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P R O C E E D I N G S (8:15 a.m.)

Agenda Item: Welcome and Unfinished Business

OPERATOR: Welcome, and thank you for joining the 83rd quarterly meeting of the Advisory Commission on Childhood Vaccines. After each day's presentation, we will conduct a question and answer session. At that time, to ask a question, you may press star, then one. Today's conference is being recorded. If you have any objections, you may disconnect at this time. I will now turn the meeting over to the ACCV Chair, Mr. David King. Hearing may begin.

MR. KING: Thank you. Good morning. Welcome to all who are on the line. Welcome to all in the room. We are reconvening. I think that we'll do a quick around-the-room so that everybody knows who is present. Again, so if everyone would just state their name. I'll start.

David King, Chair.

MS. WILLIAMS: Michelle Williams, Vice Chair.

DR. DOUGLAS: Charlene Douglas, ACCV.

MR. KRAUS: Ed Kraus, ACCV.

LT. MARSHALL: Valerie Marshall, FDA.

MS. BERNSTEIN: Jessica Bernstein, NIH.

DR. SHIMABUKURO: Tom Shimabukuro, CDC.

MR. SMITH: Jason Smith, ACCV.

MS. DELAROSA: Luisita dela Rosa, ACCV.

DR. VILLAREAL: Silvia Villareal, ACCV.

MS. SAINDON: Elizabeth Saindon, Office of the General Counsel for HHS.

DR. EVANS: Geoffrey Evans, Division of Vaccine Injury Compensation, HHS.

MR. KING: And on the phone –

MS. LINGUITI PRON: Ann Pron, ACCV.

MR. KING: Great. Thank you. Okay, so let's get started. We had a busy day yesterday, and we want to thank everybody for being there and putting it all in, and making it happen. I think it was a highly productive day. So let us continue on our producing more than carbon dioxide.

So is there any unfinished business from day one, yesterday? Does anyone have anything that we didn't finish? I think that we can then move right along. There being no unfinished business, we will move to – so we are ahead of schedule now, according to the agenda, but as we say, there is a certain amount of fluidity to the schedule, and we'll just adapt and do what we need to do as we move forward.

So our first presenter is Dr. Tom Shimabukuro, do I have that? Thank you – who will give us an update on vaccine activities. Thank you.

Agenda Item: Update on the Immunization Safety Office (ISO), CDC

DR. SHIMABUKURO: Good morning. This is Tom Shimabukuro from CDC, and I'm going to be giving you some updates from the Immunization Safety Office at CDC.

I have a pretty short update; I'm just going to cover three topics. One is highlights from the February 2012 ACIP meeting, and then just mentioned, the IOM Committee on Assessment of Studies of Health Outcomes Related to the Recommended Childhood Immunization Schedule, and just run through some recent publications.

So the February 2012 ACIP meeting was a pretty quiet meeting. In fact, it was the most quiet ACIP meeting I've been to. There was only one vote, and that was on Tdap, and the session on Tdap included a discussion of the epidemiology of pertussis, cost-effectiveness of vaccination in older adults and safety and immunogenicity in older adults, and the approved language for the recommendation, carried by a vote of 14 to 1, was "for adults age 19 years and older, who previously have not received a dose of Tdap, a single dose of Tdap should be given."

So this pretty much extended that recommendation for older individuals. So all adults, it was recommended

to get a booster of Tdap when they're due for a tetanus-containing vaccine.

The actual implementation language is being drafted right now. The issue is that there are two Tdap vaccines; one is approved for older adults, one is not approved for older adults. The recommendation is not product-specific, and they want to keep it that way, but they want to be able to communicate that one of these is approved; one of the vaccines is approved, one is not. However the recommendation for boosting with Tdap is not product-specific. They don't want to put providers in the position where they feel like they need to stock one vaccine over the other, or if they don't have the approved vaccine, that they shouldn't give it, because they can give the non-approved vaccine. It's a licensed vaccine, it's just not approved for 65 plus. They can give that to any adult.

So I want to mention that the IOM Committee on Assessment of Studies of Health Outcomes Related to the Recommendation Child Immunization Schedule is conducting meetings. This is funded by the Immunization Safety Office and by the National Vaccine Program Office. They've already had one meeting, and they actually had their second meeting yesterday, and the charge to this committee was to

conduct an independent assessment surrounding the feasibility of studying health outcomes in children who are vaccinated according to the CDC-recommended schedule, and those who are not; e.g., children who are unvaccinated or vaccinated with an alternative schedule.

So just a simple finding that that's really studying the feasibility and ethical issues around conducting a vaccinated versus partially vaccinated versus unvaccinated study. And what they're going to do is review scientific findings and stakeholder concerns related to the safety of the recommended childhood immunization schedule, and identify potential research approaches, methodologies and study designs that could inform this question, including an assessment of the potential strengths and limitations of each approach, methodology and design, as well as the financial and ethical feasibility of doing them. And a report is expected in mid to late 2012, so coming up pretty soon.

Like I said, the Committee convened its first open meeting in February. During that meeting, Frank DiStefano, our Director, actually briefed the Committee on activities of the Immunization Safety Office and what the Immunization Safety Office does, and then yesterday, there was a series of presentations, but just of note, one of the

Vaccine Safety Datalink investigators was there and gave the Committee an update on what the Vaccine Safety Datalink is, and how we use that to monitor, do surveillance, of active safety surveillance.

So some selected publications of note that have come out recently. Schwei, et al., is a paper on intussusception following pentavalent rotavirus vaccine. This was Rotateq. This was a Vaccine Safety Datalink study. The uptake of Rotarix is – there isn't much uptake of Rotarix, so really, it can't be evaluated yet until we get more doses in the system, so this focused on Rotateq. And the key finding was that among US infants age 4 to 34 weeks who received Rotateq, the risk of intussusception was not increased compared to infants who did not receive the rotavirus vaccine. So essentially, a negative study.

Baxter, et al., looked at recurrent Guillain-Barre Syndrome following vaccination, and the key finding here was in the Vaccine Safety Datalink population of over 3 million members, during an eleven-year period, the risk of GBS recurrence was low, and there were no cases of recurrent GBS after influenza vaccination, none within six weeks of vaccines. This is sort of a re-challenge study. Yes?

MR. KRAUS: Tom, in that study, can you verify, are these people who had GBS unrelated to vaccination and then they were studied after vaccination to see if there was a recurrence, or are these people who had GBS following vaccination?

DR. SHIMABUKURO: I believe these are people who had GBS after vaccination, the numbers were so small, so I'm assuming that, but I will follow up on that and let you – and confirm that. I'm pretty certain it was GBS after vaccination. I'll follow up and get back to you on that.

MR. KRAUS: And I can – I see the site, so I just didn't know. Thanks.

DR. SHIMABUKURO: And then Stewart, et al., just looked at health-related quality of life and anthrax vaccination, in the anthrax vaccination program for workers in the laboratory response network. As you know, anthrax vaccine is not given to the general population, so it may be not be so relevant to this group, but bottom line is, there was no change from baseline in physical and mental scores in the study subjects following anthrax vaccination after thirty months.

So the next three, you'll see these two and then here's the last publication. So these are the three febrile seizure publications that I mentioned yesterday.

The first one, Leroy et al., looked at the signal detection and signal evaluation in VAERS, so in the 2010-2011 season there was a data mining signal. When that happened, we reviewed all the febrile seizure reports in VAERS, just to get an idea of what those reports looked like, and the bottom line is, all those reports, there are 42 of them, they were all in young children, and they were consistent with simple febrile seizures and all the children recovered. But it also gave a description of how FDA does mining for disproportional reporting in the VAERS database.

The next one is Tse et al; that's the VSD study that I discussed yesterday, and the graph on the presentation that I gave yesterday is in this paper. And really, what that showed was an elevated risk for febrile seizures observed in children six to 59 months of age, at a zero to one day risk interval. That's the date of vaccination to the day after vaccination.

Following 2010 trivalent influenza vaccine and 13 valent pneumococcal conjugate vaccine, PCV13, the highest risk was in children that received those vaccines concomitantly, and the risk peaked at sixteen months. The attributable risk was about 45 per 100,000 doses for concomitant TIV and PCV13.

As Dr. Evans mentioned yesterday, that was in the neighborhood of slightly less than what we see for MMR vaccine, and children that age get.

The last one, Broder et al., is really a policy piece that talks about how FDA and CDC monitor for vaccines and what we do when we see a signal, how we evaluate that signal. This was – typically we think of – we do signal detection in VAERS, it's really a hypothesis-generating type of surveillance system, and then we assess that signal in VSD. We also do what's called rapid cycle analysis of VSD, so we actually do surveillance of VSD as well.

This was kind of unique, because we detected signals of VAERS data mining, and in VSD rapid cycle analysis, almost simultaneously, and we're able to work that up fairly quickly, so the signal was detected and assessed in season, which is actually pretty remarkable. I think it's – that's indicative of the advances that the VSD group has done in improving their methodologies and their ability to assess these signals rapidly.

Do you have a question?

MR. KRAUS: If somebody files a VAERS report, and your data mining triggers your attention to it, are you able to go back and get additional information from whoever

it is that filed the VAERS report, either the provider or the individual?

DR. SHIMABUKURO: I was going to say, the data mining looks at – the data mining includes the VAERS database, so it basically uses these computer algorithms to detect disproportionate reporting. So I guess it's possible that a report could be the one that triggers the signal, but it's not like we get a report and that would trigger a signal. We would basically, and I'm reluctant to talk about data mining, because that's in FDA's lane and it's a little bit – it's kind of complicated, but what it does is look at is there a disproportionate number of reports for some condition in a specific product relative to others?

So for 2010-2011, Fluzone, which is Sanofi Pasteur's influenza vaccine, it's the only vaccine that's licensed in the 6 to 23 month age group. It was noted that there was a higher proportion of febrile seizure reports for Fluzone versus all other inactivated vaccines, in that specific age group. So that triggers – you hit a certain threshold, where mathematically, we consider it a signal. That does not say anything about causality. That just says we have disproportionate reporting. When we have that, then we assess that signal. There may be reasons for that,

and maybe that's something that's in the label, so it's a known adverse event.

Or we may suspect stimulated reporting. For example, you know when a new vaccine comes on the market, sometimes there's a lot of reporting; if there's something in the news, it may stimulate reporting. We do have an assessment for that, but when we looked at that, it looked like there were, from the data mining in VAERS, there's a true signal, and then that triggered the rest of the assessment. We had a signal in VSD as well.

But as far as follow-up, generally speaking, on SEER reports, or reports that are for conditions that we want to follow up on, we have a reason that maybe we want to follow up on those, FDA and/or CDC, we'll follow up on those and our contractor will request additional information, so we'll get medical records and if we need to contact the provider or the individual, we can reach out and do that.

So – I will just say, for example, during H1N1, every serious adverse event for H1N1 and every GBS case, we followed up and got additional information, because it was part of our safety monitoring protocol that we are going to follow on these cases.

DR. VILLAREAL: A comment on your first slide with Tdap; safety for pregnant women, because we are cocooning in the State of New Mexico some of the mothers, fathers and grandparents. We sort of lost funding on that, but specifically moms, so is it first trimester Tdap for pregnant women and postpartum –

DR. SHIMAKUBURU: Tdap can be given in pregnant women, and in our VAERS monitoring, we haven't seen any unusual or unexpected patterns reported.

DR. EVANS: Geoff Evans. Comment on this slide. This was just at the ACIP meeting, as Tom noted, but the FDA representative pointed out that this is off-label use now, meaning that it is not licensed for use above 65 years of age, which then brings up a question of liability. This actually came up even before this because of the outbreak of pertussis in California, and the fact that they were encouraging immunization in anyone they could get in older adults to try to protect them and to reduce the amount of pertussis occurring in the children.

So our answer, which is posted on the website, is that it does not affect your liability in terms of our program; it's a no-fault program, therefore whether it was given on or off-label is irrelevant in terms of the proceedings in our program, but that does not say anything

for what happens after the program, and that liability is still there.

And anecdotally, I don't have any reports that that's been an issue, but I just wanted to point that out. It's unusual for ACIP to vote a recommendation that is off label.

DR. VILLAREAL: Your second slide, looking at safety with what we call alternative schedules, I won't tell you what I call it really, but are you looking specifically, then, at folks who do the SEERS model or what we call designer shots; is that the specific on this alternative scheduling of unvaccinated and partially vaccinated?

DR. SHIMAKUBURU: Yes. It's looking at comparing outcomes and people that are – follow the CDC recommendations versus alternative schedule versus possibly unvaccinated; unvaccinated kids are extremely rare, it's usually somewhere in between, but we've actually done some work in VSD looking at differential health care utilization of people that follow, or don't follow the vaccine schedule, to different degrees. But I think the purpose of this committee was to really assess, is it actually feasible to compare outcomes in these groups, and some of the ethical issues around doing these steps.

