaccine development and demand for vaccines among developing world countries is the lack of good epidemiological data. For example, while diarrheal disease is known to be a serious health problem in sub-Saharan Africa, the contribution of the Rotavirus pathogen specifically is not well understood, and thus uptake of Rotavirus vaccines has been (and will continue to be) slow to occur.

- The language of Strategy 5.4.1 (Support appropriate economic studies to inform the understanding....among key decision an policy-makers) should be broadened. Federal and Non-federal stakeholders should support evidenced-based (economic and otherwise) policy decision-making by international actors.

Baxter Bioscience, Vaccines (Peter Khoury, PhD)

- Should additional pathogens be listed in the goal indicators for Goal 5?
- In order to facilitate research impacting the developing world perhaps a plan to offer regulatory incentives and commercial protection above and beyond the traditional commercial product.
- How will harmonization through international regulatory groups be attained? What will be the indicator that this has occurred?

Merck & Company (Mark Feinberg, MD, PhD, FACP, Vice President, Medical Affairs and Policy)

Goal 5: Increase global prevention of death and disease through safe and effective vaccination	Transmission of wild polio virus will be eradicated by Y (year).	
	Mortality from measles will be reduced by X% by Y (year) compared with an X (year) baseline.	
	X% of countries will achieve DTP3 vaccination coverage of 90% or greater nationally (and 80% or greater in each country's district) by Y (year).	Districts should be plural.
		Haemophilus influenzae type b, hepatitis B, human papillomavirus, and perhaps other diseases should be added to the indicators.
	Support introduction of new vaccines as part of national vaccination programs: • Meningococcal vaccine in all African countries in the "meningitis belt" by Y (year); • Rotavirus vaccine in X countries by Y (year); and • Pneumococcal conjugate vaccine in Z countries by Y (year).	The list should be prioritized based on public health need. A mechanism should be provided to augment this list, perhaps by linking it to other vaccines provided via Expanded Programme on Immunization (EPI) or an Accelerated Development and Introduction Plan (ADIP)- or GAVI-like process. The US Government should increase its collaboration with international organizations like GAVI and engage in innovative mechanisms to sponsor vaccine development (eg, Advanced Market Commitments, International Finance Facility for Immunization). Merck is willing to work with the US Government on evaluating potential incentives for

		manufacturers to build capacity to allow these goals to be met more readily. Merck has already committed itself to contributing to vaccine solutions for the developing world.
	X countries establish immunization advisory committees by Y (year) that make evidence-based decisions on adding new vaccines to the routine program and monitor program quality, vaccination coverage, and vaccine safety.	This indicator might be actualized by means of US scientific and technical support to X countries.
	X countries enhance injection safety by Y (year) through the use of auto-disable syringes or other safe injection devices (e.g., needle free delivery) for all immunizations.	The benefits and risks of individual devices such as those named need to be carefully analyzed, including assessment of practicality of their use, to avoid unintended consequences. "All immunizations" may not be an appropriate goal and is not the US standard.
		The US Government should support investment in cold-chain management and vaccine thermostability.
		Countries should be encouraged to develop comprehensive adult immunization programs that should include influenza and pneumococcal infection as target vaccine-preventable diseases.

- Page 56, Goal 5: The US Government should collaborate more with US-based industry in its efforts to improve global health.
- Page 60, Strategy 5.3.3: Change "vaccine" to "vaccines"
- Page 60, Strategy 5.4.2: Insert "culturally appropriate," after "transparent…"
- Page 61, Strategy 5.4.6: Insert "and professionals" after "scientists…"
- Page 61, Strategy 5.5.4: Insert ", in accordance with current Good Manufacturing Practices" at end of sentence (to mimic Strategy 5.5.2).

sanofi Pasteur (Phil Hosbach, Vice President Immunization Policy & Government Relations)

[Priority:]
Dengue is another major global health concern and should be included in the language of the plan alongside HIV, tuberculosis and malaria. **(p. 56)**

[Other comments:]
How does the U.S. propose to influence other countries in achieving higher immunization rates per Goal 5? How will percentages and timeframe be determined? What national resources will be available to achieve these global objectives?

Comments on Appendices:

Merck & Company (Mark Feinberg, MD, PhD, FACP, Vice President, Medical Affairs and Policy)

- Page 64, Appendix, on Pneumococcal Vaccination: Revise last bullet that inaccurately characterizes the benefits of adult vaccination of pneumococcal vaccination (with polysaccharide vaccine)
- Page 65, Appendix in row with heading "Some vaccines requiring multiple doses…": Suggest the wording "has not affected access to immunization" be removed or softened in light of publications describing better vaccination coverage with use of combination vaccines (Marshall GS et al. Pediatric Infect Dis J 2007; 26 (6):496-500.
- Page 65: In line with above, also do not agree that no evidence of cost effectiveness for combination vaccines

Complete Comments by Stakeholder Sector – Vaccine Industry and Vaccine Researchers

Bain & Company, Inc. (Andy Pasternak, Partner)

Below please find our response to the draft National Vaccine Plan, as requested by the National Vaccine Program Office. Please note that given the limited timeframe (i.e., less than 3 weeks) between the request for input and the submission due date, this response represents a focused set of observations and recommendations, and not a thorough commentary on all elements of the plan.

Bain & Company, Inc. is a leading internationally strategy consultancy. As a consultant to stakeholders involved in the vaccines enterprise, neither myself nor Bain &Company has any direct role as described in the Plan's stakeholder framework. Thus, I have not commented on the role that I or my organization should play in the execution of the Plan. My colleagues at Bain & Company, Inc. and I would be happy to provide additional input to the plan and its implementation as desired.

Andy Pasternak
Partner
Bain & Company, Inc.

This response is organized into two over-arching sections: 1) Overall plan considerations, and 2) Specific priority issues & strategies to address.

Overall Plan Considerations
The development of an overall long-term plan for the u.s. vaccines enterprise is a critical endeavor. The current plan as drafted has many merits, including a small number of high-level goals, key performance indicators to track success and a thorough consideration of the range of strategies that can contribute to furthering the goals set forth. Clearly, careful thought has gone into the current draft of the plan, and the contributors to date should be commended for their significant accomplishment.

That said, there are several aspects of the plan structure that are worthy of further consideration, as follows:

- *Clarifying the role of individual stakeholders in the plan:* As noted in the draft plan, multiple stakeholders typically contribute to strategies that achieve one of the five goals in the plan. However, to promote accountability, it is critical to delineate the respective roles with some degree of specificity across these stakeholders. In particular, the role of federal government agencies (and especially DHHS) in achieving the 5 goals should be clearly articulated for two reasons: 1) most of the stakeholders outside of the federal government represent a fragmented group of constituents (e.g., industry, providers, academia, public) and thus achieving their alignment around specific strategies will be less feasible than doing so by the federal government; 2) while input is being sought from the full

range of stakeholders, the final decision on the elements of the plan rests with DHHS; thus its committed role in executing the proposed strategies and achieving the stated goals is important to articulate and appropriate to expect.

