Assessment of the Child Preventive Care Timeline

Results from a Series of In-Depth Interviews

Prepared for: Agency for Healthcare Research and Quality

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Study Background and Purpose

The Agency for Healthcare Research and Quality (AHRQ) recently released the Put Prevention into Practice (PPIP) toolbook for use by primary care providers throughout the United States. One of the items included in the toolbook is a chart—the Child Preventive Care Timeline—describing when and what kinds of preventive care should be delivered to children and adolescents.

AHRQ commissioned a series of in-depth interviews with primary care providers to assess the format of this timeline to ensure the information is presented in a manner that is useful and easily understood. The findings from these interviews will be used to revise the timeline if necessary.

Methodology

Research Design

In-depth interviews with 15 primary care providers, including 13 pediatricians and 2 family practice physicians, were conducted between September 3-12, 2003 on the format and organization of the prevention timeline. Providers were selected to represent a variety of geographic and clinical settings, and treated patients from a mix of socioeconomic and ethnic backgrounds. For the majority of pediatricians, 95% or more of their patients are under 18 years old; among family practitioners, 25% of patients are under age 18. In nearly every pediatric practice, the majority of patients are five years old or younger.

Participants for these interviews were professionally recruited utilizing a screener developed by Equals Three Communications research staff (see Appendix B). Prior to the interview respondents were sent a confirmation letter and a copy of the Child Preventive Care Timeline to review and have at hand during the interview. Each 20-minute interview was conducted via telephone, tape-recorded and tapes transcribed. Each interview was conducted by research staff member using a standardized interview guide developed by Equals Three Communications. The interview guide can be found in Appendix C.

Organization of the Discussion

The discussion was organized in three parts and began with a brief discussion of the provider's practice and patient population. Next, was an assessment of the Child Preventive Care Timeline. Provider's were asked to describe the strengths and weaknesses of the timeline as well as its organization and formatting. The discussion concluded by asking respondents how they might use the information in the report and to indicate what kind of additional content might be included in the report.

Limitations of the Research

In-depth interviews seek to develop insight and direction rather than quantitatively precise measures. Their value lies in providing unfiltered comments from a segment of the target population and allowing decision-makers to gain insight into the beliefs, attitudes, and perceptions of such audiences. Due to the limited number of respondents and the recruitment methods, this research cannot be interpreted quantitatively nor can these results necessarily be regarded as representative of the larger target populations.

Summary Of Findings

- The preventive health issues most significant and universal for pediatrics are safety and immunizations. Developmental and behavioral issues are a focus for younger patients, while counseling on sexuality and substance abuse is the focus for pre-teens and teenagers. Additionally, physicians see an increasing need to address the issue of obesity, with nutrition and exercise counseling.

- Respondents had not previously seen the AHRQ timeline, but they were familiar with the content. They found the recommendations to be fairly consistent with what they have seen from other sources and what they practice themselves.

- Overall, respondents had positive impressions of the timeline; several thought it was comprehensive and easy to read. Most respondents were satisfied with the major components of the timeline (chart categories, age measurements, horizontal bars). A few respondents, however, found the chart to be confusing. Additionally, respondents identified several areas for improving the chart (see below).

- The division into three categories (immunization, screening, and counseling) was seen as logical and common for approaching pediatric preventive care. A couple of suggestions for the categories were to list some topics under both screening and counseling (e.g. alcohol), and to add a category for early development measures.

- The counseling section was seen as the weakest component of the timeline and respondents felt the recommendations are too vague to be informative. Respondents said they would prefer to see separate bars for each counseling topic and guidelines for the age range at which each topic should be introduced. Some also found it difficult to read the long list of topics.

- Most respondents did not have trouble with age being presented in both months and years within the immunization category but a few found it visually confusing. They said age in months is the common measurement in the pediatric field but it could be difficult for others to follow, especially non-physicians.