DR. VILLAREAL: Again, the issue with this, and it's very critical for peds, the Academy of Peds has been writing about it a lot, but anecdotally, in many regions, we do have folks that come with their own agenda and their own way of giving vaccines, and then some, I would probably say about ten percent of my population, that have no vaccines at all; they really are dependent on the herd to keep themselves vaccinated. So I applaud this study here because I think that's really critical for us, because it is a major problem for pediatrics.

DR. SHIMABUKURO: Although I wouldn't say this was a study, this was more of an assessment –

DR. VILLAREAL: Exactly. Thank you.

MS. BERNSTEIN: Jessica Bernstein. Your second to last line mentioned the increased risk of febrile seizures when, I think, it was the PCV and TIV are given concomitantly? So I was just curious; at what point do you make a determination that a recommendation should go out not to give those at the same time?

DR. SHIMABUKURO: The ACIP general recommendations work group is actually thinking about this. It's kind of a difficult question; it involves, really, doing a risk benefit analysis, so I can't say specifically when that would be other than we would have to assess it

probably on a case by case basis when these types of safety issues come up.

MR. KRAUS: I had a question, if you could go back to the IOM study. It's a study about whether it's feasible to conduct a study of vaccinated versus unvaccinated, and I understand that; I'm wondering who's sitting on the IOM committee and from whom are they getting input?

DR. SHIMABUKURO: Actually, if you go on the IOM website, they'll give you the information of who's sitting on the committee, and as far as who's giving them input, they're an independent body, although they're soliciting input from experts in the field. They're holding these meetings where they're basically giving presentations to educate themselves, and they're soliciting input from the general public as well.

DR. EVANS: This is Geoff Evans. I went to the opening meeting in Washington, and this is a project that is going to get a fair amount of attention, understandably, and there's a diverse panel of folks whose ties to immunization are rather well looked at and quite limited, because of the objectivity that's required and the independence required for this project.

We can get you a copy of either the printout of the – there's a roster and the Chair and all that is listed very clearly on the website, or we can just give you the link and you can see. But we'll see that you get that in the meantime.

MR. KRAUS: Thank you. Just as a follow-up, I understand Sylvia's perspective as a pediatrician, the importance of conducting a study like this. From the perspective of petitioners' counsel, this is – you can't overstate how important this kind of study is in terms of the bigger issue of public trust in the vaccination system. So I'm very happy to see that this is going on, and I think that having heard a lot from the folks who do pursue alternative vaccination schedules, or try to go for it in an unvaccinated way, obviously people do it for lots of different reasons. Some of those reasons are valid, some of those are not valid. But just in terms of our job, or role, as a Commission, if we can monitor closely where this IOM committee assessment is going, I think we can maybe do a good service to the public, because I think it really matters to people who are concerned about vaccine safety, not in terms of one single adverse reaction from one single vaccine, but what do we know about the effects of all the vaccines in the current, what some would say compressed,

schedule, which exists for very legitimate reasons, but that, to me, is probably the most important issue that maybe we can address in the next couple of years, if our goal is to try to restore or rebuild the public trust in the vaccine system. Sorry, didn't mean to preach.

DR. DOUGLAS: This is Charlene Douglas. I do have a question about – it has always been a question to me, referring back to Sylvia's herd immunity. You've got to have a given portion of your population vaccinated for that to work, to keep everybody safe, and I don't know that the current thinking of people who choose not to vaccinate because those other people do, and so my kid will be okay. Is there a level of education, that first of all not all vaccines take at 100 percent, I don't know if any of them take at necessarily 100 percent, and then you get the people not vaccinating, how dangerous that is, just to keep it balanced, as we pursue that goal, not losing the fact of what a dangerous, and how many times in recent history we've come close to critical low levels of measles and lower levels of polio, making this country ripe for an outbreak. Are we ever involved in getting that message out?

MR. KRAUS: Can I respond to that? I know it wasn't directed at me.

DR. DOUGLAS: No it wasn't, it was for the record.

MR. KRAUS: This is Ed Kraus. In my experience, most people, not all, most people who don't vaccinate their children are choosing to not vaccinate their children because they want to rely on those who do, which is sort of where we get this kind of parasite accusation that by choosing not to vaccinate your child, you're sort of asking everybody else to bear the burden of vaccination.

In my experience, parents who choose not to vaccinate – most parents who choose not to vaccinate their children are doing so because they have some level, or they have a concern about, adverse reactions to vaccines.

Whether or not the concern is valid, or how valid or how legitimate, I get very frustrated at the idea that people choose not to vaccinate their children for no reason because they sort of don't feel like buying into the social contract of public health.

We've sat and we've looked at – just yesterday we looked at adverse reactions to vaccines. We also looked at the fact that certain people who have immune deficiencies are more susceptible to having adverse reactions. If you're a parent, and you happen to be aware of or concerned about immune issues, if you have an older child who's had a

bad reaction to a vaccine, and then some kind of developmental regression – whether or not the science, at this point, is able to show the relationship between the vaccination, the adverse reaction and then the regression, for the parent in that situation to decide, "I would rather wait to vaccinate my child", again, it might not be, and from the medical people around the table, I'm sure they would say it wouldn't be medically justified in many of those cases, but I don't think it's fair to imply that parents are sort of just kind of throwing their arms up and saying let other people worry about getting vaccinated, I don't care.

I think it's let other people get vaccinated. I care about my child, I'm concerned about my child having an adverse reaction.

DR. VILLAREAL: Charlene, I don't think, and that's why I think this is really an important project, not study, but again, looking at, with the level of sophistication, and again, we will have to look at health care providers who don't immunize their kids, who understand that concept, because herd immunity is not a concept that is understood to families.

But again, kind of getting back to what Ed is saying, if you look at our population of Hispanic, African-

American, Asian kids that get immunized, versus alternative families, and again, I'm not pointing fingers, because I don't think, as a pediatrician, I can say to a family, oh, by the way, you don't have any immunizations, you're not accepted in my practice. I cannot do that in a Medicaid practice. So I think Ed's point is very valid. I don't think people have that cognitive, and I don't call them stupid, but it's not a concept that is out there. And again, this, I believe, IOM will look at the different sort of perceptions that families have, which is really important for us.

Because sometimes I don't know why people don't get immunizations. Then if I talk to a health provider or a nurse, they said no, I don't believe in the safety of a vaccine, I will not give my child vaccines. So that's a whole – those are sophisticated people that understand that, and now it's very, very rare. But I don't know the numbers, that's why I'm very glad IOM is looking at this issue, because it addresses Ed's issue and my fear.

DR. DOUGLAS: We're all here in the interests of children and the interests of families, and I have had a 30-year career where we never, and I remember no one having any kind of communicable diseases, and there's an outbreak of pertussis. I think we're all here from different – the

Committee is made up of people who are providers, who are representing parents, who are representing the legal system and that's why the Committee is made up of, the way we are constituted, and my concern at this moment, right now, is an outbreak of pertussis where we lost children. That's my concern.

LT. MARSHALL: This is Valerie Marshall. I did want to point out that this study is just looking at the feasibility of studying outcomes. I also attended the kickoff meeting, and the committee did find that a randomized trial would not be ethically feasible, so I just wanted to point that out.

MR. KRAUS: The issue has always been that you need to have a similar comparison group. If you have a group, it has to go with mostly health care utilization; that's why the RCT would be the gold standard, you have the randomized people onto an exposure and control.

If that's not possible, then the issue is, is there some way to control for the confounding, and I think that's what they're looking at, is it actually possible to do a study where you have as equivalent as possible, an exposure group and a control group? Sylvia?

DR. VILLAREAL: If we look at the issue now, where we're getting electronic medical records in offices,

and with state registries, we have to look at comparative effectiveness, and sort of pull it from individual practices to find out is there comparative groups, and probably for the researchers it's not going to make sense, but the issue now is to try to get numbers, and it's always been vague reasons, and sort of anecdotal information of what's the percentage of children with partial immunizations, no immunizations, and then the population that do give immunizations, and that get one HPV, so this is a very difficult approach, and I applaud IOM for perhaps looking at it.

MR. KRAUS: I would say it gets even complicated because partially immunized children actually, from the research, fall into different groups. You have partially immunized children, where there's an access problem. They tend to get caught up in it when they have to go to school. But they're not – they're under-immunized during that critical period. Then you have those that parents make a conscious decision to follow an alternative schedule. That adds another bit of complexity into using electronic health care records to do that kind of work.

MS. VILLAREAL: That's where the code V64 point whatever it is, is really critical, because it says "refusal of vaccine because of caretaker", and that's

really important, versus the kid is sick, or whatever, and again, it's just kind of helping us, like Charlene says, get the funnel a little bit tighter to try to figure out what we're looking at. Thank you, Tom.

Agenda Item: Update on the National Institute of Allergy and Infectious Diseases (NIAID), NIH

MR. KING: Next on the agenda is an update on the National Institute of Allergy and Infectious Diseases, National Institutes of Health Vaccine Activities have, so Barbara Mulach is not here and we have Jessica Bernstein filing in for her.

MS. BERNSTEIN: I wanted to start by giving you an update on the Jordan Report. I think you've heard about the Jordan report before. We've had this project in the works for quite some time, and we just recently released the 2012 edition, so I actually wanted to pass out these things as well.

This is the 30-year anniversary of the Jordan report. It started off as the state of the science of vaccine research and development. More recently it's evolved to include some perspectives pieces related to vaccines. For instance, the most recent report had an article on immunization and pregnancy. There was another one on sex differences in immune response to vaccines and another on personalized medicine.

So the report is posted on line. We've only printed a very small number of copies, in keeping with the green government initiative, but we did create for you these handy little folded flyers that have a table of contents on the inside, and the cover and the website address on the outside, and so I guess, budget austerity leads to being resourceful, so we had our own little folding party, so you can hold on to those.

Also wanted to mention a new initiative, by NIH, the National Center for Advancing Translational Sciences, which is also known as NCATS, because every government initiative has to have an acronym. On your handout you have, sort of, the official description. But basically, the idea of this is to translate basic medical discoveries into clinical applications, and it's just getting off the ground right now. One of the things they're looking at is repurposing existing drugs, but there will be a lot more coming forward as this is getting underway.

MR. KRAUS: What does repurposing mean?

MS. BERNSTEIN: Looking at new uses for old drugs. And when I say old, I mean existing drugs that may not have been used for other things before, but may actually have applications beyond their traditional uses. And that might include off-patent drugs.

Also wanted to tell you a little bit about NIAID, which is the lead institute at NIH that supports research on infectious diseases, and it's the Institute in which I work. We have quite a portfolio of vaccine research, and on your handout you can see the list; we have an A to Z list of, I guess an A to T list, of Anthrax to Typhoid, of all these topics that we cover as far as vaccine research, and this includes clinical research on a number of these, and you can find out more about the clinical trials on clinicaltrials.gov, it's on your handout too.

One more thing that I wanted to mention, and this isn't specific to vaccines, but NIH has a website of videocasts and podcasts that are available for free, and there's just an incredible number of topics; there's probably hundreds, or possibly even thousands of these that are available for free download, and you can watch them on line or download to your iPod, and if you search, you can look for specific topics or you can just browse and find some things, and there's an amazing number of podcasts and videocasts available that might be of interest to you. So I put that address on the handout, and it's also, it's easy to remember, it's videocast.nih.gov, so if you want to take a look at that, you might find some things that are interesting.

I did bring one printed copy of the Jordan report and I can either pass it around or I can put it on the table if you want to look at it, if we're having a break this morning.

MR. KING: There will be a break at some point this morning.

MS. BERNSTEIN: Okay. Well I'll put it on the table, and if you want to look at it, please feel free to take a look.

MS. LINGUITI PRON: Dave, can I ask a question? Is it possible to get a copy of that handout, because I don't – I didn't see that on the things that were e-mailed yesterday.

MR. KING: It is possible, and it will be done.

MS. LINGUITI PRON: Great, thank you.

DR. VILLAREAL: The vaccine updates for vaccine trials, the two that I'm very much interested in are hepatitis C and pertussis. Can you speak a little bit about it, and what phase they're in right now?

MS. BERNSTEIN: I can speak about the hepatitis C. The pertussis I'm going to need to look into further and get back to you.

The hepatitis C trials are just beginning. I mean literally, this week. So there's actually, if they're

not already posted within the next few days, there'll be questions and answers about the trial posted on the NIH website, and I can send that link, if you'd like me to do that. It's through some centers that we have that are conducting research on hepatitis C, but I'll send the link to Annie and you can read the Q's and A's in more detail.

DR. DOUGLAS: Is this a hepatitis C vaccine or new treatment?

DR. VILLAREAL: Vaccine. For pediatrics, and I know for adult medicine, especially rural communities. Hepatitis C is one of the major diseases that is impacting women and their kids, and again, I can't speak to adult medicine, and for us in New Mexico, Hepatitis C is fulminant.