- *Ensuring accountability:* The draft plan very clearly describes goals and metrics for success, but does not describe how various stakeholders will be held accountable for achieving these goals. The plan asserts that "what gets monitored gets done/' but that is only the case when those being monitored are held accountable for achieving the outcome. One idea DHHS may consider is asking various stakeholders to make a written commitment to the aspects of the plan that they intend to actively promote. In addition, consistent with the roles and responsibilities point above, federal government agencies should be held accountable for their contributions to this plan, with separately articulated indicators associated with their performance.

- *Clarifying the purpose of articulating specific strategies:* Because measurements of success will be at the "Goal" level and not at the "Strategy" level the plan should clarify expectations relative to specified strategies. Are strategies suggestions, or interchangeable alternatives for achieving the goal? Will the plan be deemed a success if an overall goal and associated indicators are achieved, but certain articulated strategies are not? If the achievement of specific strategies is deemed paramount in the overall endeavor, independent of the goal and associated indicators, they should be noted as such and metrics for tracking progress of those strategies should be developed,

- *Prioritizing strategies:* Assuming that the achievement of certain strategies is important independent of the overarching goals, the plan should prioritize those strategies, Currently, there are 146 different strategies proposed across the goals and objectives. It is clear that the value potential in terms of achieving the goals is not evenly distributed among these strategies, A key success factor in most endeavors is focusing on a smaller, rather than larger, number of strategies around which resources and oversight can be mobilized; otherwise, effort and oversight can become overly diffused, thereby jeopardizing the success of all proposed strategies. A prioritization should be conducted on the basis of an evidenced-driven determination of relative impact across strategies on public health outcomes. This prioritization should distinguish "must-have" strategies from those that are desirable but less critical to the overall goals of the plan.

- *Specifying disease priorities in the plan:* Currently, the plan proposes a process to define a set of disease priorities to promote future vaccine development. However, establishing these priorities is of such critical importance that a process should be initiated now and completed in time to include in the final plan. The GAVI Alliance has conducted such a process for developing world priorities, and this has enabled this plan to reference specific disease targets (and associated coverage goals) in Goals of the plan.

- *Further delineating the objectives within goal* 4: While grouped together, the objectives and strategies within goal 4 are actually two distinct goals: one related to availability of vaccines (supply), and the other related to use (demand). Addressing these goals requires different strategies, and both are critically important. It is recommended that the Plan be expanded to 6 goals, and separate plans be articulated for vaccine availability and use accordingly.

Specific Priority Issues & Strategies to Address

Goal 1 observations:

- In strategy 1.1.1, a qualification should be added as it relates to a prioritization that "considers the leading causes of morbidity and mortality from infectious diseases... ". This qualification should note that not only current causes, but future potential causes of morbidity and mortality should be considered in ongoing disease prioritization. For example, while invasive pneumococcal disease has been dramatically lowered among children due to the use of conjugate vaccines, continued serotype replacement may lead to the need over time for alternative technologies (e.g., universal protein vaccines). Another example would be vector-borne diseases such as dengue fever, which while not prevalent in the U.s. today are likely to become more significant health threats over time due to climate change. Vaccine development against future priorities needs to happen in the present given the long timeframe to product licensure and use.

- A strategy should be included that promotes the establishment of clear regulatory guidance on the use of novel adjuvants in vaccines. Newer adjuvants represent an important advance in vaccinology; however, a lack of clear regulatory guidance on their acceptability for various populations and situations will constrain additional innovation utilizing these tools.

- Continued support of HIV vaccine development should be an explicit strategy, and one which also applies to Goal 5, given the long time horizon of this plan. Federal government agencies have a critical role to play in supporting "push" strategies that are necessary to continue HIV vaccine development efforts, as market forces alone will not be sufficient to drive adequate private sector investment due to the tremendous technological obstacles and resulting high candidate failure rates.

- Strategy 1.4.4 (further identification of biomarkers and immune correlates of protection) is particularly important for encouraging the development of improved vaccines and increased supply, as this reduces the cost and timeframe for clinical development.

Goal 4 observations:

- For supply-constrained vaccines, an indicator should be added that pertains to the absolute level of bulk manufacturing capacity that is increased relative to current levels for U.S. licensed products / facilities.

- Another strategy to consider is the development and communication of supply contingency plans by vaccine manufacturers in the event of supply disruptions,

- An indicator should be added that pertains to the proportion of vaccine expenditures that are reimbursed through private and public health plans. Minimizing out-of-pocket requirements by individuals is essential to maintaining high immunization rates, as the individual transaction decision between patient and provider suboptimizes the public good. Consistent with this point, Strategy 4.2.2 is of particular importance in the plan.

- A strategy should be included that promotes the adherence of the VICP to evidenced-based decision-making. As illustrated by the Hannah Poling case, compensation decisions that are based purely on a "biologic plausibility" standard, even if scientific and clinical evidence suggest otherwise, undermines public confidence in our immunization program.

- Strategy 4.8.3 (prepare, practice and evaluate mass vaccinations activities for containment of an outbreak) is critically important and an area where the federal, state and local governments have a unique and essential role to play. As it relates to pandemic influenza specifically, much progress has been made by the federal government to ensure adequate availability of supply through vaccine stockpiles and surge capacity. However, delivery remains a key bottleneck that if not addressed will mitigate progress that has been made from a supply perspective.

- Strategy 4.2.5 (reducing financial burden on vaccination providers) is of particular importance, as increasingly unfavorable financial implications are becoming a growing impediment for vaccine availability among providers. The strategy should promote harmonized provider economics at acceptable levels.

Goal 5 observations:

- As it relates to the last indicator (X countries enhance injection safety by Y year), promoting the use of auto-disable syringes and other safety injection approaches should be balanced with the cost implications and resulting impact on affordability, which constrains overall utilization of vaccines. This consideration should be factored into the final language of the indicator.

- Strategy 5.1.3 (strengthening global surveillance) is particularly important. A major constraining factor to policy recommendations, vaccine development and demand for vaccines among developing world countries is the lack of good epidemiological data. For example, while diarrheal disease is known to be a serious health problem in sub-Saharan Africa, the contribution of the Rotavirus

pathogen specifically is not well understood, and thus uptake of Rotavirus vaccines has been (and will continue to be) slow to occur.