- Half of respondents said the bars spanning ages is appropriate and important for indicating that timing on immunizations and screenings is flexible. Some, however, said they would prefer more specific guidelines, particularly where it says “periodically” and “as appropriate by age.”

- Many respondents did not find the timeline particularly useful to them personally. They said that they have already internalized these guidelines into their own routines, or that their charting system ensures that these topics are covered in every exam. Several said the timeline would be a useful periodic reference or reminder; a few said they would use the timeline more frequently.

- Several respondents suggested a better target audience for the timeline would be physicians new to pediatrics. Several also thought the timeline would be useful for informing parents of the examination process and timeline. A few said they would post the timeline in exam rooms as a reference for parents.

Recommendations

- Market the chart primarily to pediatric residents and other physicians new to the field.
- Assess the chart's appropriateness and clarity as a tool for parents.
- Increase the specificity and detail of information, while still presenting the information as suggested guidelines. For example, use language more descriptive than "periodically," such as "yearly" or "twice yearly."
- Update the chart when necessary to reflect changes in immunizations, which will increase the chart's usefulness to physicians who have memorized the general guidelines.
- Provide more precise guidelines for early screenings. Delineate the screening category in the same way as the immunization category, by months first.
- Expand the counseling section to include bars for specific topics and suggest when such counseling should occur rather than saying "as appropriate for age." For example, counseling about physical activity could begin at one age and about STDs at another.
- Specify early development measurements such as when to screen for walking, talking, etc.
- Include guidelines on the necessary frequency of physical exams and check-ups.
- Consider developing separate timelines that present information about preventive care for specific age ranges. For example, timelines could be developed for infants (0-24 months), children (2-12), or teens (13+).

Detailed Findings

Preventive Issues

Half of respondents said safety and accident prevention is an important preventive health issue, relevant for patients at every age. As one physician explained, *"The bigger issues are generally safety issues, depending on the age range that you are dealing with, trying to educate them on safety issues within the home environment and outside the home environment, like car seats, seat belt usage, bike helmet usage."*

For half of respondents, ensuring that patients are current with immunizations is a major preventive care issue. Some respondents said this is *"real important"* and their *"greatest concern."* While it is a more relevant issue for young patients, some physicians said they are also concerned with keeping older children updated boosters.

> *"Issues that mostly come to my attention for children is the immunization schedule. Parents are not really aware, in the area where I am working, of the importance of getting immunizations for their children."*

A few physicians mentioned developmental and behavioral issues as concerns for younger children. For pre-teens and teens, physicians said they are primarily focused on counseling on sexuality, safe sex, and substance abuse. Some physicians said they begin this counseling with patients as young as nine or ten years old.

> *"Even with the 10 year olds and up I start having more of a focus on sexuality and puberty development and also more discussion about sexual activity, drugs."*

Several physicians also said that nutrition and obesity are significant preventive health issues for children of all ages. One physician explained that obesity is *"something that truly could be prevented and intervened on, and I don't think it is something that is typically getting as much attention by physicians or parents as it should."*

A third of respondents said a concern is that children's health care is compromised when health insurance is unavailable or unaffordable. They mentioned the growing number of uninsured families, cuts to Medicaid, and shrinking coverage for those who have private insurance as barriers to children receiving the preventive care they need. As one physician said, "*If I see families not bringing their children in for healthcare, that I would say is the biggest concern, that families say 'my insurance doesn't cover it.'"*

General Impressions of the Timeline

Respondents were unfamiliar with the AHRQ timeline, but said it looked similar to other timelines they have seen and use. Several respondents focused on the immunization guideline, likening it to the one distributed by the American Academy of Pediatrics. Only one respondent said they had previously seen this particular chart.