Pertussis I'm always interested in, because it does have a lot of side effects the parents worry about with a fever and all that.

DR. EVANS: I am always asked what will be the next vaccine that will be added to the program, so that means it has to be routinely recommended for use in children, although you have the situation where you have maternal use vaccines, which is an issue about whether it's given to pregnant women, and can possibly be covered for adverse effects to the fetus. But looking at this list,

does anyone have any guesses about what might, other than in terms of vaccines, what might be the next generally used vaccine for an age cohort in children?

MS. LINGUITI PRON: I'm sorry, I couldn't hear the question. Could you repeat that?

DR. EVANS: Just looking at this long list of vaccine products that are in development, what might be the next vaccine that would be routinely recommended for children by CDC, just for a small age cohort?

MS. BERNSTEIN: One thing I want to mention in response to that is this list encompasses basic research through clinical trials, so some of the items on this list are in pretty early stages of research, and others are further along in clinical trials, so that, of course, influences the answer to your question. I don't know if – are you asking that question to the general group?

DR. EVANS: Just to the general group. Well, again, the issue there is maternal immunization. Because it won't be a routine; possibly a routine use for children, that's possible too. Just food for thought.

MS. WILLIAMS: Do you want to answer your own question?

DR. EVANS: Well I was thinking more in the maternal immunization products, because that keeps coming

up, and there's increasing interest; there was a workshop this past fall that was sponsored by the National Vaccine Program Office, that took place in Rockville, looking at maternal immunization in influenza; that's a vaccine already covered by the program, because influenza immunization is given now through the trimesters, but there's a group B Strep vaccine that's possible; CMV vaccine Michelle was just mentioning, and also respiratory syncytial virus vaccine has been a vaccine that's been mentioned for possible use during pregnancy. Now if these are being routinely used during pregnancy, the question is, would that be something that the VICP would cover? So that's – that probably, if I were to guess, those would be the next type of vaccines that would be added to the program, but legislation would be required, because it's not clear that those type of vaccines would be covered.

MS. BERNSTEIN: So you might want to also look at the article in the Jordan Report on immunization in pregnancy, and then there's also a section in the report on vaccine updates, where a number of vaccines, like the current state of development of a number of vaccines, are listed. You can see that in your table of contents, which ones are included in there. So maybe I'll leave this report with you.

MS. LINGUITI PRON: I have a question for Geoff, I guess. Geoff, are you theorizing that if there was an RSV vaccine use in pregnancy, that the compensation program would cover the fetus as well as the child it would become on the schedule? Is that what you're thinking?

DR. EVANS: It is not what I am thinking; we have had a little bit under a half a dozen cases over the years in which they have alleged injury to the fetus from a vaccine that was given during pregnancy, and none of these cases have led to compensation, and there has been a mixed result in terms of the way that the law has been interpreted. None ever got to the point where it was really the merits; they weren't compensated on the merits of the medicine. It was more before you even got there, several of them were affected by just the fact that can a fetus be viewed as the backseat recipient?

MS. LINGUITI PRON: Right, that is an interesting concept.

DR. EVANS: That is not going to go away, and that issue is getting more and more attention. Actually, there's a conference that's going to take place in September in France that's going to look at that, being put on by the vaccine companies, both domestic and abroad, and it's been something that the national vaccine program

office has been looking at with various consultants, the American College of Obstetrics and Gynecology being one of them, over the past ten years. So I think we'll be hearing more about that in the future.

MS. BERNSTEIN: Just to give you an idea to follow up on that, of some of the vaccine updates that are included in here, GBS is one, CMV, RSV, rotavirus; those are all listed. There's articles on each of those, either articles or highlight boxes; highlight boxes are shorter. But to give you an idea of the status of some of the vaccines that are in development.

I think there's a question in the back of the room?

MR. KING: Thank you. Moving along, we have an update on the Center for Biologic Evaluation and Research, Food and Drug Administration vaccine activities, and we have Lieutenant Valerie Marshall to provide the information.

Agenda Item: Update on the Center for Biologics, Evaluation and Research (CBER), FDA

LT. MARSHALL: Good morning. I'll be providing the update from the Food and Drug Administration, Office of Vaccines Research and Review.

The FDA Vaccines and Related Biological Products Advisory Committee met on February 28 and 29 of this year. The Committee was asked to consider influenza viruses that should be included in vaccines for use in the 2012-2013 influenza season in the United States. Based on surveillance data, responses to current vaccines and availability of strains and reagents, the Committee recommended to retain the current vaccine strain A California 7 2009, to replace the current vaccine strain with an A Victoria and to replace the current strain with B Wisconsin.

The Committee was asked to vote on options for strain selection for the second influenza B strain, if a quadrivalent vaccine were available, and the Committee recommended to include the current vaccine strain, B Brisbane 60 2008. The Committee was then asked to discuss regulatory pathways for licensure of pandemic influenza vaccines. The Committee consensus stated that it is important to have safety and immunogenicity data accrued with the adjuvant pandemic vaccine, and it was reasonable to infer effectiveness of the pandemic influenza vaccine from the efficacy of the seasonal influenza vaccine, made by the same manufacturer in the same manufacturing process.

On February 29, 2012, the FDA approved Flumist quadrivalent vaccine. This vaccine is the first influenza vaccine to contain four strains of an influenza virus, two influenza A strains and two influenza B strains. This vaccine is indicated to prevent seasonal influenza in people ages 2 years to 49 years of age.

On January 10, 2012, the FDA held a public workshop to focus on the status of knowledge about HCMV biology and epidemiology. Topics included in this discussion included the HCMV Immunology and Virology Regulatory Perspectives, target populations for HCMV vaccine and design of clinical trials to study HCMV vaccines in the setting of congenital HCMV in transplants. An effective vaccine for HCMV could have a significant impact on rates of congenital anomalies and severe infections caused by HCMV. That's it.

DR. EVANS: Is this quadrivalent vaccine ready now for distribution at the start of this flu season?

LT. MARSHALL: I'll have to check on that, but I believe it will be ready for the next influenza season. For 2013-2014.

DR. EVANS: Okay, so it's not going to be 12-13 but 13-14?

LT. MARSHALL: Let me double check that for you. It is licensed.

DR. SHIMABUKURO: On their website it says 2013.

LT. MARSHALL: 2013. Okay.

DR. SHIMABUKURO: So not this season.

DR. EVANS: Not this upcoming season –

LT. MARSHALL: But the next.

DR. EVANS: And the reason I ask is that, under law, only the trivalent influenza vaccine is covered, so for this quadrivalent nasal vaccine to be covered, there would have to be an amendment to the tax language, so this vaccine would be covered. Now this is not news that only people in this room know. I was going to say that the industry is well aware of this, and they have been in some discussions about how they can get that done. So stay tuned is what I'm saying, but it is not just it gets licensed and it gets covered, and that's why, because of the pandemic situation, the tax language was very specific about this program only covering seasonal trivalent vaccine, so now if this goes through, it will be the seasonal trivalent and quadrivalent vaccine.

MR. KING: On this version of the vaccine, you said "for ages 2 to 49" is what it is? So there's a management then? Because a lot of people have recommended

who are above those ages to also receive the vaccine, so there will be a management of the different vaccines, I guess, in terms of -

DR. DOUGLAS: Not the spray.

MR. KING: Not the spray. They just simply wouldn't get the spray. I'm going to – maybe I shouldn't say I'm going to assume. Is it safe to say that the providers of the vaccine will know to give the proper vaccine, depending upon what peoples' ages are?

LT. MARSHALL: They should know. Because certain vaccines are indicated for certain ages.

MR. KING: Just to be on the safe side.

DR. DOUGLAS: I have often had clients who want to know what the strains are in each year. Where specifically can they go on line to get that? Please don't just say FDA. If I would send them to CDC, because that is where can they go to find out what is in each season?

LT. MARSHALL: There is a new government web site called vaccines.gov. They should be able to go to that web site and quickly see what's in the strain, but if not, the FDA website – it's still fda.gov, and then you have to – they changed the web site, so it's no longer CBER but it's like fda.gov, then you can go to the vaccines page.

DR. EVANS: We will get you the URLs.

LT. MARSHALL: But it is available. You can readily see vaccines from the front FDA web page.

MS. BERNSTEIN: For the quadrivalent nasal, are they also going to a quadrivalent injectable in the future?

LT. MARSHALL: At this point I can't speak to that. I don't know about that, but I could find out for you.

MR. KING: Any other questions?

(Brief recess)

MR. KING: All right, we've unmuted the line here, we're going to restart the meeting. So, our next – if they're on the line, actually, would be Dr. Dan Salmon, giving us an update for the National Vaccine Program office. Is Dr. Salmon on the line?

DR. SALMON: Yes, this is Dan Salmon, I'm on the line.

Agenda Item: Update from the National Vaccine Program Office

DR. SALMON: The primary update I'm going to give today is going to be on the NVAC Vaccine Safety Risk Assessment Working Group report. I was going to mention the IOM study on the feasibility of studying various health outcomes among vaccinated, unvaccinated and partially vaccinated persons, however ISO covered that quite

completely. If anyone has any question from NVPO's perspective, I'd be happy to address them. There was also some discussion today about work on maternal immunization, and I'd be happy to bring in Dr. Redd at the next meeting. She's a medical officer and she is taking the lead on maternal immunization. And if the Commission would like, I can have her present at the next meeting and give an update on our activities in that regard.

What we'll talk about today is the NVAC report on the safety of H1N1 vaccines. I've provided regular updates to the Commission on this already, so I will focus primarily on the final report. However, I will provide a brief update.

As you folks know, the 2009 pandemic influenza A H1N1 vaccine program was the largest mass vaccination program in recent history, and commensurate with the size and scope of that vaccine program, a comprehensive safety monitoring program was implemented. As a part of that program, the NVAC formed the H1N1 Vaccine Safety Risk Assessment Working Group, and they were charged with conducting independent rapid reviews of all of the helpful data from the federal H1N1 safety monitoring system.

I just want to note that this focus of this report, and of the VSRAWG and NVAC report, is on the safety

of the vaccine. Of course, one needs to consider safety in the context of the benefits of the vaccine, so I'll just mention that there were 60 million cases of H1N1 reported that year, with approximately 270 thousand hospitalizations and 12 thousand deaths. An estimated 70 to 80 million persons were vaccinated and the vaccine was found to be quite effective, so I won't focus on effectiveness, I'll focus on safety, but please keep in mind that whenever thinking about a vaccine, one needs to consider both safety and effectiveness.

The VSRAWG, which is Vaccine Safety Risk Assessment Working Group, was created in October of 2009. On initial meeting they reviewed all safety monitoring programs, the protocols for each of those programs, as well as the clinical trial data that have been completed. The VSRAWG was made up of representatives from each of the advisory committees that have enrolled in the H1N1 vaccine program. That included a representative from ACIP, from NVAC, from VRBPAC, from the Department of Defense Health Board, as well as the NBSB. Additionally, there were a couple of members that were added for their specific expertise, and those members have been previous members of one of these advisory committees or have been on IOM committees in the past.

Additionally, we had a public representative. Each of these members went through a very rigorous conflict of interest review to ensure that they were not conflicted in any way, both in reality and in perception. Overall, the VSRAWG met a total of 20 times.

The clinical trials that were conducted included more than 3,000 individuals. Passive surveillance was conducted through the VAERS system, along with the real-time immunization safety monitoring system, RTIMS. Rapid cycle analysis was conducted for a comprehensive list of pre-specified outcomes and multiple databases – safety data link. The Post-licensure Rapid Immunization Safety Monitoring, or PRISM, and databases from the Indian Health Services, Department of Defense and Department of Veterans' Affairs. Our Guillain-Barre syndrome was also monitored in a CDC program called the Emerging Infections Program, and the Centers for Medicare and Medicaid Services database. That system, the Vaccines and Medications in Pregnancy Surveillance System (VAMPSS), examined the safety of the vaccine among pregnant women and their births.

A clinical assessment was conducted by CDC's Clinical Immunization Safety Assessment Centers, and lastly, a meta-analysis was conducted across systems post-Guillain-Barre Syndrome. The VSRAWG issued a total of six

reports, each of which were deliberated upon by the NVAC, ultimately were unanimously voted in favor of. They were forwarded to the Assistant Secretary for Health, who then shared them with other agencies, as well as international partners, and each report was quickly posted on our website.

I'm going to go through briefly what these reports found and then summarize the final report.

The first four reports concluded that there were no signals between the vaccine and any adverse events that were monitored. The fifth report showed that preliminary results indicated a weak signal, which was statistically significant but not yet rigorously evaluated by chart review and other methods, for an association between the vaccines and two adverse events, thrombocytopenia and Bell's palsy. It also reported a potential weak signal for GBS. That GBS finding was reported in MMWR from CDC and it came from the Emerging Infections Program.