The language of Strategy 5.4.1 (Support appropriate economic studies to inform the understanding....among key decision an policy-makers) should be broadened. Federal and Non-federal stakeholders should support evidenced-based (economic and otherwise) policy decision-making by international actors.

Baxter Bioscience, Vaccines (Peter Khoury, PhD)

We appreciate the opportunity to supply feedback on the draft National Vaccines Plan. Although Baxter currently does not have a registered vaccine in the United States, we do plan on entering the market in the near future and appreciate the opportunity to comment on the future direction and strategy included in the National Vaccine Plan Please find the answers to the 4 areas listed below:

(1) *Comments on priorities for the National Vaccine Plan for a ten-year period:* What do you recommend be the top priorities for vaccines and the immunization enterprise in the United States and globally? Why are those priorities most important to you?

Although the research, development and approval of new vaccines are important in furthering disease prevention, we currently have vaccines available that are underutilized. Communication of vaccine recommendations to recipients is an important issue. The availability of patient education supplied through manufacturers and through the CDC benefits the physician and health care staff in providing this education. Unfortunately the groups that are outspoken against vaccines, question vaccine safety and link vaccine use to unfounded side effects, are highly vocal and must be strongly rebutted. It is important not only for vaccine recipients to know which vaccines to get and how, but to also realize the safety and overall benefits of vaccination. It is important to communicate the truth regarding vaccines, communicate it to the public through many different channels and take an aggressive stance against the misinformation that circulates about immunizations.

(2) *Comments on the goals, objectives, and strategies for the National Vaccine Plan for a ten-year period:* Please comment on the existing goals, objectives, and strategies in the draft Plan, and suggest specific goals, objectives, or strategies to be added to it, if the existing ones do not address your concerns. Are there any goals, objectives or strategies in the draft strategic Plan that should be discarded or revised? Which ones, and why?

- Developing *New and improved vaccines* should have well defined endpoints. For new vaccines, certain disease targets such as WNV, Lyme, Chikungunya or categories of targets such as Neglected Tropical Diseases or Newly Emerging Diseases should be specifically cited.

- More specificity around which government organization (DHS, USAID, HHS, DoD, etc.) will perform which objective. Assignment of the objectives and goals is not clear to the reader.
- For the sake of pandemic or biodefense vaccines, should research of adjuvants be a specific goal? Similarly should research of vaccine enhancements such as stabilizing agents and alternative delivery methods that may ease administration in the developing world or in emergency use situations be specifically broken out as a goal?
- Is a goal of 6 months for stockpile supply enough to meet the governments needs? Would this amount have addresses a majority of historic shortages of vaccines? If not, would a larger stockpile covering a longer period be of benefit? What will be the determinants on which vaccine will be stockpiled (childhood vaccines, category of biological threat)?

(3) ***Comments on the indicators for the National Vaccine Plan for a ten-year period:*** **Please comment on the existing indicators in the draft Plan, and suggest target estimates for them. Please suggest new indicators to be added to it, if the existing ones do not address your concerns. Are there any indicators in the draft strategic Plan that should be discarded or revised? Which ones, and why?**

- Should additional pathogens be listed in the goal indicators for Goal 5?
- In order to facilitate research impacting the developing world perhaps a plan to offer regulatory incentives and commercial protection above and beyond the traditional commercial product.
- How will harmonization through international regulatory groups be attained? What will be the indicator that this has occurred?

(4) ***Comments on stakeholders' roles in the National Vaccine Plan:*** **Please identify which stakeholders you believe should have responsibility for enacting the objectives and strategies listed in the draft Plan, as well as for any new objectives and strategies you suggest. Specifically identify roles your organization can play in the Plan.**

Better definition of the roles and responsible government agency would be helpful to the reader. A table that describes pathogen, research area, and which stage of support or funding will be helpful for industry to better target areas for research. Currently there does not seem to be definitive delineations on priorities between the different government agencies, and little detail on transfer of programs during the development process. It is encouraging that one of the targets for the new plan is to facilitate better communication and teamwork between government organizations and with the industry.

Please let me know if further clarification is needed.

Regards,

Peter Khoury, Ph.D., MBA
Vice President, Global Marketing
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Health Industry Distributors' Association (HIDA - Andrew E. Van Ostrand, Vice President of Policy & Research, HIDA)

Thank you for the opportunity to submit comments on the draft National Vaccine Plan. Below are the responses from the Health Industry Distributors Association (and also on behalf of the Flu Vaccine Business Practices Initiative, which is comprised of influenza vaccine stakeholders including distributors, vaccine manufacturers, and diagnostic test manufacturers). If you have any questions on the responses below please contact:

Andrew E. Van Ostrand
Vice President of Policy & Research, HIDA
703-838-6125
Vanostrand@HIDA.org

Or

Melia Sandler
Director of Communications, HIDA
703-838-6111
Sandler@HIDA.org

Per your e-mail: *I am writing to ask for HIDA's input into the draft strategic National Vaccine Plan that was released late last year. …Both the draft strategic National Vaccine Plan and the 1994 National Vaccine Plan are available at http://www.hhs.gov/nvpo/vacc_plan/. …Specifically, we are interested in your thoughts on one or more of the areas below:*

(1) Comments on priorities for the National Vaccine Plan for a ten-year period: What do you recommend be the top priorities for vaccines and the immunization enterprise in the United States and globally? Why are those priorities most important to you?

The current prioritization of Goals 1-5 is appropriate. However, given the less than optimal utilization by healthcare workers of some vaccines (ex. influenza) it may be prudent to move Goal #4 *(Ensure a stable supply of recommended vaccines and achieve better use of existing vaccines to prevent disease, disability and death in the United States)* to the Goal #1 position. By doing this, and by tackling the underutilization of existing vaccines, we can better ensure that the effort expended in developing new vaccines is maximized.

(2) Comments on the goals, objectives, and strategies for the National Vaccine Plan for a ten-year period: Please comment on the existing goals, objectives, and strategies in the draft Plan, and suggest specific goals, objectives, or strategies to be added to it, if the existing ones do not address your concerns. Are there any goals,

objectives or strategies in the draft strategic Plan that should be discarded or revised? Which ones, and why?

Suggested additions to Goals 1-5…

Goal 1: Support the development of new manufacturing and production technologies (e.g., reverse genetics, etc.) that will enable vaccines to be produced faster and in greater volume to meet both emergency preparedness needs (ex. pandemic) and expanding ACIP recommendations (261 million Americans advised to get seasonal flu vaccine in 2008-09).