> *"It's like many others that come through. I've never seen this particular one."*
>
> *"It looks like something that would come out of the American Academy of Pediatrics."*

For most respondents, their initial response to the timeline was in regards to the content. Respondents said they are familiar with the content and that it is generally consistent with the guidelines that they follow in their practice. As one pediatrician said, it looks *"like very much what I do."*

- Most respondents had at least a few disagreements with the content of the guidelines, in terms of the timing of particular immunizations and screenings. Several concurred that dental and hearing screenings should begin at an earlier age than recommended on the timeline, and that they would not regularly screen for Chlamydia.

Several respondents found the timeline to be concise as well as comprehensive. Of those, some said they like that it covers not only immunizations but also counseling and screening on one page. A couple of others said the information within the categories is thorough.

> *"I thought it was pretty good. It is a concise and yet detailed way of looking at each age group and what I need to make sure they are getting or make sure what is being discussed."*
>
> *"I think one of the strengths of it is that . . . if you look at the immunizations it clearly covers everything that is needed to be addressed in primary care in terms of the years of age. I think it certainly addresses all of the things that you would want to address at the particular age group in a healthy check-up. I think in the last part, the counseling area, it really touches on most of the issues that you are faced with and most communities are faced with."*
>
> *"I think it is great to have all three of them on top of one another like this . . . [It's] easy to understand. Everything grouped together because you are thinking about development and labs and immunizations all together. It brings it to your mind to talk about."*

Of those who initially commented on the visual aspects of the timeline, opinions were mixed. About a third of respondents found the timeline to be simple and easy to read, while a few respondents said they found the chart difficult to follow.

Assessment of the Three Prevention Categories

Most physicians responded positively to the division of the timeline into three categories of immunization, screening, and counseling. They said it is an appropriate and logical categorization, which follows how they approach pediatric preventive care.

> *"It divides it and separates it out—immunization, screening and then counseling. It does a nice job of that."*

> *"As a matter of fact, the reason I like this is this is actually how we have it laid out in our [Subjective, Objective, Assessment and Plan] templates for our preventive health visits. We have basically underneath in the planned part, we do have it listed as immunizations. We listed the screening and we listed as parental or care provider counseling."*

A few respondents found ambiguities with where topics were listed—under screening or counseling categories. For example, respondent said, that while dental health and alcohol are listed as screening measures, they should also be issues for counseling. Similarly, another respondent said that some counseling topics, like substance abuse, should be screened for.

> *"Sometimes the screening and counseling can be a vague area . . . You have firearms, tobacco and drug-use in counseling, but in a way, especially in the adolescent years, you really need to screen for that. It's not just to advise people not to do it. I consider it more my responsibility to screen for what you are doing."*

A few respondents suggested adding a category for tracking specific development issues. They said that there are age-specific indicators for development, particularly within the first years, that could be specified within a development category.

> *"Like one year olds, in terms of development, they should be walking or close to walking. They should at least be pulling up. They should be saying six words. They should be able to wave bye-bye or do patty cake . . . That is a huge area and that is what helps you pick up all those illnesses that you don't pick up at birth, autism and developmental problems with speech and developmental problems with motor skills."*

A few respondents said there should be an indication for when general physical exams and check-ups are needed. They said the chart indicates that particular screenings should be done periodically, but it does not specify how often a child should visit the pediatrician, which is fairly often during the first two years.

> *"You've avoided the hard part, which is how many visits you are going to do in each of those two years. . . . Even with a timeline you could do one or two visits. On your bar you could put one or two visits in the first two months and then two months, four months, six months, nine months and 12 months, which is standard."*

> *"A lot of the screening stuff we think of as kind of like our physical exam part. . . . I guess you could put 'exam screening' or 'exam topics' to make sure they get covered. You could call it 'screening' . . . I might put in the word 'exam.' That makes physicians think more about doing exams or screening exams."*

Assessment of the Counseling Category

The counseling section drew criticism from many respondents, who commented both on the content and layout of the section.