The fifth report indicated that the two signals remained and the GBS potential signal had changed to a weak signal. The sixth report includes that the EIP detected the weak signals an attributable risk of about one excess case of GBS per million persons vaccinated, but no other systems had crossed the weak signal threshold.

Again, you see, these reports were approved by the NVAC.

The final report was reviewed at our last meeting. It included a careful review of all final analyses from all systems with the exception of VAMPSS, where the children are vaccinated, mothers are still being followed and this will continue for a couple of years.

It is important to note that although this was their final report, all data are still considered preliminary until they've gone through peer review, and we are in the process of having papers published as we speak, so the findings, I'm going to discuss with you, are the conclusions of the VSRAWG and ultimately the NVAC, however they are still considered preliminary and they will be until all papers are published.

So the VSRAWG and ultimately the NVAC concluded, after careful medical review and analysis, that the true incidence of cases, that there was no significant association with ITT or TP. The signal for Bell's palsy appears to be due to seasonal differences between the timing of H1N1 immunization and the vaccine administration for the controls, and consequently, the VSRAWG concluded that there was no association between the vaccine and Bell's palsy.

The EIP and the DIC found statistically significant increased risk for GBS and non-statistically significant trends were seen in other systems. The GBS meta-analysis revealed an increased risk for GBS following H1N2 monovalent vaccines, and that translated into about 1 to 3 excess cases per million doses of vaccine, so this was a very small risk, and we were able to utilize contemporary methods and a large number of systems with a very large number of people under active surveillance to quantify this risk.

In addition, the VSRAWG and the NVAC noted that the hypersensitivity reaction might be more common with H1N1 vaccine compared with seasonal influenza vaccine. The results noted several issues not related to any specific adverse event. The NVAC discussed the methods for surveillance of pregnant women are not optimal, and can be enhanced. They also talked about continued methodological development of data mining approaches for signals detected, and finally, reports of vaccine administration errors, while not associated with adverse events, suggest the need to explore opportunities to reduce such administration errors.

This final report, again, was deliberated upon and voted upon at the February 7 NVAC meeting, and it will be posted on our website shortly.

So let me stop there; I'm happy to answer any questions and address any other issues the Commission may be interested in.

MR. KING: Does anybody have any questions? It would appear there are no questions.

DR. SALMON: Thank you for the opportunity to provide the update, and if you folks would like a comprehensive review of NVPO's vaccine during pregnancy work, just let me know and I'll be happy to set that up for the next meeting.

DR. DOUGLAS: I do have a question - I just looked again at the office that you're representing. You referenced the mass immunizations of two years ago. I was recently informed from our county health department that they want to do, in this upcoming season, 12-13, they want to conduct a number of mass clinics on our college campus. Is there a national thought of revisiting these mass immunizations for the 12-13 year, or is that just a local thing?

DR. SALMON: Well, your H1N1 was really an anomaly in terms of the role of the federal government. Typically,

vaccines are purchased through a variety of sources. The federal government purchased some flu vaccine, but much of it is purchased by individuals and through health plans, health insurance. In the case of H1N1, the federal government purchased all the vaccine. There was also an effort, partially because the purchase of these vaccines, to open up new opportunities to vaccinate in places like schools, for example, but this was an unusual year. We had an unusual role in the vaccine program. Though this is atypical, there are certainly other times that states and localities will do mass vaccination programs, and there's certainly advantages to doing so. However, the role of the federal government in doing so is not the same as H1N1.

MR. KING: Any other?

MS. WILLIAMS: This may not be for you, Dan, it may be for somebody else, but are there any vaccine shortages anticipated for the next year, or we don't know yet?

DR. SALMON: That's probably not best answered by me; maybe CDC can address it. My understanding is that the supply of flu vaccine has been expanded and supply is quite good, however CDC may want to comment on that more specifically.

DR. SHIMABUKURO: This is Tom, from CDC. Typically at the June ACIP meeting, the manufacturers will give their projections for the upcoming season, but we don't anticipate any problems, and in fact, the supply of flu vaccine has been quite robust for the past several seasons.

MR. KING: Anyone else?

MS. LINGUITI PRON: I would appreciate; I don't know if others would, but hearing the information that you suggested about vaccines in pregnant women.

DR. SALMON: I would be happy to set that up for the next call. Is that a request from the Chair of the Commission?

MR. KING: Yes. There seems to be consensus in this room that that would be a good idea, so I think we can certainly make that an agenda item.

DR. SALMON: I'd be happy to arrange for that.

MR. KING: If there are no other questions, then Dr. Salmon, thank you very much. We will move on on the Agenda.

Agenda Item: Review of Vaccine Information Statements (VIS)

MR. KING: The next item on the Agenda is the Review of Vaccine Information Statements. We would have Skip Wolfe and Valerie Morelli.

MR. WOLFE: Hi, I'm Skip, I'm here, can you hear me?

MR. KING: We can hear you loud and clear; are you alone or with Valerie?

MR. WOLFE: I'm alone. Valerie was going to call in from home, but since the time got moved up, she wasn't sure she was going to be able to join in, so apparently she hasn't been.

MR. KING: I'm sure you can handle this, Skip, right?

MR. WOLFE: I hope so. So did you get the three items that I sent; the MMR draft, the Pediatric multidraft and then a little discussion about that one section about what to do if there's an adverse event that we talked about last time.

MR. KING: So we have the discussion, we have - section 5 has it all, 5.1 is the discussion. 5.2 is the draft on MMR, and 5.3 is Your Baby's First Vaccines, is that it?

DR. DOUGLAS: Before the measles, MMR, there's general discussion. So that's the three things.

MR. WOLFE: Do you have a sequence you want to take those in, or should we just -

MR. KING: Start at the beginning. We'll do it in the order that we have it, right?

MR. WOLFE: Okay, which one was first? The general discussion about the –

MR. KING: That is correct.

MR. WOLFE: If you read over that, I'll just listen to your comments.

MR. KING: Okay. Anybody have any comments, assuming that everybody has read it over? Any comments?

MR. WOLFE: So we haven't made a decision yet exactly what to say; these are just the comments we got from several people who reviewed it for us.

MS. WILLIAMS: The pages aren't numbered, but at the top of what I guess is the second page, it talks about; it suggests several options and trusts people to make the choice that works best in their situation, or let the patient decide – I guess the two sentences that were under review were "get the person to a hospital or doctor right away or call 911", and the other one was "seek medical help right away"?

MR. WOLFE: Those are a couple of options; as you know, what it says now is call a doctor or get the person

to a doctor right away, and that is what kicked off the discussion at the last meeting. And some people thought 911 ought to be mentioned; other people thought it shouldn't.

MS. WILLIAMS: Since we're leaning toward the second option, in the for what it's worth category, I like option one better. I don't know anybody that runs around using the word "seek", unless it's children playing hide and seek, so I would say get the person to a hospital or doctor right away or call 911, and leave it at that.

MR. WOLFE: Okay.

MR. KING: Very good.

MS. LINGUITI PRON: I think it was mentioned somewhere that if you wind up rushing to medical care because your child has a high fever, you might get the medical community and the emergency rooms a little upset about that, but I think that was the reason, maybe, why they did the seek medical help right away as a proposal.

MR. WOLFE: And we can deal with that possibly in the previous section, where we say what to look for, by changing that to say; somebody suggested instead of saying look for a high fever, say look for a very high fever, and that may – it's not going to stop everybody with a fever of

101 from going to the emergency room, but it might stop some of them.

MR. SMITH: One thing, just out of the box, I think it's a great effort, saying this material, and I think for the past ACCV meetings, we spent a great deal of time trying to get a level of consistency across the VIS statement, so again, I applaud the effort to at least get some anecdotal research for some providers about how to interpret this section.

I do agree with Michelle; I would tend to favor option one with respect to calling a doctor, but to me, I think the more important point is consistency and language that would translate to a caregiver or a parent, and so I'm somewhat indifferent, but I do have a slight bias along the lines of what to show, discussed earlier.

MR. WOLFE: Thank you.

DR. VILLAREAL: Thank you for having a discussion about 911; in many rural communities 911 gets patched to a different city and so for many of our folks, we don't say call 911 because it's not in our locale. The other is, could I see this in Spanish? I know that on one of your pages it says, "otras informaciones", so if I can read the Spanish, if you can send it to us, I'd appreciate it.

MR. WOLFE: It hasn't been translated yet; just because we're not actually using it on any of the VIS's yet, we're just trying to come up with the wording.

DR. VILLAREAL: Who do you use as translator for the different languages; I'm fully aware you have Tagalog, you have Spanish, Hmong, Vietnamese, Chinese -

MR. WOLFE: Probably the majority of translations are done by a company called Transcend, which is in California, and they're very good. They did the Spanish. Once we get final wording on this, we will have it translated into Spanish, and we can send it to you and let you look it over and make sure.

DR. VILLAREAL: Once this gets finalized, is there an option for those of us who use EMR for our web portal to have it on the web portal so families can look at it instead of us printing to paper?

MR. WOLFE: We are working on that. I don't really understand the technology to get that done, but we've got a lot of requests for that, so that's something we are pursuing.

DR. SHIMABUKURO: On the first bullet, you know, if you're worried about people seeking care urgently, if they're actually not that sick, could you put some language after that "or call 911", like would get the person to a

hospital or doctor right away "or call 911 if you think it's a medical emergency", or is it just kind of implied that it is an emergency situation?

MR. WOLFE: I guess it is implied but maybe it shouldn't be. That's something we can consider, if you think that that would help cut down on the number of calls that aren't really emergencies.

DR. SHIMABUKURO: Getting the person to health care -- rushing your kid to the pediatrician and calling 911 are two way different things. So maybe you want to just, after 911, sort of indicate that 911 is for a medical emergency.

MR. WOLFE: I think that is what we have to stress, and again, I think the place to do that may be in the "what to look for" section. To clarify what we really want to define as an emergency. Anaphylaxis and a couple of other things, we can enumerate there.

DR. VILLAREAL: One of the things that many of the pediatricians are doing since we're getting older is to have nurse advice, so it might be one way that triages immediately that it is either critical or the baby does have a low-grade fever, and oftentimes I will go through them and they'll notify me, the pediatrician, if there's a high risk situation.

We're trying to do quality assurance and keep kids out of the ER, so we get dinged by the insurance companies if we send them to the emergency room, so again, for quality assurance, it's going to be an issue for us. We have to keep some of our kids out of the emergency room if they don't need to be there.

MS. LINGUITI PRON: I think we have been discussing this for the last year or so, since I came, it seemed like from the first meeting on. One of the issues was if it was a serious allergic reaction with difficulty breathing, then we thought, why take the time to call a medical office, why not just get help right away? Take them to the ER or call 911, whichever; obviously 911 doesn't work in all the communities. But that was, I think, where it came from to begin with was – you're right, there's differentiation between something that's very serious and something that's high fever, so to the parent it's very serious, but it may not really be very serious.

MR. WOLFE: That is part of our problem, is we want to have one statement that may apply to a range of reactions.

MS. WILLIAMS: I think you're thinking about trying to qualify that in the what should I look for section, as the right approach.

MR. WOLFE: We can keep working on that, and maybe by the next meeting we can have one draft of that for your review, how does that sound? This whole section, what to look for and what to do.

MS. LINGUITI PRON: I think maybe it's the fever part that's probably the most difficult to leave in seeking emergency help kind of thing for. I think the other issues, for the most part, probably are more serious, but a fever is so common.

MR. WOLFE: There has been some talk about specifying a cutoff, like 104 or 105, I don't know if we want to do that or not, because what if a kid has a 103 fever and it turns out to be serious?

DR. SHIMABUKURO: I'd be reluctant to put the fever on there, because with different ways of taking – you get different readings with different types of devices, and also you get different readings depending on how good a technique you use, so I think you may not want to put an actual number for the fever.

MR. WOLFE: I tend to agree.

MR. KING: All right. Are we done with this section? Everybody good with that?

MR. SMITH: We can address a similar issue with some proposed language for this one section at the June meeting.

MR. KING: There is proposed language in the box down at the bottom of the page that can be addressed.

MR. WOLFE: That was done, actually, before the three reviewers looked at it. That was just one of the proposals we sent to them. But we can – I think what we really next time will probably be modified from that.

MR. KING: Let us move to the MMR.

MR. WOLFE: There were not really very many changes in the MMR. The reason we were getting it reviewed is we're trying to finalize all the VISs that are in interim form. If you want I can go over it quickly; what the major changes are.

MR. KING: That would be helpful.

MR. WOLFE: Go through it section by section, and I can tell you as we get to them.

MR. KING: Please.

MR. WOLFE: Section 1. The only real change that we made in there – well actually, this is a change that when I looked at this, I think we ought to make, under the first bullet, under rubella. I think we probably ought to move arthritis, make that the first item, because the

parenthetical thing about it being mainly in women; we don't want them to think that that applies to all of us. So I think we ought to put that first, so in women, it's clear it applies only to arthritis.