Goal 2: Increase transparency about the FDA/CBER vaccine inspection process and timelines to further bolster consumer confidence and healthcare worker (HCW) confidence in vaccine safety.

Goal 3: HIDA supports the recommendation that all health professional schools and training programs include vaccine and vaccine-preventable disease content in their curricula. Assessment of this knowledge should occur routinely. We additionally recommend that education about the vaccine supply chain be incorporated into this training to help HCWs understand how vaccine reaches them and to eliminate confusion or frustration on their part that may negatively impact their desire and/or ability to immunize.

A continuing education credit for practicing HCWs surrounding vaccine supply chain education could also assist veteran HCWs as they schedule immunization clinics, make plans to purchase vaccine, and work to answer patient questions about vaccination timelines, safety, and security.

Furthermore, increased education about vaccines, vaccine preservatives (i.e., thimerosal), and related issues can empower and inform HCWs and patients – making sure ALL available vaccines are utilized and thereby preventing the introduction and spread of redundant or prohibitive legislation that delays the manufacture and/or distribution of vaccines for target populations.

Goal 4: Adequate production, distribution, and stockpiles of certain existing vaccines could be bolstered by financial support from the government via increased reimbursement for providers who purchase these vaccines, as well as by guaranteed purchases by government to incentivize distributors and manufacturers who currently produce and or buy/distribute vaccine that is not utilized and/or returned due to lack of public interest in preventative immunizations.

In addition, increased information and education about the value of diagnostic testing for certain diseases could help spur greater interest in and administration of vaccines. For example, patients who are tested for flu at a physician's office and learn they do not have it may be more inclined to receive flu vaccination on the spot. Meanwhile patients who

do test positive for influenza may be more inclined to encourage their loved ones and daily contacts to be vaccinated against the disease.

Goal 5: No changes.

(3) Comments on the indicators for the National Vaccine Plan for a ten-year period: Please comment on the existing indicators in the draft Plan, and suggest target estimates for them. Please suggest new indicators to be added to it, if the existing ones do not address your concerns. Are there any indicators in the draft strategic Plan that should be discarded or revised? Which ones, and why?

No changes at this time.

(4) Comments on stakeholders' roles in the National Vaccine Plan: Please identify which stakeholders you believe should have responsibility for enacting the objectives and strategies listed in the draft Plan, as well as for any new objectives and strategies you suggest. Specifically identify roles your organization can play in the Plan.

HIDA supports the National Vaccine Plan and is available to assist with the educational aspects regarding the suggested additions to Goals 3 and 4. The association is also willing to assist to the best of its ability with any requests from the NVPO. Thank you.

Sincerely,

Andrew E. Van Ostrand

HIDA Vice President, Policy & Research

Merck & Company (Mark Feinberg, MD, PhD, FACP, Vice President, Medical Affairs and Policy)

Merck & Co. Inc. commends the Department of Health & Human Services (DHHS) for its commitment to foster innovation while serving the public-health needs of all US citizens and residents. We support US Government activities that are guided by sound scientific principles and evidence-based medical judgment.

In the course of development, licensure, and marketing of our drug and vaccine product candidates, Merck has acquired extensive experience that we used to author the

attached comments on the Draft Strategic National Vaccine Plan (November 26, 2008 version) posted at www.hhs.gov/nvpo/vacc_plan/2008plan/draftvaccineplan.pdf.
We thank the Department for the opportunity to comment on the draft Strategic National Vaccine Plan. Merck agrees that although significant successes were achieved following the publication of the 1994 National Vaccine Plan, many challenges remain. Addressing these challenges is critical to realizing the full public health benefits of the national vaccination program.

Our comments focus on Table 1, Measurable Indicators by Goal in the Draft Strategic National Vaccine Plan. Our comments are tabulated in the right column of the Table. Where we make no comments, we concur with the indicators as stated.
We provide the following general comments on the entire list of goals and indicators:

- We strongly recommend that the plan provide a detailed implementation plan for the goals and indicators enumerated in the table below and in the plan. The implementation plan should specify agencies with lead responsibility for achieving the goal or sub-goals. In other words, the plan should provide a level of detail more granular than that specified on pages 28 to 61 of the document. Such a level of detail informs clearer thinking that should facilitate successful actualization of the indicators.

- In addition, we recommend that the detailed implementation plan should integrate specific tasks for federal state and local agencies. The plan should also explicitly call on the agencies to collaborate to achieve the goals and indicators of the Plan.

- For the prioritized list of new vaccines called for in Goal 1 to be meaningful, the agency charged with developing a prioritized list must coordinate and align with the agency responsible for addressing reimbursement issues so that a Goal-1 vaccine would readily receive reimbursement once licensed. Similarly, the Food and Drug Administration (FDA) and the Centers for Disease Control and Prevention (CDC) should synchronize their post-licensure safety assessments, and more clearly delineate which agency has the lead role in various assessment scenarios. At the end of the document, we list additional editorial and other suggestions to enhance the document.

We appreciate the opportunity to share our thoughts on the Draft Strategic National Vaccine Plan. For further information or questions, please contact me by phone 1-215-652-8664 or email mark_feinberg@merck.com.

Best regards,
Mart B_ Feinberg, MD, PhD, FACP
Vice President
Medical Affairs and Policy

Attachment

Table 1. Measurable Indicators by Goal in the Draft Strategic National Vaccine Plan		
Goal	**Indicator**	**Merck Comments**
Goal 1: Develop new and improved vaccines	Within one year, create an evidence-based list of new vaccine targets to prevent infectious diseases that are high priorities for development.	This indicator is very important. The list should be carefully prioritized based on the public-health burden (current and emergent) of these diseases. The list should be used as the common priority list for activities of all federal agencies. The list should be detailed enough to describe the indication or target population of greatest public-health need, not simply a listing of pathogens by name (e.g., RSV for infants versus elderly). Vaccine needs for the elderly, immunocompromised people, and other subpopulations should be explicitly prioritized. Strategies to achieve this goal should include research to more completely define the epidemiology of a broad range of infectious diseases, to better define these needs. Merck is willing to participate on work groups convened for this task. The United States is underinvested in infectious disease epidemiology. Investments by government to more specifically describe disease burden would reduce uncertainty and help prioritize and assess where public and private investment in vaccine development would be most valuable. Merck would be willing to assist in developing a prioritized list of needs toward addressing broadly useful