Several respondents found this to be the least useful section, because the recommendations are too general to be informative. As one respondent said, *"The more generic you make it the less you are going to pay attention to it. If you say you have to do all this at every single one you are probably not going to look at it as much."* As another respondent said:

> *"It doesn't help you at all with thinking through that. I'm not sure that is what it is meant to do. This is supposed to be a guideline. I don't think that last box really tells me anything. Sure we know we know we are supposed to be counseling about this. It says appropriate for age, but in terms of taking up that amount of space, it really doesn't really tell me anything to say that is appropriate for age for the whole length of the thing."*

Many respondents felt there needs to be more specificity in this section, delineating counseling topics separately and indicating the age range at which each of the topics should be introduced. While some topics seemed relevant for all age groups, such as nutrition, others respondents said, would not be broached until a later age, such as STDs and drug abuse. However, some respondents acknowledged that it is difficult to pinpoint an exact age to introduce each topic, that it varies for different patients, and that it is up to the physician to make this judgment.

> *"I think something like firearms and STDs you have it all the way across as appropriate for age, but to be more useful to someone who is taking the at a glance procedure, you might want to put firearms, you don't really need it in the infant groups, and you shouldn't hopefully need it before ten or eleven. You have this whole block or glom of words in this sort of paragraph and just across there. It's more work for the user to look at it."*

Some found the list of counseling topics to be crowded and difficult to read. As one respondent said, *"When you get to the counseling, it's all sort of lumped together in one run-on sentence. It's not visually effective. You could overlook stuff."*

A few respondents commented positively on the counseling section, saying it serves to remind them of all the counseling topics that should be covered. Another respondent said it was helpful for broaching difficult counseling topics with parents.

- One respondent suggested that instead of "counseling" they would use the term "anticipatory guidance" because *"there are people in primary care who say if you use that word counseling then you are overstepping the bounds of . . . a primary care person."*

Assessment of the Change in Measurement from Months to Years

The majority of physicians did not have trouble with the switch in measurement from months to years in the immunization section. They said that for pediatricians, this is the typical way to age children under two years old and to think about scheduling immunizations.

> *"I think it is not confusing if you are in the primary care field, because you know that you always kind of address children in months for almost two years of their life. It is pretty classic of how you look at it. I think the other things are things that you do by those years instead of by those months."*

- A couple of these physicians commented that they found the visual demarcation of months and years to be clear.

> *"I caught the 'm' versus the 'y'. I'm familiar with the vaccination schedule, knowing that we are months at that part of the top. You also have it quite clearly the separation of months and years written in there. So that was not in any way confusing and again very well laid out."*

Several suggested that screening and development should also be segmented by months for the first 18 months. They said there are some measures, such as head circumference, that need to be tracked frequently and early.

> *"On the screening you have newborn screening and those happen real quick. That is right after birth and shortly thereafter. Head circumference is the same way. You do that more in the months. Those are early month exams. You could maybe break some of that down a little more I guess."*

> *"It's useful, very useful, if you could do it by month for development especially, when you get to whether they are developing appropriately, if you could keep it to the month, you really need to pick up those delays early. If you have a nine-month-old that is not sitting up, you want to know about that. If you really want to make it for someone to look at and be useful, you would want to screen for all that stuff by month, especially in the first year."*

About one-fourth of physicians were initially confused by the switch in measurement within the immunization category. Some also found it difficult to follow the age between categories. All of these respondents said it was a minor problem that they were able to figure out.