The other things that were added; sterility was added as a complication from mumps, and other than that, there was not really any big changes in section one.

MR. KING: Question, yes, Luisita.

MS. DELA ROSA: One of the complications of mumps is pancreatitis, and it's not really easy to recognize, but stomach ache, nausea, vomiting, can be a possibility. Why is it not mentioned at all, because that's one of the severe reactions of mumps.

MR. WOLFE: These are the ones that are mentioned in the ACIP statement, and the ones that the CDC subject matter expert reviewers thought were important to mention. I can bring those up, and see how they feel about it.

MS. WILLIAMS: This is Michelle, with a follow-up question. We have death from measles, death from mumps, but we don't have it for rubella, is that correct?

DR. WOLFE: We do not. I'll see if I can find out why that is.

DR. DOUGLAS: It's a much milder disease.

MS. LINGUITI PRON: The rubella is a much milder disease, and the only problem, really, the main problem, well there's arthritis, I got that, but the issue is for pregnancy.

MR. WOLFE: I guess the question is if it can cause death, or should we mention that, or if it's so rare that it hardly ever happens, is it not worth it?

MS. WILLIAMS: If it is so rare, it's not – then I understand. I was just wondering.

MR. WOLFE: That's probably why it's not there.

MS. WILLIAMS: Okay; it was just a question.

MR. KING: Let's move on to the next component of it.

MR. WOLFE: It looks like there aren't many significant changes at all in Section 2; that's pretty much the same as it was last time.

MR. KING: So let's do Section 3.

MR. WOLFE: Section three, there was a little bit of controversy about gelatin in the first bullet there. Greg Wallace, one of our measles subject matter experts, mentioned that in the ACIP statement, that's actually listed as a precaution rather than a contraindication, but after discussion, we reverted to the ACIP general recommendation that a severe allergy to any vaccine

component should be considered a contraindication, and there's no reason why gelatin in this one specific vaccine should be an exception. So we decided to leave it where it is.

MS. LINGUITI PRON: The clue there is the life-threatening allergic reaction.

MR. WOLFE: Exactly. And we – the other addition we made in this section is down under the very last bullet, tell your doctor -- I think this came from a request in a prior ACCV meeting, that the second from the last dash there has gotten another vaccine within in the past four weeks, and the purpose of that, of course, is to make sure the doctor knows if the patient had gotten another live vaccine within four weeks.

MR. KRAUS: I apologize; since I'm new to the Commission, I suspect this has been discussed in the past, but the third bullet point, "anyone who is moderately or severely ill at the time the shot is scheduled, should usually wait until they have recovered before getting MMR vaccine.

MR. WOLFE: That's a standard ACIP general recommendation.

MR. KRAUS: Right, and I get that –

MR. WOLFE: We really need to include it. It will be up to the provider to decide whether they're sick enough to defer the vaccine.

MR. KRAUS: And that's exactly the point I was going to make, which is I think it should read "anyone who is ill at the time the shot is scheduled should usually wait until they recover before getting MMR vaccine because that way you're making it the responsibility of the doctor to determine the degree of the illness, whether it's moderate, whether it's severe. If you put in moderately or severely, then you're basically suggesting that the patient should know and assess himself or herself whether their illness is moderate or severe.

We're talking about situations where the person is with the doctor, so I don't – or the health care provider. I would just err on the side of not steering – of steering people to their doctor if they're not really sure how sick they are. And the other; I think the other reason why it's a justified change is because this is just saying "should usually wait".

I think that would be my suggestion.

MS. LINGUITI PRON: That's as a precaution, and not a contraindication, for moderately or severely ill. It is a precaution. Actually, I would object to saying "ill"

because in the winter, most kids have a cold, and many would not keep their appointment if they kind of thought that – they have a problem already, and is their child getting a shot when they have a cold, and those colds are mild, so if I accept a provider saying it's okay for your child to have a shot today, whether they're just moderately or severely ill. That's just my opinion.

MR. WOLFE: We can play with the wording. As a matter of fact, just as a slight digression, we're looking at redoing all of the VIS's to make them simpler, and we've started doing that – that was sort of inspired by the latest Td Tdap VIS, which is so long we had to reduce the font size so the 65-year-olds who are now getting the vaccine probably can't even read it.

So we're trying to look at ways to shorten them, and in the draft that we did, we worded that in a different way, so next time we'll probably have new wording for that, that you guys will be able to review.

DR. VILLAREAL: I am being asked to sort of clarify this a little bit. It really is up to the physician or the nurse practitioner to decide if it is the correct time to give a vaccine. I will bow to the legal counsel to get the correct words that way but that really

is the decision that a one-year-old or a baby gets their shots.

MR. WOLFE: Are we still talking about acute illness?

DR. VILLAREAL: Correct. I haven't moved off of that one, yes. Correct.

MR. WOLFE: The fact that the parent will presumably not be handed this VIS until they're already in the doctor's office means that they're not going to see that statement and be able to make a decision whether or not to visit the doctor before they see it.

DR. VILLAREAL: As a point of clarification, sometimes the parent will be given a VIS when they're starting all their immunizations, and then if I have a VIS on a website, then a lot of our families will have read it prior to coming in for a well-baby visit, or well child.

MR. WOLFE: We'll take that into consideration when we rewrite that statement.

MR. SMITH: To follow up on Sylvia's point, and I think we have discussed it as a Commission in VIS statements, in the past and probably every time, I think, and I'm going to probably incorrectly summarize the discussion, I think it was that balance between what Sylvia alluded to. She described that the vaccinator really has

to make that determination about moderately or severely ill. If we make it more general, would it potentially dissuade parents from bringing their child to the office and making that subjective determination when that's really the vaccinator's job to do, and provide that latitude to make that assessment in the office?

It's a hard balance to make, but the language, I think, provides that flexibility, both information necessary for the parent or caregiver, as well as the vaccinator who's going to make that determination.

MR. WOLFE: I wish I had that draft that we did for that shortened VIS in front of me, because we do have a slightly longer statement there where we say children with mild illness can usually get vaccinated; those with moderate to severe illness might be asked to wait. Your doctor will make the decision. So we actually say that in one of the drafts.

MR. KING: There seems to be a general consensus here that that might not be a bad idea.

MR. WOLFE: Okay. Are we going to move on to section four?

MR. KING: Not necessarily. I was moving on to section four, but go ahead, Skip. You could take it first.

MR. WOLFE: Is there more in Section three that we want to go over?

MR. KING: We're ready for four.

MR. WOLFE: The changes in four are very minor. We were advised to take out the word "rare" after "swelling of the glands and neck" after mild problem", the third bullet there, because I guess that's actually about one and a half percent of people get that, so we're just going to take out the word rare, and maybe put in a ratio. And then on the top of the next page, if problems occur, it's usually within ten to twelve days, it was suggested that we make that range six to fourteen instead, because this is the range when the adverse effects start to appear for people with mumps.

Those are the only two changes in that section, other than maybe minor wording changes that we made.

That's true for the rest of the VIS changes in the boilerplate sections. These were changes that were made after this draft, changes that were suggested after this draft, so where it says rare on the third bullet there, we're proposing putting the ratio instead, changing the range seven to twelve to six to fourteen days.

MR. SMITH: Just two comments; take them for what they're worth from just a reader's perspective.

The second line, or the second paragraph, under number four, where we say "much safer than getting any of these three diseases", it's referring back to the three at the beginning of the VIS statement, these isn't necessary described in this section, which may be a little bit confusing, but again, take that for what it's worth.

And then maybe a question for the group. Most people who get MMR do not have any problems with it. Obviously, under the moderate problems, there is a line – about 25 percent of teenagers or adult women get some type of pain and stiffness in the joints, and there's the question of 75, that's kind of the lowest or the highest in terms of percentages, if we're still comfortable with the concept of most in that context. We are fine, it's just an observation more than anything else.

MR. KRAUS: In terms of Jason's point, one suggestion would be, most people who get MMR vaccine do not have any serious problems with it. I don't know if Sylvia wanted to respond to that; I had two other comments, unrelated. The first is that where it says getting the MMR vaccine is much safer than getting any of these three diseases.

MR. WOLFE: That's kind of an awkward sentence.

MR. KRAUS: It is, and I would suggest this, and it's likely not a popular suggestion, but I think it would be more accurate to say that for the vast majority of people, getting the MMR vaccine is much safer than getting any of these three diseases because for some people, as pointed out above, right? – for that category of people above, it's entirely possible that getting the MMR vaccine is more problematic than getting the measles or the mumps or rubella. I'm not sure but -

MR. WOLFE: For a minority of people, it might not be true, is that your point?

MR. KRAUS: Yes. So for the vast majority of people,

MS. WILLIAMS: Just use the same language that you used below, for most people getting MMR vaccine is much safer than getting measles, mumps, rubella, the same way you have most people who get MMR do not have any serious problems with it.

MR. SMITH: Maybe for the physicians and health care professionals in the room - Is it medically accurate that it is in some cases, better to get measles, mumps or rubella than getting the vaccine? That's really what it would say.

MS. LINGUITI PRON: No, but if you had an allergic reaction to the gelatin or Neomycin, then that was part of the viruses. That's how I would read this.

DR. SHIMABUKURO: If I were rewriting this sentence, I would word it a little more medically. I would say that the benefits of receiving the MMR vaccine, the known benefits of receiving the MMR vaccine, outweigh potential risks of disease. Like that.

MR. KRAUS: Or the vast majority of people, this is it. I'm not trying to insert language that is going to scare people off from getting the MMR vaccine, I'm trying to be consistent with what we've been led to understand, which is that for some people, the benefits don't outweigh the risks. We're talking about an extremely small minority, but of course we're talking about a program that responds to the needs, right? If your child dies following an MMR vaccine, the benefits don't outweigh the risks -

MR. WOLFE: You are literally correct. We need to add that.

DR. DOUGLAS: At the same time, being cognizant that measles is not an itchy scratchy disease, and most people think of it as an itchy scratchy disease; measles will cook your brain; you will come out of measles; it's a very high, for more people, it's a very high fever, it is a

potentially lethal disease. Just measles, mumps, rubella, those are not the same kinds of disease. Rubella is you get your girlfriends over so everybody will get it so by the time you're child-bearing age, you won't have any problems with your pregnancies; nobody does that with measles.

Just as you write it, it's not losing sight of that fact.

MR. WOLFE: Maybe we can make the section one a little bit stronger.

MR. KRAUS: I don't know if anybody wants to respond to it, but the second problem I had, or suggestion, I guess it's a problem, and then a suggestion, is under the severe problems. Did you say you wanted to change that from very rare to rare? I didn't hear.

MR. WOLFE: This was under mild problems, the third bullet, and it had to do only specifically with – take that rare out of there.

MR. KRAUS: Keeping in mind my perspective as a lawyer who represents people who are injured by vaccines, I would change the last statement about "these are rare" or "these are so rare that it has not been possible to tell whether – "

Here's what I would say: These are extremely rare, and it is difficult to know for sure in any given situation whether the adverse reaction is caused by the vaccine.

MR. WOLFE: This is a concept that it's very hard to put into simple terms. We struggle with that all the time.

MR. KRAUS: So something along the lines of first of all, these are extremely rare. That point has to be made, and I'm not trying to bury it in any way, shape or form, but I take issue with the sort of implication that because they're rare, we don't ever really know whether the vaccine has caused them.

PARTICIPANT: But isn't that the case?

MR. KRAUS: No. I don't think it is. I think that epidemiologically, because they're so rare, we can't always detect at that level if the vaccines are causing the reaction. But I think we very clearly know, in certain given situations, that the MMR has caused, or at least under the program standard of more likely than not, the vaccine has caused the reaction. It's not like in every single case, we don't know whether or not the MMR has caused the very severe and rare adverse reaction.

DR. DOUGLAS: As I look at the first bullet, I think that is addressed. Serious allergic reactions, less than one out of a million doses. If we look at the numbers that we're looking at with IOM and we look at the number of children and doses given, that number is borne out, and that number is given. It's true, it's like smallpox has a fatality probably 1 out of a million. If you immunized the entire country, this week, with smallpox, at the end of this week about 300 people would be dead who probably wouldn't have died had they not gotten the smallpox vaccine. That number is given here for measles.

MR. KRAUS: That refers to serious allergic reactions and I am comfortable that that figure is accurate, if you say it is. What I'm talking about are other adverse reactions to the MMR vaccine, not allergic reactions, necessarily, but we have, for example, one of our members of the Commission, who has a child, who has permanent brain damage and long-term seizure condition following the MMR vaccine. And that's just one example. There are other examples where we know that the MMR vaccine has caused a long-term, serious adverse reaction or death. They're not an allergic reaction.

MR. WOLFE: Tom, what would you say about that?