		epidemiology questions and help in study design.
	Identify X candidate vaccines (*e.g.*, for HIV, malaria, TB, and a cross-protective vaccine for influenza) and advance Y priority vaccine candidates along the research and development pipeline including Z candidates into advanced clinical trials.	A time element for this indicator should be added. It may also be useful to cluster candidate vaccines for this purpose into categories (e.g., antibiotic-resistant organisms).
	Advance X new delivery strategies that will improve effectiveness, feasibility, acceptability, safety, or ease of administration of new or improved vaccines into clinical trials.	The meaning of "delivery strategies" should be clarified with examples. Insofar as "delivery strategies" encompasses new adjuvants (which may be critical for protecting special populations such as the elderly), the plan should focus on developing guidance, direction, and support for alternate and innovative adjuvants and immune modulators.
	In X years, have the capability to test potential vaccine candidates in clinical trials developed in response to an emerging infectious disease health threat within six months of the identification of the need for a vaccine.	Capability as used in the indicator may need further definition or quantification. Please clarify what event the 6-month interval is based on (e.g., candidate development, trial development, disease emergence). A timeframe of 6 month may not allow standard preclinical testing and feedback from regulatory agencies prior to clinical testing.
		The United States also needs a highly responsive capability to develop new vaccine candidates rapidly, a step that must occur before clinical trials can begin. Merck and other manufacturers may be able to play a role in this regard, especially in collaboration with the US Government.
		Goal 1 should also reflect the Nation's

		needs in biosecurity.
		An indicator should be added (under one of the goals of this plan) to ensure that the development of vaccines which may have the effect of benefiting unborn children is not discouraged (e.g., by including those claiming injury due to exposure in utero as covered claimants under the National Childhood Vaccine Injury Act, which would also have the effect of allowing such individuals to seek compensation under the VICP).

Goal 2: Enhance the safety of vaccines and vaccination practices	Conduct and disseminate the results of active and passive surveillance-based safety assessments for newly recommended vaccines or for vaccines with expanded recommendations: • Within 1 year of publication in CDC's Morbidity and Mortality Weekly Report of new or revised ACIP recommendations. • Within 1 year after X million doses have been distributed	The national goal must balance speed with quality. Timely results, based on poor quality data or design, do not serve the nation's interests. Results need to be vetted with learned intermediaries (e.g., ACIP work groups) before public release. A consistent method for conducting these assessments and disseminating their results should be developed and implemented. Consider performing assessments at several stages, such as after X million, 2X million, and 4X million doses have been administered. This approach would avoid depending only on a short-interval study that may have an inadequate comparator group (or inadequately understood baseline rates), be inadequately powered, or when reporting may be brisk and rare events may not be identified following initial introduction of the vaccine.

		The title of Goal 2 is somewhat misleading. The safety profile of a given vaccine is an inherent characteristic that cannot be enhanced. Additional studies could allow better understanding of the safety profile, but the profile, *per se*, cannot be changed. We propose to revise the title to read "Improve the knowledge and understanding of the safety profile of vaccines to enhance vaccination practices."
	Develop and disseminate plans for further investigation, if any, of newly detected AEFI signals and the rationale for those plans within X months of signal detection.	This indicator should focus on the International Conference on Harmonization (ICH) end-to-end (E2E) risk management plan (RMP) for each vaccine (which addresses known risks, potential risks, unknown risks). The ICH E2E program exists as a global standard. Good pharmacovigilance practice requires sponsors to have RMPs and procedures in place to identify and investigate emerging safety signals.
		AE report quality: An indicator should be added to increase the proportion of adverse event reports that include the vaccine's lot number, concomitant medications, underlying disease states, and other clinical details that would improve interpretation of vaccine safety data.
	By X year, X % of infants, children, adolescents, adults, and pregnant women will be under active surveillance for AEFIs	The percentages may need to vary for each of the specified cohorts. Rather than stating a percentage goal, consider stating a number of lives for each cohort, based on biostatistical needs, to assess incident events or incidence rates

		with defined degrees of confidence. Scientifically appropriate control groups are also essential.
	Conduct research to explore host factors and biological mechanisms associated with serious AEFIs and annually report results to the Assistant Secretary for Health, vaccine advisory committees, vaccine policy makers and other stakeholders	Such research is important, but should be approached in a prioritized manner with government involvement.
		An indicator should be added to enhance the ability to conduct controlled, randomized database studies. The US Government should enable more HMOs to establish electronic medical records (EMRs), to permit high-quality collaborative research. With more uniformity and compatibility (to allow concatenation), vaccine safety research would be enhanced.
		The US Government should support EMR standards that enhance the ability to conduct effectiveness and safety studies. One objective might be to overcome potential coding biases related to healthcare provider behavior (e.g., when reimbursement rates may influence code selection).
		The US Government should commission studies on the baseline epidemiology of AEFIs that have been associated temporally with vaccines historically (e.g., Guillain-Barré syndrome, myocarditis, unexplained death in young adults).
		The US Government should

		commission systems research on ways to optimize the quality of data obtained from research using administrative databases (e.g., ability to distinguish between incident and prevalent cases of a specific event or condition).
		The US Government and qualified independent experts should state their conclusions about vaccine safety more forthrightly and clearly describe their advocacy position to enhance the public health benefits of vaccination appropriately, with strong, evidence-based messages understandable by the broad American public.
		The US Government should add an indicator to monitor effectiveness of its efforts to detect and prevent distribution of counterfeit products.

Goal 3: Support informed vaccine decision-making by the public, providers, and policy-makers	Enhance communication with stakeholders and the public to more rapidly inform them (within _X_ days) about urgent and high-priority vaccine and vaccine-preventable disease issues (e.g., outbreaks, supply shortages, vaccine safety concerns).	The document should clearly state the initial time point to be used to calculate the "within X days" interval. The standard should be set carefully, to allow for scenarios where poorly understood situations would have to be reported before adequate guidance to the public could accompany it.
		In addition to more timely communication of "bad news," the US Government should commit to more timely communication of "good news" (e.g., shortening the gap between ACIP decisions and publication in the *MMWR*).