> *"I think there is a little bit of confusion . . . I think looking at this very quickly you could glance across the top and see two year at the very top and be scrolling down and be thinking that the discussion of alcohol use and Chlamydia needs to start then. That is a little bit of a weakness. I think that it's not extremely confusing. If you spend more than a moment glancing at it, you will see that you have repeated the headings down below and have changed the headings"*

> *"That was a little bit confusing, but if you look closely at it then you can see why they did it. I guess they could have just put the months in one area and then the years in another but again if you really read it carefully for what it is seeing the adolescent years and young children as well you are not getting that many shots."*

- *One respondent suggested further demarcating the horizontal lines between the three major categories would make the age guidelines easier to follow.*

Assessment of the Bars Indicating Age Spans

Half of respondents appreciated the use of bars to indicate a range of time, because it conveys flexibility. The said that allowing for "wiggle room" rather than too specific of a time is important for physicians, who might modify a timeline for different demographics (e.g., counsel on drugs at an earlier age with high-risk populations). It is also important for parents, who might be concerned if they are a few days late on immunizations.

> *"I also like the fact that it doesn't say at three months you have to do this. Some parents really get hooked into gosh, I'm three days late for my immunization. It gives you a range which; actually, I think is quite good."*

> *"I think the fact that is more important is within the horizontal bars they used specific words specifically in the screening and counseling areas where it lets you know that you don't have to definitely do it on that time. It is whatever you feel is appropriate for that specific child."*

A few respondents said specific timing would be more useful than bars spanning over years. These respondents found the bars and the indication of "periodically" to be too vague. Particularly in the category of screening, some said they would prefer more exact guidelines, such as yearly or twice yearly check ups.

> *"I think you can say something to the effect of head circumference should be done at every well child check, or more frequently, if indicated, in height and weight. If you are following the typical guidelines set up for preventive child care, the two week, one month, two months, four months, six months, nine months, one year, on and on, and then starting at about three the annual visits… I would think you would want to say something more specific about that."*

> *"It says down here in the screening, it talks more 'periodically' as far as height, weight and head circumference, blood pressure and dental health. It might be better to have more rigid guidelines in there, what you recommend as far as you want it done once a year. Do you want it done once every two years? It might be nice to have more firm recommendations for physicians depending on what you want there."*

A couple of respondents thought the bars could lead to confusion on dosing for immunizations.

> *"The other concern I would have is if you have given your first dose and let's say you gave that first dose at two months of age for polio, as an example. As dose one I gave it at actually two and a half months of age now my second dose can I really technically give that at three and a half months of age within four weeks or do I have to wait six weeks or eight weeks? Maybe by putting a round circle that says dose one meaning, you do one specifically at that date or not."*

Assessment of the Layout

While, overall, respondents were satisfied with the layout of the chart, a few respondents found it crowded or confusing to follow.

> *"You've got head circumference, height, weight, lead, vision screening but by the time I'm looking at a 15-year-old I'm having to take a few minutes to slide over and decide they need the dental health. As I'm getting to the older kids I just have to take more time if I'm going to look at it."*

A couple suggested reversing the axes of the chart, with age at each row and preventive measures in columns. They said the change would make it easier to identify the measures needed for individual patients.

> *"Make it age focused and kind of reverse the axes or something. Ages would be different, and then you can slot in what you want to do at that age."*

One suggested simplifying the chart by putting adolescents on a separate page, because their needs are different from infants and young children. The respondent said, *"I would suggest you change it, and yes, I would put the adolescents separate because their issues are so different. With the younger kids you are really focusing on all those shots. Once they are 12 they get one shot and maybe a flu shot. The other issues for them start becoming really big."*

Another general layout suggestion from a few respondents was to use different color bars to indicate each category or topic.

Usefulness of the Timeline

About half of respondents said they would have little use for this timeline because it is information they are already familiar with.

- **Several of these respondents said over their years of practice they have established and memorized their own, similar guidelines.**

  "Probably not [useful]. I would look at it. If there was something glaringly missing that I wasn't doing it might be helpful to me that way. I basically do everything that is on here."

- **A few of these respondents said it is redundant because the guidelines are built into their charting systems.**

  "That is not something I would have to look and say when do I need to do dental health screening or when do I need to do vision screening. It is all set. It is all plugged into our system. The kids are screened automatically without me having to refer to this. The counseling is the same sort of thing. The way the system is set up and the forms that we use there are already triggers there to click my memory to talk about this or that."