DR. SHIMABUKURO: For the first one we know that vaccines cause allergic reactions. They're in the single digits per million, I think that's fine. For the other one, I think I agree you could say these conditions are extremely rare, and then put it is difficult to assess; for rare conditions such as these, it is difficult to assess whether a vaccine caused the adverse event, or if they occurred at the same time due to coincidence. I think that's okay; I don't really have a problem with that. It's just saying, these are extremely rare conditions that happen to occur; these are extremely rare conditions that have been reported to occur after MMR vaccine and they're difficult to assess whether they're caused by a vaccine or by coincidence.

MR. WOLFE: What if we changed the phrase "has not been possible" to "it is difficult" and say it's difficult to tell whether there was causality or not?

MS. DELA ROSA: My question could be very fundamental to the vaccine itself, because the three combinations, mumps, measles and rubella – mumps has a very long incubation period. Measles and rubella are comparable. In all of this discussion, even the presence of a response between six to fourteen days does not in any way consider the fact that the mumps reaction can be very

delayed, because even the wild mumps, the incubation period, something like anywhere from fourteen to twenty-one days, so it would be expected that the incubation period for the vaccine would be longer, and later, so any response that will be shown may not be associated with the vaccine itself, but it is related to the vaccine in the sense that it could be a reaction to the mumps. Is mumps considered such a benign disease? The history of the wild mumps is as severe as the measles.

DR. DOUGLAS: The days are seven to twelve listed here. You mentioned a change; six to fourteen.

MR. WOLFE: That is because of mumps, the higher numbers are for mumps.

DR. DOUGLAS: And you're saying that it needs to be –

DELA ROSA: Mumps itself, the wild strain, is generally fourteen to twenty-one days, and that can wait a while; you would expect it to be a little longer.

MS. WILLIAMS: Could we just simply ask that that medical question be answered at the next meeting? And then if you can work on the language as to the – I don't like the sentence "These" because I'm not sure what "These" is referring to.

MR. WOLFE: It is that bullet. We can either change the language or make it clear in the formatted version that it applies only to those three things there.

MS. WILLIAMS: The last comment is, in mild problems we talk about persons, and then in moderate and severe we talk about doses. I think, don't you just want to say "one out of three thousand" -

MR. WOLFE: Actually we have to go with the way that that is presented, and sometimes it is presented by persons and sometimes by doses. I don't like that either, but we have to go with what we have.

DR. VILLAREAL: Ed, are you okay for me to change the topic a little bit?

Skip, this is Sylvia Villareal. What I'm trying to wrap my brain around is when we give dates for families to know that problems can occur within X amount of time, are those supposed to be coincidental with the Vaccine Injury Table? Dr. Johann Liang is here, so do we want it to be consistent with the VIT or no? Am I off base with that?

MR. WOLFE: They're actually consistent with what has been reported in the ACIP recommendations, which are probably usually the ones that are also reported in the intervals reported in the package inserts from the trials.

It's where it's actually been reported. So if we say they usually are reported within a week, that's because that's the data we have. It has nothing to do with the Injury Table.

The Injury Table presumably gets its information from the same sources, I guess. Is that true, Geoff?

DR. EVANS: It's the reportable events table would be probably the -- and those are more liberal intervals than what is actually on the compensation table. But as you pointed out, Skip, that this is based on ACIP data, and rightfully so.

MR. KING: Following up on Michelle's question about people versus doses, and based upon the way the information is presented, is there a way, though, for them to give you a standardization so that we know whether it was doses or whether it was people; how do we synchronize it so that we're using common language?

MR. WOLFE: I don't think we can, because of the way the surveillance is, sometimes the information we get is that we have so many reactions per dose administered, so for DTAP, for example, a kid will get five doses, so the information we got was for a dose, not per person. It's not good, but I don't really think there's anything we can do about it. It's just the way information's reported.

MR. KING: So on a mild problem, though, the likelihood is just under 20 percent, than for a fever. One out of six.

MR. WOLFE: Yes. We don't say either doses or people there, but I assume that's –

MR. KING: We say one person out of six –

MR. WOLFE: Well that's true, so that's probably how that information was reported, that it's one person, and was not reported by dose, but by – I can double check on that, but I assume that's why that wound up that day.

MR. SMITH: Some of the adverse event information could come from clinical trials, which will involve subjects and people, and when that's reported, you can reported that down on a person basis. Other events that come up post-marketing once the product is introduced, you now don't know necessarily how many persons received the vaccine, but you know how many doses have sold and how many are administered, but because of multi-dose schedules, you'll never be able to back that information out and say, how many people got that vaccine? So I think inherent in just how it works, you'll have that disparity between the two.

MR. KING: Jason, I'm not sure, though, I think I remember from previous discussions that while we may know

how many doses are distributed, we don't always know the number that are actually administered.

MR. SMITH: Correct and I misspoke when I said that.

MR. WOLFE: Thank you; that was a much better explanation than I could have given.

DR. SHIMABUKURO: Just to build on what Jason was saying, if you look at fever, that's a very common event, and that will be picked up on the clinical trial. You'll be able to say, thirty percent of kids who receive this vaccine have fever within a zero to one day interval. Something like seizure, like a febrile seizure, although febrile seizure is pretty common; relative to fever, it's rare. A clinical trial probably isn't going to be able – you're not going to be able to get an attributable risk on a clinical trial for febrile seizure. You pick that up in post marketing surveillance. So that's probably, for these milder problems, you'll see it reported one way, and for these more severe problems, you'll see it reported another way, and like Skip was saying, they don't really see a way to get around that. We're just going to have to report it the way it's reported in the studies.

MR. WOLFE: One more change in regard to dementia; in the previous MMR VIS, we had a box noting

febrile seizures after MMRV, and I removed it from this version because it really is irrelevant for the MMR VIS; it's mentioned in the MMRV VIS, and I don't see why people who are getting MMR should care about that, so I took it out, it was just taking up space, which in my opinion, didn't need to be there.

MR. KING: Are we done with section four? To section five. Any changes, or is it as it was?

MR. WOLFE: Yes, the whole remainder of it is not changed.

DR. DOUGLAS: I will always have my eye on health literacy, and the use of plain language. I work at community health, and this is much better than it was. The sheets have evolved nicely in just the year that I've been here. Not repeating the names of the diseases umpteen times to get the multiple syllable.

To that end, this sheet is still at 8.7, which is the general population, which kind of leaves our vulnerable populations out, but I have one suggestion. The National Vaccine Injury Compensation Program, if we could put VICP right after its title there, you wouldn't have the word compensation, four syllables, and you would still – just take out that repetition and put the abbreviation there. And I've noticed you've done that, and I appreciate it.

MR. WOLFE: Okay thanks, I hope next time we will be able to have an even simpler one for you to look at.

MR. KING: Everybody's done with MMR? So let's move on to the final one, I believe, that you gave us. Are there changes -

MR. WOLFE: There are mostly changes in format and wording. The substantive changes are mainly, I can --, in the precautions section, these are all mostly pretty small. We added PCV13 to the yeast when we're talking about yeast, because of the yeast in there. We added SCID as a contraindication to rotavirus, and back down in the Risk section, we added risk of intussusception after rotavirus, as a new adverse event.

Under the precautions, the last thing down there, if your child has ever had a severe reaction after a vaccine containing diphtheria toxoid, we had to add that there, and we could add PCV13 in there, because diphtheria is the carrier protein they use when they conjugate it, so we had to sort of create that special section there to be able to work that in.

MR. KING: Can you repeat – Skip, where are you exactly? You're under the last sentence on precautions?

MR. WOLFE: Yes, I'm sorry, again, that the pages aren't numbered. The page that starts with the word

precautions at the top, all of those things are listed. The very last one of the, if your child has – statements there, has severe reaction after a vaccine containing diphtheria toxoid.

MR. KING: Let's make sure we're on the same thing, After the chart page. But what he read is not what I read.

Are you reading what we have? Or are you reading the change?

MR. WOLFE: Well, I thought I was reading what you have.

MR. KING: I said "if your child is sick"; you said "if your child is ill".

SPEAKER: No, it's the paragraph before that.

MR. KING: Thank you.

MR. WOLFE: After those bullets, the last of those.

MR. KING: Thank you.

MR. WOLFE: And again, so most of the other changes there are either wording or format changes, and the format changes won't really be appreciable until we're able to show you an actual formatted version. It won't really show up in this Word document. Those are the substantive changes. Everything else is just wording changes.

Including that table, which didn't exist before. It just seemed like a more crisp way to present that information.

MS. LINGUITI PRON: I just want to make a comment about the very last statement under Precautions. This was maybe new language? Or this is what you were proposing might be something to use in the previous VIS that we reviewed about if your child is sick, your doctor might want to wait, --

MR. WOLFE: This was a different way of presenting that same point.

MS. LINGUITI PRON: It's better.

MS. WILLIAMS: Sometimes we say HIB, sometimes it's HIB disease.

MR. WOLFE: Okay, we can make sure we standardize that.

MS. DELA ROSA: From the very first page, on how vaccines work, is the second paragraph "immunity from vaccines', by the very end of it, it says "you get the vaccine, but without having to get sick first." And yet you're talking about side effects or a possible mild reactions and whatnot. That's too contradictory, that's very contradictory to each other. How can you expect to have mild reactions and yet you say that you do not get sick?

MS. WILLIAMS: Isn't it really trying to say this means you'll develop immunity without getting the disease?

MR. WOLFE: Maybe we say "without getting the disease" instead of "without getting sick".

MS. WILLIAMS: And what are the three bullets, the three dots, for?

MR. WOLFE: It's just – maybe you should make that a comma instead – let's just make that a comma.

MS. WILLIAMS: It looks like there's something missing.

MR. WOLFE: There's not, so that's why we'd better change it so people won't be –

MR. WILLIAMS: This means you won't develop immunity in the same way as if you got the disease, but without having to get the disease.

MS. DELA ROSA: For a lay reader, who will get this, they will all interpret it directly as "I will not get sick", "They will not get sick", and yet on the next pages, you're saying that there can be severe reactions. Anywhere from mild to severe. So wouldn't that be an --, saying that you're lying to me right there?

MS. WILLIAMS: He is going to change it to disease. So that it says, and that's a really good point,

"This means he will develop immunity in the same way, but without getting the disease first."

MR. WOLF: I like that better.

DR. DELA ROSA: You're giving it to him right there.

MR. KING: The reactions are not the disease. They are a cause for concern, but not the disease.

DR. DELA ROSA: We're talking about a layperson's interpretation -- to get sick means you get something, it doesn't matter whether you actually get the disease or something, you're sick. Period.

MR. KING: That's why they're going to change it.

DR. DELA ROSA: Because this is saying you're not going to get sick. That's why. It's too contradictory for a lay person like that.

SPEAKER: We're going to change it to the disease.

DR. VILLAREAL: Skip, I'm on precautions right now. I'm not sure, and I will open this up to discussion with the other members, in my brain it makes more sense after you say "most babies can, a child who's had", and then if it's move tell your doctor if your child has had, so they have an idea that you're really talking about DTAP, about polio, about hepatitis B, because I think families

will know, I have trouble with this vaccine, so instead of if your child ever had any of those reactions, say, talk to your doctor before getting DTAP vaccine, and then underneath, if your child has any of these reactions.

It makes more sense to me that the parent is looking at the vaccine and not looking at the, in Spanish it's rumba, the noise, I'll defer to Charlene as far as sort of the language. This looks like dyslexia to me.

MR. WOLFE: So put the vaccine up at the top instead of the bottom, is that what you're saying?

DR. VILLAREAL: That would help me.

MR. WOLFE: Of each section, okay.

DR. VILLAREAL: But I don't know, I want to hear from –

MR. WOLFE: Let's follow up with that and see how it works.

DR. SHIMABUKURO: You're saying just make that one sentence; talk to your doctor before getting DTAP vaccine if your child has ever had any of these reactions, and then you list the reactions.

DR. VILLAREAL: In their brains they're looking at vaccines, they're not looking at reactions.

DR. WOLFE: Okay, good point.

MS. LINGUITI PRON: I appreciate the ability to put things in a chart form, that's always helpful, for this one with all these millions of vaccines here, but I just wonder, under the DTAP, that the bullet that says "some children should not get pertussis; they can get the DT". In fact, that's hard to get -- doesn't carry that, at least not in my city, in Philadelphia.

MR. WOLFE: I think we need to mention that, but I don't know if we need to change that second sentence to if your child is lucky, your kid may be able to get "TD or something like that. If available. I'll try to find a simple way to deal with that.

MS. LINGUITI PRON: And since it's become the acellular, are there still that many children who can't receive it and that wouldn't be covered in the precaution chart?

MR. WOLFE: Not as many, but still some.

DR. DOUGLAS: That is not a client issue, there's nothing they can do about that?

MR. WOLFE: Right.

MR. KING: I just wanted to ask a question about this unavailability of the DT alternative. If so few need to take the alternative, is that what drives the unavailability of it?