		The US Government should develop processes to more proactively communicate reliable science on disease risks and vaccine benefits and risks to the public, in terms broadly understood by the public, to refute unsubstantiated misconceptions on vaccine safety. Such routine and repeated culturally-appropriate communication will promote educated decision making by individuals.
		Each of the following indicators within Goal 3 would benefit from parallel construction aligned with the Healthy People 2020 objectives, which use a target percentage increase based on a best practice, when available.
	__X__ % of the public will report that they are satisfied with how their health care provider answers their questions about the benefits and risks of vaccines by Y (year).	
	__X__% of the public will report they have access to information which allows them to make informed vaccination decisions for themselves or their children by Y (year).	The US Government should play an active role in providing additional culturally-appropriate educational materials (with varying levels of information content) on the benefits of vaccination in general and that of specific vaccines to the public.
	__X__% of health care providers will report that they have access to accurate and complete information about vaccine benefits and risks and are able to adequately answer questions of parents	

	and patients by Y (year).	
	__X__ % of key decision- and policy-makers will report they have access to vaccine benefits, risks, and costs to make informed decisions about vaccine policy by Y (year).	
	By Y (year) all health professional schools and training programs will include vaccine and vaccine-preventable disease content in their curricula, and assess students' and trainees' knowledge.	These professionals need not just scientific content, but also communication skill training to convey that content to their patients in an understandable way. The US Government should commission development of additional communication curricula to meet this objective.
	By Y (year) all relevant health professional certifying examinations will include vaccine and vaccine-preventable disease questions.	This indicator is important, but we encourage emphasis on curriculum content.

Goal 4: Ensure a stable supply of recommended vaccines and achieve better use of existing vaccines to prevent disease, disability and death in the United States	The United States will have 6 months' supply of all vaccines appropriate to stockpile.	Criteria to define "appropriate to stockpile" should be developed and applied to all vaccines. Some vaccines require more than 6 months to manufacture a single lot, so the inventory level should be developed in an informed manner, recognizing the cycle time for manufacture. This indicator should be reconciled with efforts of the CDC Stockpile Working Group, which endeavors to rationalize stockpile levels.
	Reduce financial and non-financial access barriers, such as cost, availability, culture and language, to immunization by 2020 so that: • _X_% of parents of infants and children report no barriers to	Merck supports the goal of access to affordable health insurance with vaccination benefits for all. Merck believes this is best attained by strengthening the existing

	immunization; • _X_% of parents of adolescents report no barriers to immunization; and • _X_% of adults report no barriers to immunization.	public- and private-sector collaboration on vaccine access and financing that has generally enabled high rates of vaccination, especially for children. Strengthening the system requires recognition of the value of vaccination, adequate fiscal appropriations by governments and private-sector stakeholders (e.g., employers, insurers) to provide sufficient resources for vaccine purchase and administration, and increased attention and resources devoted to adult immunization. Because there are numerous barriers to an optimal system, any solutions will need to be comprehensive to have the desired effect. Other barriers to evaluate include logistical issues (e.g., distance from or transportation to a vaccination provider), societal (e.g., healthcare-delivery models that do not prioritize vaccinations programs), and cultural issues (e.g., attitudes toward vaccination).
	Reach or exceed Healthy People 2020 vaccine coverage levels once established, through incrementally increasing coverage rates for pediatric, adolescent and adult populations using coverage levels in 2010 as a baseline.	These are important indicators; it is essential that they address disparities evident based on ethnicity or age. Considering, for example, that pneumococcal 23-valent vaccination levels among adults have plateaued since 2002, considerable extra effort will be needed to reach 2020 goals. Progress toward the Healthy People 2020 goals is the key outcome measure, not the process measures of the

		preceding indicators.
	X% of electronic health record systems and Y% of immunization information systems will include reminder and recall systems for vaccination by Y (year).	Progress may be more precisely measured by changing the denominator to "lives served by systems."
	Within Y years after its ACIP recommendation, surveillance for at least one major disease outcome for each routinely recommended vaccine will be implemented in X% of states.	We recommend this indicator encompass all States, not just a fraction of them.
	The Vaccine Injury Table is updated as needed (at least every X years).	Consider moving this indicator to Goal 3. If no update to the VIT was needed after X years, which federal official would certify this determination?
		An indicator should be added to enhance the mutual recognition of manufacturing-facility inspectors of certain countries, to avoid diverting industrial resources on redundant inspections. Such mutual recognition should manifest as streamlined, uniform regulatory review with more transparent review guidelines and standards, in a way that does not compromise safety.
		US Government efforts to harmonize recommended vaccination schedules among countries would facilitate vaccine development.
		As stated earlier, an indicator should be added (under one of the Goals of this Plan) to overcome liability as a barrier to vaccine development (e.g., in maternal vaccination where a fetus is not covered by liability safeguards).

		An indicator should be added to assess the number of lives (both children and adults) covered by electronic immunization records.
		The US Government should add an indicator to assess and reduce the degree to which the supply chain for imported vaccines (or their components) is vulnerable to disruption overseas in the event of a global or multinational emergency.

Goal 5: Increase global prevention of death and disease through safe and effective vaccination	Transmission of wild polio virus will be eradicated by Y (year).	
	Mortality from measles will be reduced by X% by Y (year) compared with an X (year) baseline.	
	X% of countries will achieve DTP3 vaccination coverage of 90% or greater nationally (and 80% or greater in each country's district) by Y (year).	Districts should be plural.
		Haemophilus influenzae type b, hepatitis B, human papillomavirus, and perhaps other diseases should be added to the indicators.
	Support introduction of new vaccines as part of national vaccination programs: • Meningococcal vaccine in all African countries in the "meningitis belt" by Y (year); • Rotavirus vaccine in X countries by Y (year); and • Pneumococcal conjugate vaccine in Z countries by Y (year).	The list should be prioritized based on public health need. A mechanism should be provided to augment this list, perhaps by linking it to other vaccines provided via Expanded Programme on Immunization (EPI) or an Accelerated Development and Introduction Plan (ADIP)- or GAVI-like process. The US Government should

		increase its collaboration with international organizations like GAVI and engage in innovative mechanisms to sponsor vaccine development (eg, Advanced Market Commitments, International Finance Facility for Immunization). Merck is willing to work with the US Government on evaluating potential incentives for manufacturers to build capacity to allow these goals to be met more readily. Merck has already committed itself to contributing to vaccine solutions for the developing world.
	X countries establish immunization advisory committees by Y (year) that make evidence-based decisions on adding new vaccines to the routine program and monitor program quality, vaccination coverage, and vaccine safety.	This indicator might be actualized by means of US scientific and technical support to X countries.
	X countries enhance injection safety by Y (year) through the use of auto-disable syringes or other safe injection devices (e.g., needle free delivery) for all immunizations.	The benefits and risks of individual devices such as those named need to be carefully analyzed, including assessment of practicality of their use, to avoid unintended consequences. "All immunizations" may not be an appropriate goal and is not the US standard.
		The US Government should support investment in cold-chain management and vaccine thermostability.
		Countries should be encouraged to develop comprehensive adult immunization programs that should include influenza and pneumococcal infection as target vaccine-preventable diseases.

Suggestions for the Main Text (Draft Strategic National Vaccine Plan, 11/26/08 version)**:**

- Goal 4 (and page 47): The term disability is used where the authors may wish to specify both disability and impairment, which are distinct constructs.
- Page 17, Purpose, Perspective & Scope, second paragraph: The Plan should be aligned with Healthy People 2020 objectives, insofar as national disease outcomes are being assessed.
- Page 19, first full paragraph: Most of the indicators reflect Federal actions, rather than national ones. It may be appropriate to add indicators to assess performance of clinicians, health systems, health payers, and other stakeholders.
- Page 21: "attitude" in first paragraph connotes a subjective nature to vaccine development; recommend deletion.
- Page 25, third paragraph, line 8: Change "ill" to "will."
- Page 29, Strategy 1.4.9: The US Government should provide additional resources to the FDA to permit more frequent communication (e.g., early feedback, consultation during review) and more transparent review (e.g., more consultation and consistent expectations during review) with vaccine sponsors.
- Page 43, Strategy 3.3.3: Add web-based means of dissemination.
- Page 44, Strategy 3.4.1 and elsewhere in the document: Change "parents" to the more inclusive "parents and caregivers."
- Page 44, Strategy 3.4.5: Expand to include discussion of the risks of the relevant diseases, in comparison to the immunizations.
- Page 44, Objective 3.5: A strategy should be added to this objective to inform policy-makers about the economics of vaccine manufacture, on the need to recapitalize manufacturing equipment for existing vaccines from time to time to meet evolving stringent expectations of regulators. An analogy can be found in the utility industry that periodically needs to replace capital equipment.
- Page 45, Objective 3.6: Consider adding communication skills to this objective. Further, it may be useful to cross-reference the HHS Office of Minority Health's national standards for culturally and linguistically appropriate services in health care (www.omhrc.gov/templates/browse.aspx?lvl=2&lvlID=15)
- Page 49, Figure 6: The box labeled "Disease Surveillance" should be shaded.
- Page 49, Strategy 4.1.1: Insert at beginning of sentence "While maintaining high quality and licensure standards…" Further, we suggest changing "two suppliers" to "two sources of supply" (which could be satisfied by a single sponsor) to more readily achieve the desired goal. Another option would be to stockpile bulk vaccine substance, which generally tends to have a longer shelf life than packaged product.

- Page 49, Strategy 4.1.2: Please clarify which vaccine standards need to be harmonized. Presumably these are production standards.
- Page 50, Objective 4.2: Add a strategy that calls for support to the existing system of private-sector vaccine providers, providing them the tangible and intangible resources needed to sustain this form of vaccine delivery.
- Page 50, Strategy 4.2.1: Insert "required" in front of "by publicly funded health insurance plans…" to complete the thought.
- Page 50, Strategy 4.2.5: Insert "and storage" after "for purchase…" to complete the context.
- Page 52, Strategy 4.4.5: Change "Monitor" to "Conduct studies to assess…"
- Page 52: Add Strategy 4.4.7, Support the development and implementation of a web-based reportable disease notification system.
- Page 53, Strategy 4.5.8 and elsewhere in document: Change "compliance" to "adherence"
- Page 54, Strategy 4.8.2: Insert "and regulations" after "state immunization laws…" Insert "pre-school," after "childcare…."
- Page 54, Strategy 4.8.3: Change "Plan" to "Prepare"
- Page 56, Goal 5: The US Government should collaborate more with US-based industry in its efforts to improve global health.
- Page 60, Strategy 5.3.3: Change "vaccine" to "vaccines"
- Page 60, Strategy 5.4.2: Insert "culturally appropriate," after "transparent…"
- Page 61, Strategy 5.4.6: Insert "and professionals" after "scientists…"
- Page 61, Strategy 5.5.4: Insert ", in accordance with current Good Manufacturing Practices" at end of sentence (to mimic Strategy 5.5.2).
- Page 64, Appendix, on Pneumococcal Vaccination: Revise last bullet that inaccurately characterizes the benefits of adult vaccination of pneumococcal vaccination (with polysaccharide vaccine)
- Page 65, Appendix in row with heading “Some vaccines requiring multiple doses…”: Suggest the wording “has not affected access to immunization” be removed or softened in light of publications describing better vaccination coverage with use of combination vaccines (Marshall GS et al. Pediatric Infect Dis J 2007; 26 (6):496-500.
- Page 65: In line with above, also do not agree that no evidence of cost effectiveness for combination vaccines

sanofi Pasteur (Phil Hosbach, Vice President Immunization Policy & Government Relations)

Thank you for soliciting input from sanofi pasteur on the draft strategic National Vaccine Plan that was released late last year. We have reviewed the plan in detail and offer the following responses to your four key questions.

(1) *Comments on priorities for the National Vaccine Plan for a ten-year period:* What do you recommend be the top priorities for vaccines and the immunization enterprise in the United States and globally? Why are those priorities most important to you?

- There should be a particular focus on increasing HHS/CDC communication efforts aimed at educating consumers, health-care professionals (HCP), and third party payers about the value and importance of immunization. **(p. 39)**
    - It is essential to reaffirm the value, importance and safety of vaccines to consumers and HCPs to drive the vaccine uptake in the U.S.
    - High and consistent consumer demand for existing vaccines has clear public health benefit and also supports a sound vaccine infrastructure.
    - Physicians play an essential role in the immunization process and adequate physician reimbursement must be addressed in greater detail in the report.

- Reimbursement for the costs of vaccines as well as related administration costs must be prompt and adequate. This would serve as great incentive to ensure increased coverage rates across the nation.
    - In addition, greater attention should be paid to Medicaid payment rates. Medicaid payment rates vary by state with some states reimbursing well below the cost for vaccine administration. These admin fees are paid to VFC providers and could result in a decline in private physician enrollment in the VFC program.

- The success of the National Vaccine Plan is dependent on both public and private participation. In fact, the very success of the US national vaccine program was based upon public-private partnership and cooperation. It is critical this partnership continue to exist and does not become further fractured than it is currently perceived by those in the private sector. It will be a significant benefit to this plan that a healthy and vibrant private sector be maintained. This includes both physicians and manufacturers. In the absence of cooperation and coordination—and an appropriate balance between the public and private sectors—this plan cannot be achieved.

- Various ways to encourage first-dollar coverage by private insurance for vaccines should be explored in greater detail. The goal is that health plans cover all ACIP recommended vaccines for all age groups. One option that should be examined is the use of tax credits and/or other financial incentives for individuals and employers.

- The report should consider the establishment of systems that capture the baseline for naturally occurring events in the US population. The goal would be to

establish a baseline rate for events that can be temporally associated with immunization. The objective would be to better determine whether an increase/decrease exists from an epidemiological standpoint.