DR. DOUGLAS: The profit margin for vaccines is incredibly low, and so manufacturers have said we don't want to get into the – it's bad enough you've pressured us to make these things that we don't make any money on. We certainly don't want to get into separating, making large batches of these separate little things that are not going to be used in bulk, and so the companies really resist doing that. Which makes the supply low. They just don't want to make these special little breakouts.

MR. KRAUS: I have to disagree with the characterization that the vaccine manufacturers do not make significant profits on vaccines. It might be that the overhead on a particular product is low, but the volume is – I just – I don't want that to – I had to throw that out there.

DR. SHIMABUKURO: What actually is the contraindication that a child couldn't get DTAP but they could get DT? What is the contraindication for that? Or is it a precaution?

MR. WOLFE: My answer would be under the precautions; brain and nervous system diseases within seven days, crying for three hours, seizures, fever of over 105, I'd have to check the ACIP regs to check what the contraindications are for sure.

DR. EVANS: Severe allergic reaction.

MR. WOLFE: But there would be no way to tell whether that was pertussis or something else.

MS. LINGUITI PRON: That's not listed for any of those other vaccines. And that's always a problem, there always could be an allergic reaction, there could be whatever.

DR. EVANS: But there is also the language in both ACIP and AAP, that a child who's had a reaction, whether a seizure or whatever, after the first DTAP, you're supposed to hold off on further pertussis-containing vaccines in case, to rule out an evolving neurological condition, so that would be a reason to give DT.

MS. LINGUITI PRON: I understand that, but I think putting on the table here is going to – raise more questions from parents than be helpful. I'm just not quite sure why that was pulled out like that. I think that could be covered under the precautions.

MR. WOLFE: I see. Don't need to say "on the table"?

MS. LINGUITI PRON: That would be my thought, but I just – I'm listening to the feedback that you're providing.

MR. WOLFE: I was just going to say, I don't think we have a moral obligation to state that here. It's something that the parent will find out if that applies to them. So I don't have a problem taking out "on the table" if people want to do that.

DR. SHIMABUKURO: The way it is worded in the table, it's worded as a contraindication, not as a precaution. So I don't – that's saying some children should not get pertussis vaccine; if in fact that's because they had some of those conditions under precautions. The wording of that is – that sounds like a contraindication – because a precaution means you can still give the vaccine but you want to do an assessment of the patient before you give it. A contraindication is you absolutely shouldn't give it.

MR. WOLFE: In some cases, that is a contraindication.

DR. VILLAREAL: I am looking at routine baby vaccines table. What is your concept of putting other information in there? Is it about the baby vaccine, or contraindications, or – I don't know what that column is for.

MR. WOLFE: It's just sort of a grab bag for stuff that – just one of the reasons I decided to try a

table this time, because there were various pieces of information that were in various parts of the VIS form, and I thought gathering them under one place, there might be - for example, the fact that rotavirus isn't a shot but it's taken orally is just sort of an incidental piece of information, so it's sort of stuff that we would like to mention but did not have any other place to put.

MR. KING: I actually do like the idea of a table, though what's in the other information column might need to be fleshed out a little bit more in terms of what we're trying to accomplish with it. But under this component where it says "some children should not get pertussis vaccine", perhaps instead of saying that these children can get a vaccine called DT, which I'm gathering is not necessarily true, because it depends on where you are as to whether or not you might be able to get it, that perhaps it should be "Speak to your doctor."

MR. WOLFE: Right; I was just thinking the same thing, that's a good idea.

MS. WILLIAMS: On the chart, why do we have flu vaccine as, like a footnote? Should it just not get its own box?

MR. WOLFE: It is not one of the vaccines that's covered by this. If we did that, we would have to change

the thing to include flu as one of the – since flu is such a unique vaccine, that's why we have it included on here with the other routine 3, 4 and 6 month vaccines.

MS. WILLIAMS: But if it is recommended?

DR. DOUGLAS: But it has its own information sheet.

MS. WILLIAMS: You could say, see a different information sheet. If I'm trying to pull a list down and put it on my refrigerator, as a parent, of these are the things I have to get, I don't know why it's separate if that's what I'm supposed to get. Just a comment.

MR. WOLFE: So mention that there's a separate VIS for that?

MS. WILLIAMS: Yes; just say there's a separate VIS.

MR. WOLFE: Okay.

LT. MARSHALL: Concerning the routine baby vaccines chart, the statement "some children should not get pertussis vaccine" – there's no information on the precautions side as to why that baby should not receive pertussis vaccines, if they have a certain medical condition of some sort -

MR. WOLFE: Under the Precautions section, there's a very first one there about DTAP; that's where those would show up.

LT. MARSHALL: But there's not a specific warning about pertussis vaccines, specifically.

MR. WOLFE: It will be the doctor who makes those decisions rather than the parent; we don't want to put a lot of information on here that the parent has no control over.

MR. KRAUS: I think Valerie's point is that it might be helpful, when it says, we all know that the dose of DTAP contains the pertussis vaccine as one of the three, but maybe it makes sense to, on the precautions, say that if your child had any of these reactions after a dose of DTAP, then parenthesis, diphtheria, tetanus, pertussis. Repeat it so that the pertussis piece doesn't get glossed over by the parent, who's looking at -

LT. MARSHALL: I just felt like you're kind of hanging – some children should not get pertussis vaccine – and then -

MS. LINGUITI PRON: I think that's a good point; I think that part of it just doesn't really go anywhere, it's just hanging there, and even if you say, your doctor

will decide, or talk to your doctor, or something – it seems to raise more questions than it is helpful.

MR. WOLFE: Well, as I said, I don't think we're under any obligation to have that statement there; we can look into the possibility of taking it out altogether.

MR. KING: Any other comments?

MR. KRAUS: I have just a couple of comments that haven't been brought up, for what it's worth.

First, the very first statement, "your doctor recommends that your baby get these vaccinations today", I wish there was another way of saying that – I mean, there's something odd to me about giving this information out on the day that you're getting the vaccination. This is such important and good information, I wish it could be "your doctor recommends that your baby get these vaccinations", and then list the vaccinations, and then at the very end, maybe, or in some other way, have the doctor, have the patient indicate which vaccines are being given on that day? I don't know if that's an incoherent point, but –

MS. WILLIAMS: You're not going to know what to read. You're going to skip over polio, polio isn't checked. I would.

MR. KRAUS: So the point, I'm trying to figure out – so the purpose is, if polio is checked, then you

would go and look specifically at polio? But when is this given?

MS. LINGUITI PRON: Let me speak to that just a minute. People do it different ways. Some people give it as a two-week visit, or as a one-week visit, when the parents first come in; these are the stuff that we're going to be giving your child in the next six months; it would be good to read this over, bring your questions to the next visit, and go over at each visit, of course, as well. But many times, typically in a clinic situation, you may not see the child until they're four months; they may have gone somewhere else, and so you don't have the opportunity given to them ahead of time to read, you're sort of summarizing it for them, and then giving them the paper so they can read it more thoroughly, and hopefully it's given early in the visit so they could actually look at it.

MR. KRAUS: I get it. So it's sort of a dual function. Okay, thank you.

On the second page, where it says "thanks to vaccines, these diseases are not as common as they used to be", I think it would probably be more accurate to say, "Thanks largely to vaccines, these diseases are not as common as they used to be", because there are obviously other public health things that have reduced the rate of

contagious diseases, and then also, I know you're not trying to add words, but it might also be more accurate to say that without vaccinations, these diseases will almost certainly return in large numbers again. And again, I'm not trying to undervalue the role of vaccines, I'm trying to be clear, given that we've got issues of – there are certainly people who think – never mind, my reasons are self evident, I would think, and for what it's worth.

And then, two other points in the risks – didn't somebody say that – I think it was Sylvia – that syncope is a risk for little kids, or are we not talking about that? So it's not a risk?

DR. VILLAREAL: I didn't bring it up; I think Dr. Ryan brought it up. The major problem with syncope, if you're giving a baby a shot, and I don't know the literature, these babies don't faint because you're holding them. I have not seen an infant faint. I have seen larger people faint, larger than me, but I have not seen an infant faint. But again, anecdotal data -- I will defer to the CDC.

DR. SHIMABUKURO: I can't say for sure that little kids who are ambulatory don't have syncope after vaccinations, but the literature is mostly around adolescent age children.

MR. WOLFE: We've actually discussed the possibility of putting a general statement about syncope on all vaccines for adolescents, and got resistance because of ACIP's evidence-based push, that we really shouldn't say that unless there's evidence that it's happened with a specific vaccine.

DR. SHIMABUKURO: I would agree. I don't think the evidence base is there for little kids.

MR. KRAUS: And then the other point I had was that under the reaction to the DTAP, is it really the case that a fever of over 105, rather than over 104 -

MR. WOLFE: This is the way it's stated by ACIP as the cutoff, and a contraindication. I'll double check it, but I'm pretty sure it's correct.

MR. KING: Ed, 103, 104 fever in a child, it happens all the time.

MS. WILLIAMS: In other places we have taken the degrees out and just said "very high fever".

DR. DOUGLAS: This is not a precaution; it's telling them reactions, right?

MR. WOLFE: This we can't change.

DR. DOUGLAS: This can happen to a child; not that if it's like that, don't get the shot. This can happen to a child. It's a bad thing.

MR. KING: Any other comments? Scott, with no other comments, we thank you very much.

MR. WOLFE: Thank you everybody.

MR. KING: The next item on the agenda has to do with public comment, so we will entertain any public comments from anyone here in the room, or anyone on the line.

Agenda Item: Public Comment

OPERATOR: If you wish to ask a question over the phone line, please press Star, then 1. We do have a question on the phone line. Theresa Wrangham, your line is open.

MS WRANGHAM: Hi, can everyone hear me okay? I'm afraid I don't have a question, I know we're not allowed to comment. My name is Theresa Wrangham, and I thank the Committee for the opportunity to comment today, and for their work in adding the Vaccine Injury Table I wasn't going to comment today, however as a parent, I felt compelled to do so in response to the free riders' statement. I am commenting as a private parent and citizen.

As a parent who doesn't vaccinate, I know no free riders. I do know people who do not follow the schedule. My family used to vaccinate until each one of us

experienced an adverse event or injury. Parents who alternatively vaccinate and those who choose not to vaccinate do so for many reasons. For myself, I doubt that free-riding figures into that process to any large degree, though certainly the media, and members of government, actively and incorrectly characterize and demonize parents of free-riders. Parents make these choices, and are also characterized by research as highly educated. Parents' concerns range from safety concerns, relevance, questioning the integrity of research conducted, efficacy of vaccines, and personal and religiously held convictions, as well as understanding that there are other factors, such as education and sanitation, that impact the spread of infectious disease.

For example, I've had chicken pox and so have my kids. We feel we are in the herd with our lifelong natural immunity. I read the CDC's 2004 report on HPV to Congress, and understand that cervical cancer causes less than one percent of cancer deaths in women, and that 91 percent of individuals infected with HPV resolves the virus on their own, without medical intervention. I also understand the importance of Pap smears in detecting other life-threatening STDs.

HPV vaccine is expensive, and for many unnecessary, according to these numbers, in my opinion. Time and money, in that instance, might be better spent on figuring out who is really at risk, and who would benefit from such a vaccine, rather than pushing it on everyone and making it a one-size-fits-all.

Effectiveness of influenza vaccine is poor, and pressure to receive it is high. Yet there is risk of injury. It is the leading claim submitted to the VICP. The recommending of Category C vaccine to pregnant women is questionable to many parents who read product label inserts that clearly state that harm from the vaccine to the unborn child is not known. Many safety concerns held by parents were echoed by the NVAC's 2009 research recommendations to CDC's ISO. The support, however, received little media attention, just as I suspect that the excellent action of this committee yesterday in adding to the table of injuries will not receive media attention. The publishing of the IOM's report last year was not encouraging or comforting the parents, though it was spun in the media as such.

As a parent, there's no comfort to me that 85 percent of the adverse events reviewed by the IOM were not scientifically investigated in a manner that allowed the

IOM to make a definitive finding, or that for much of that, 85 percent, science was simply absent.

Many injury risks remain unknown, and identifying individuals at risk for vaccine injury must be a priority. Parents watch the continued expansion of the schedule, and are increasing pressured to submit to the recommended schedule, and are wrongly demonized for educating themselves. Parents want higher regulatory standards in vaccine licensure, in the face of increase and fast-tracking of vaccines. They are requesting higher investments in independent vaccine safety research and oversight.

We want parenting in vaccine policy making, and meaningful inclusion in that policy-making. When we are ignored, it is not surprising to find that the public's trust in vaccination is in decline.

Taking parents out of medical practices is not the answer, and I am really glad that no one here today suggested it as an answer. Parents are simply exercising their informed consent rights.

I ask the Committee to respond to its recommendations to close the gaps in vaccine safety research science with quality research, as they are charged to do, and as a measure of restoring confidence.

Marketing efforts to get everyone to vaccinate bombard the public. Please discuss marketing efforts to better inform parents about what is known, and not known, in relation to vaccines and their risks, not just their benefits. Please raise awareness about the VICP and be more publicly honest about the state of research. More importantly, please treat us as individuals. Please do your part and give parents a reason to trust, because we are reading studies, reports and information provided by government and agency websites, and we are monitoring your actions and sharing what we learn with others.

Again, I want to thank this committee, and truly appreciate the thoughtful efforts in updating the Vaccine Injury Table with the latest IOM findings. Thank you very much.

MR. KING: Thank you. Are there any other comments?

OPERATOR: I'm sorry, no further comments or questions on the phone lines.

MR. KING: Okay. Then we will move to the next item on the agenda. The next item on the agenda are future agenda items!

Agenda Item: Future Agenda Items

MR. KING: So, what we're talking about is what we want to cover over the course of the next several meetings, I would think.

SPEAKER: Isn't that a separate meeting?

MR. KING: Doesn't have to be.

MR. KRAUS: First, I want to thank the individual who made the public comment, and it actually raises the issue that I wanted to put on for future agenda items, which is the fact that from the IOM report, we know that 85 percent of the adverse reactions were not – that there was inadequate science to determine whether or not the adverse reaction was likely caused by the vaccine. It's terrific, as the caller pointed out, that we were able yesterday to take actions to add the percent, the smaller percentage of adverse reactions that the science clearly supports adding to the Vaccine Injury Table, but in reviewing the charter that was in our binder that was sent to us, it did strike me that the IOM report is a wake-up call, I think, to our Commission to figure out how we can grapple with, address, the issue of the lack of science in this area.

MR. KING: So if we want them to summarize that as a topic, what would you call it?

MR. KRAUS: The need for further research into adverse vaccine reactions. Or I should say, not to

frontload, not to be presumptuous, the need for further research concerning reports of adverse reactions.

MR. KING: Does that really come out of the conversation of rebuilding trust in the vaccine process that had been mentioned yesterday at one point?

MS. WILLIAMS: You're talking about science. You have a report that is made by a nurse or a doctor, or a parent, of a possible injury, and the IOM and correct me if I'm wrong, is saying there wasn't enough science, or medicine, or investigation, as to that event for us to make any evaluation. And so it's the reporting; if somebody had done one more medical test or made one more observation as a clinician, then there might be more for the IOM to respond to.

DR. EVANS: I'm reading it a little different way. The first two major Institute of Medicine reports had two-thirds of the conditions fall in the inadequate evidence category, so that now we're up to 85 percent. This has been criticized, understandably, along the way, and probably the greatest reason why there's not more vaccine safety research is there's not the funding available to do so. There's not an unlimited amount of money for the VSD, for example, which is the primary surveillance follow-up tool that the United States Public

Health Service uses in order to assess vaccine adverse events. That has a limited budget. VAERS has a limited budget. Research scholars that go out to various academic institutions have limited budgets; NIH has limited budget for vaccine safety research and so on.

And along the way, there have been several instances in which people have come to the Commission and tried to give the Commission support for utilizing the Vaccine Injury Trust Fund portion, specifically, the interest coming from the trust fund, to be able to facilitate departmental vaccine safety research activities. So this is nothing new, and we can sit and talk about it some more, but it's going to get down to okay, yes, there are a lot of areas that need to be further researched; how are you going to pay for it? And that's the crux of the problem, and this Commission has gone on record in a mixed fashion on this issue.

Earlier on, the Commission supported using a portion of the Vaccine Excise Tax because if you think about it, vaccine safety and vaccine liability are intertwined; one leads to the other. The more recent Commission expressed significant doubts, and consumers have never been in support of that idea. Industry has been mixed. So that's something I'm going to bring back to you,

because who knows? Maybe the administration right now, this particular administration, would be more inclined to seriously put forward a proposal that would be able to tap a portion of the trust fund, especially at a time when it is now $3.4 billion. So we could begin to close some of the loops in vaccine safety research.

MS. WILLIAMS: That would require a statutory change, is the question – the answer is yes.

MS. DELA ROSA: Pending any kind of legal changes, could the Commission, considering the last sentence you just said, can we find a way of encouraging public report of adverse reactions, which can be the beginning of any kind of research? What are the adverse reactions? How many adverse reactions are there? Can we get to that, where we can somehow find a way of encouraging by supporting? Because that all depends on only practitioners.

DR. SHIMABUKURO: This is talk; we do have VAERS, it is a passive reporting system. We try to, as best we can, do outreach to providers, to make them aware of this system, and to facilitate reporting. We're looking into ways to improve the on line reporting, the electronic reporting process, which we hope will improve the quality of the VAERS reports.

But there are limitations to passive surveillance. That's like an hourlong presentation of the limitations of passive surveillance. I will say, and Ed, in response to your request, we can – if the Committee thinks it would be helpful, I can present some of the priority areas and some of the ongoing studies that ISO is engaged in, if you think that would be helpful. We just actually finished, just recently, doing – it's almost like a laundry list of all our studies – and we're in the process of, and this is part of a bigger plan of creating, generating some information for vaccine safety research for the National Vaccine Planned Implementation Plan. So like I said, if the Committee thinks it's helpful, we have to do a little bit of organizing and categorizing what our studies are, but I can certainly present to the Committee on what ISO is doing, although I will say that – based on what Geoff said, we have to prioritize our activities. So we have priority umbrella topics; pregnancy is one of them, vaccination in pregnancy, autoimmune and acute demyelinating disorders are priorities, but I'd be willing to, at any future meeting, present on our research, our scientific activities.

MR. KING: Would you have enough time before the next meeting to be able to say that you could present it at

this next coming meeting? Or would it need to be pushed out further?

DR. SHIMABUKURO: I can do that. I guess the question is, you maybe want to do a more, maybe a focused – I think it would be less helpful just to run through all the 50 studies that are ongoing, and maybe tell me you want to hear about pregnancy studies -

MR. KING: We might be able to combine what Skip had talked about in presenting – was it Skip, or Dr. Salmon, Dan Salmon, had talked about, and maybe both those topics could be combined into one meeting?

MR. SMITH: A suggestion to follow up on Tom's point, maybe for the October meeting, to have an integrated perspective of the various groups and their approach about the ongoing studies, their future plans, so it's not ad hoc or piecemeal, but more of a focus for a full day on the agenda, maybe, at the October – suggestion.

DR. EVANS: One thing that Dan Salmon can bring to us at the next meeting is just reviewing the criticisms over the years of lack of vaccine safety funding, and prioritization in these areas. This is something the National Vaccine Program Office has certainly been involved in, because it is the one that shepherded the Vaccine Safety White Paper that was put together, and clearly

funding was the big elephant in the room for that eventual product, because a lot of things that were being suggested had a price tag, although it was not literally brought up in that way, but that certainly was what was going on as far as how reactive the various agencies could be in responding to these kinds of ideas.

So that kind of background perspective should be part of this discussion as well.

MR. KRAUS: I just was looking at – the reason I brought this up is under the description of duties for the ACCV, Number Five – we're supposed to recommend to the Director of the National Vaccine Program research related to vaccine injuries, which should be conducted to carry out the program, and I understand from Geoff's comments that at the end of the day, there are political decisions about what gets funded and what doesn't, but I think our focus as a commission should be to make the recommendations, and it can only, it seems to me, improve the ability to get funding if we as a commission make it clear that additional funding is needed in order to carry out the duties of the Commission and the program.

DR. DOUGLAS: Someone mentioned 50; I don't know if that was just kind of thrown out there, but the state of the science; I don't think it's as if nothing is being

done, but right now, I would say the IOM report was an exhaustive review of what is in the literature, and I don't think that was sidestepped in any way. But right now, at this moment, I don't think any of us have a clear picture of what exactly are the focus areas, or what is being conducted right now through all of the multiple agencies that have their hands in vaccine. And also, to inform the public, and to allay that fear that nothing is being done, what is being done.

DR. SHIMABUKURO: I just threw 50 out there.

DR. DOUGLAS: That's what I say, it could have been just thrown out there. And a real culling of the data could bring forth 75, one never knows.

MR. KING: I'm going to make a recommendation, and Charlene had actually made a comment as we began to open this up, why shouldn't we just do this in a committee? And I said, we could do it here, as a committee as a whole, but I suspect that what we ought to do is to have a subcommittee that will do the agenda for the upcoming meetings, possibly, rather than just focus on one, perhaps we list – the committee will determine what its topics are, -- and we then have the ability to organize those topics so that we have a more focused effort as opposed to just an ad hoc moving in.

So, understanding that, I would like to get some volunteers to serve on this committee. I know that I will serve on the committee, I would assume that Michelle will be there, so Edward would be on the committee; Tom, we'd love to have you on that committee. Is there anyone over here who'd like to be on that committee? You do not have to be on the committee; we did say we were looking for volunteers. I think we have enough people, and Valerie would like to be on the committee.

So we will then need to organize the – you guys will take care of scheduling and coordinating that schedule so that we can be on it.

Okay, having said that, before we formally adjourn, we want to do something. So I would like to turn the floor over to Geoff Evans before we adjourn, and I'm going to just turn it over, Geoff.

DR. EVANS: Thank you for turning it over. A little recognition for David in his first day as chair.

(Applause)

Yesterday was a long, tough slog, a long day, and having been part of this for the third time, we had IOM, and we had this big set of proposals we worked on, we worked on months and months and finally saw the light of day here, I was just struck by how well things went

yesterday, and it's always exciting when it happens, because it's an important first step in advancing the VIT, by making these changes to the Table and aids, and making even a sounder system.

This was the culmination; yesterday was the culmination of three years' effort.

I want to take a moment to recognize and thank the members of the Task Force, those from CDC's Immunization Safety Office, who were in the Office of General Counsel who were involved, and the medical officers from the Division of Vaccine Injury Compensation, who were al sitting back there, and it's a privilege to work with all of you in advancing the immunization program and the public health.

But there's one person in particular that I do want to recognize, and it's no surprise, that's Rosemary Johann Liang. She came here in 2007. Preview of coming attractions was she had a very strong scientific fund of knowledge and could manage people, she had 45 people she was managing over at the Drug Safety Office, so I knew when she came in she could handle any old little thing that we had to deal with.

But then, suddenly, we finally began to get some additional money to do something that we had been waiting

for years and years and years to do, and what you saw in those 2006 guiding principles was a very frustrated body, the ACCV, who were yearning to expand the table and really make the program better and help petitioners, but we kept saying we need to have an independent analysis. At least think of these things.

So we finally started getting money, circumstances were such, and Rosemary, from day one, and I began seeing more and more money coming in, and we finally – first we were going to do a little report on it, a little thing, and then getting bigger and bigger, then there was four vaccines. So she came in with all this promise of helping us, but what we didn't know is that Rosemary has an extraordinary ability to leap tall buildings with a single bound by taking on a huge amount of scientific work and data, and collectively drawing the best from all the people that she's working with, and making a deadline that some people questioned was not possible.

And in the process, she brought a quality of effort that was clearly in evidence yesterday, during yesterday's presentations. It was extraordinary, and as often has been the case, she made it fun, and there was laughter along the way.

So Rosemary is the MVP of this whole thing, there's no question about it.

(Applause)

DR. JOHANN-LIANG: It is really a group effort. This is not a project that any one person or even just a few people can do; as you saw, the number of people on the task force, it was really – I know that there's a lot of people who criticize the government workers for whatever variety of reasons, but having worked in the government, I can't believe in that – I think this is my eleventh year – I never ever thought I would be a government employee for eleven years, but there are really dedicated people in the government, who really try to do the very best they can, and I just felt so privileged, and I do feel privileged, to be able to work with a group of people who really care, and care about – because after all, we're all – I'm a mother, I'm a parent, many of us are parents, many of us have loved ones who are sick in the hospital; actually, Dr. Atanoff's mom, I switched the presentations around because she's in the ICU right now; we're all affected by the work that we do and the decisions that get made, the policies that go into effect, and we always try to look for what would be the downstream effect? We don't want to have unintended

downstream effect, right? We want to also try to look for the big picture of how would this benefit public health.

So it really has been a lot of work, don't get me wrong, but it's a lot of work, but it's been many years of team building, working together and resulting in what we collectively worked on yesterday. So I'm really proud of all of you, it was really – yesterday was a really affirming day, and I look forward to working with everybody, moving into the future, and a great job to the Chair yesterday, and a great job to Dr. Evans, and Elizabeth Saindon for all her counsel to ACCV and to the work that we've been doing for the past several years, and our Dr. Tom and CDC – Thank you so much.

MR. KING: There being no other business to come before the Commission today, we will adjourn this meeting. The next scheduled meeting is June 14 and 15 of 2012. That's it. And we need a motion.

Motion to Adjourn, seconded.

MR. KING: Done.

(Whereupon, the meeting adjourned at 12:10 p.m.)