- It should be made clear how identified research priorities will influence CDC recommendations. Future immunization policies/recommendations need to be more predictable and better forecasted for private industry to commit large investments of resources and time in developing target vaccines.

- There should continue to be an emphasis on the goal of minimizing the impact of racial disparities.
    - This issue should be made a priority and be included in the body of the Plan (currently discussed in Appendix 4) as more needs to be done on how to reach these populations.
    - We must develop creative solutions to this problem, perhaps testing various short-term pilot projects that can potentially serve as models for implementation.

- The report should also expand its discussion about the best ways to immunize adolescents and adults. These two groups are not immunized as often as they should be immunized, and we need to focus on identifying the most effective ways to reach these populations.

- As drug resistant infections such as MRSA and *Clostridium difficile* continue to rise in hospital and community settings at alarming rates, developing vaccines for these infections should be a near-term priority.
    - The total burden of *C. difficile* infections exceeds 500,000 cases annually, contributing to at least 15,000 deaths in the U.S. each year at a cost of $3+ billion for treatment in hospitals.
    - Prioritizing vaccines for *C. difficile* will prove to be a realistic near-term goal that will meet an immediate medical need.

- Dengue is another major global health concern and should be included in the language of the plan alongside HIV, tuberculosis and malaria. **(p. 56)**

(2) *Comments on the goals, objectives, and strategies for the National Vaccine Plan for a ten-year period:* Please comment on the existing goals, objectives, and strategies in the draft Plan, and suggest specific goals, objectives, or strategies to be added to it, if the existing ones do not address your concerns. Are there any goals, objectives or strategies in the draft strategic Plan that should be discarded or revised? Which ones, and why?

- The value of HHS/CDC communication geared towards consumers and physician groups should be a prominent feature of the Plan.

- The executive summary describes the NVP goals as achieving "optimal prevention of infectious diseases…and optimal prevention of adverse reactions." To be precise, it is difficult to suggest that adverse reactions can be prevented to the same degree that the infectious disease can be prevented. Consider using a phrase such as "while enhancing vaccine safety."

- The timeframe calling for candidate vaccines to be in clinical trials within six months of identifying the need for the vaccine may be too ambitious. It is extremely unlikely that this portion of Goal 1 can be achieved given current and anticipated capabilities in the near term. **(p. 11)**

- If we are to provide adequate and comprehensive surveillance data, a sufficient amount of time must be allocated to data collection and to validating and analyzing the data before dissemination. The timeline in Goal 2, to report surveillance data "within 1 year," may not be adequate to fulfill the objective. **(p. 11)**

- The original 1994 language of Goal 2, which was, "ensure the safety and effectiveness of vaccines and immunization" is preferred over the less clear revision, "Enhance the safety of vaccines and vaccination practices." **(p. 32)**

- Goal 4 should include the timeframe by which we expect to have a six month stockpile of all vaccines.

- More details should be included about how we are going to achieve the Healthy People 2020 goals. What specific actions, programs, etc. (and associated resources [FTEs and dollars]) will be put in place to achieve this goal?

- How does the U.S. propose to influence other countries in achieving higher immunization rates per Goal 5? How will percentages and timeframe be determined? What national resources will be available to achieve these global objectives?

- There should be a more detailed discussion in the Plan of the use of Immunization Information Systems (IIS) and electronic medical records (EMR).
    - A comprehensive survey on the status of registries across the nation should be undertaken.
    - There needs to be interoperability of registry systems across the country as well as integration of registries with any health information record systems being used.
    - Key features of value to "on the ground" vaccinators (e.g., ability to generate reminder/recalls, quick identification of vaccine gaps for individual patients) should be part of registry systems.
    - Additional funding for such systems could be provided through grants and contracts to state and local agencies and other non-profit entities.

(3) *Comments on the indicators for the National Vaccine Plan for a ten-year period:* Please comment on the existing indicators in the draft Plan, and suggest target estimates for them. Please suggest new indicators to be added to it, if the existing ones do not address your concerns. Are there any indicators in the draft strategic Plan that should be discarded or revised? Which ones, and why?

- The Plan's first goal of developing and improving vaccines is a good one, but the goal's first indicator of creating an evidence-based list of new vaccine targets may need to be further clarified.
    - It is important to recognize that there are a number of factors that should be examined when considering any vaccine targets for an evidence-based list, such as severity of the disease, current science and technology, and feasibility and capability of manufacturing the vaccine.
    - Ensure that priority is given to scientific evidence as well as the severity and the frequency of disease. These factors should be considered more important than analyses of cost-effectiveness that could deter industry from producing a vaccine and/or prohibit recommendations for use. **(p. 25)**

- When considering modifications to the Vaccine Injury Table of VICP, it is essential that any changes be based on sound, science-based evidence; failure to do so can generate unfounded concerns. **(p. 48)**

(4) *Comments on stakeholders' roles in the National Vaccine Plan:* Please identify which stakeholders you believe should have responsibility for enacting the objectives and strategies listed in the draft Plan, as well as for any new objectives and strategies you suggest. Specifically identify roles your organization can play in the Plan.

- Industry should be fully and continuously engaged in the process of vaccine policy development.
    - Vaccine development and production is a complex and costly process that requires the commitment and agility of producers.
    - As the timeline involved in moving from initial R&D to final production can be long and complex, it is important that policy makers adequately value the critical role of vaccines in promoting public health.

- Private enterprise, particularly larger corporations, should be encouraged to view themselves as immunization stakeholders and often as immunization providers.
    - Good preventive care, including immunizations, helps keep employees healthy and "on the job."
    - Workplaces can also provide a convenient channel for efficient vaccine delivery and greater emphasis should be placed on this in the report.

- Adequate funding for FDA-CBER is essential to a consistent vaccine supply and to approve new and innovative vaccines to protect public health.

  - CBER must have the resources necessary to conduct reviews and approvals of vaccines as quickly as possible.
  - CBER must also have resources available to examine vaccine facilities as quickly as possible and release vaccine lots in a timely manner.

- Stakeholders will need to work together to accomplish goals such as advancing new delivery strategies and expediting testing of vaccine candidates in response to health threats.

- We think it is important to strengthen the number and expertise of FDA staff that are knowledgeable about vaccine issues. There are relatively few experts dedicated to the study of vaccines, and a number of these are involved in clinical research with manufacturers. Perhaps there needs to be a way to more effectively utilize these experts, with full disclosure of their activity and transparency throughout the process. They are among the most knowledgeable observers, but often their views are not solicited or included in the policy debate.

Again, we thank you for the opportunity to comment on this very important plan.

Sincerely,

Phil Hosbach
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& Government Relations
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