  "We have these [state-wide] physical forms for every age, so I wasn't sure it was necessary. When you get a four-year physical, you have a four-year form, which has a list of things you are supposed to talk about."

Those who said they would use this chart themselves said it would be a reference, "refresher" or "reminder." A few said that the information on immunizations is most significant because of its specificity, while screening and counseling they would be more likely to use their judgment on.

> *"It jogs your memory or your thought process that these are things that you need to be talking about."*

> *"I like those types of things to have especially if somebody is out of immunizations, out of sync in their preventive care, or if they have had a different immunization than we have had, we try to figure out what they need and what they don't."*

- A couple of respondents said it would be useful to review yearly for changes to immunizations and to update their charting system.

> *"I think it's valuable to have a tool where you can quickly look to refresh your mind or be updated on what seems to be according to the scientific evidence the best times to give these immunizations. I think when it comes to some of the other things, like the screenings and the counseling, that those are things that come a little bit more naturally and have a little more flexibility in terms of what is needed for that specific patient based on their circumstance."*

A few pediatricians and both family medicine practitioners said they would find it useful to use in their daily routines. One said it would be a handy reminder to have alongside an exam (though the charting includes much of it), and the other said they would use it often for new patients and those coming in for routine visits, as well. The family practice physicians said:

> *"The thing that helps us is if it is on an exam form and it is written out there then it will kind of trigger your memory to ask those questions and that is what helps us a lot during the exams. If you had something like this right with your history and physical form you could remember to check these things off as you go. That would be helpful. It would be helpful to have something like this if you are doing a new baby exam or whether it is a five-year-old exam. You could just run down the five year old and see what you need to touch on."*

> *"Very useful . . . I would get more use of it for those kids that come in for their routine well child visits. Also for possibly new kids coming in with various symptoms because that gives you an opportunity to catch up on some of these things."*

Several respondents said the timeline would be more appropriate for pediatric residents, newly trained pediatricians, and those who do not primarily work with children. They said that these physicians would not have the information memorized the way those with more experience already do.

> *"I think it is a useful thing for someone who needs to get into a pattern of thinking through what are the things that I need to be doing and be consistent."*

> *"I think that somebody new to practice, it would be incredibly helpful to. I think for people learning how to treat children, it is incredibly helpful."*

> *"It is also good for people that aren't practicing pediatrics as a specialty. Family practitioners would be a good idea. This would be something nice. That would probably be a better tool in their hands. For a pediatrician, this is stuff you do every single day. It wouldn't be something I would refer to on a daily basis by any means."*

Several respondents said the timeline would be helpful for informing parents of when immunizations and screenings were needed. One said it would be particularly useful for preparing new parents during newborn or pre-natal consultations. Additionally, one physician said, it can serve an entrée to talking with parents about adolescent counseling issues that parents may be uncomfortable discussing.

> *"I get parents who sometimes don't understand why we need to see their kids so often. That would be very useful to explain to parents."*
>
> *"One of the nice things it does is that in a sense it takes you off the hook. You can approach things that are a little more uncomfortable for the parents or myself, by saying the American Academy of Pediatrics recommends that we discuss these things, and we will be doing that. They have it in writing that I will be talking about STDs, HIV, family planning, drug use, and tobacco use."*

- Some of these respondents said they would post the timeline in the exam rooms.

  "I would probably have it in my rooms on the walls so parents could see it as well. I could show them this is what is recommended by pediatricians all over and have done at this age and why."

  "I think it could be useful to have it in our rooms. I would be nice if you could blow it up and put it in rooms and the parents can look at it. I think they could understand what we are trying to do."

- **One cautionary note is that in discussing different aspects of the timeline, a few respondents said the timeline might be confusing for those who are not pediatricians.** Similarly, a few said that the information seems to be geared to physicians; they did not assume it is geared toward consumers.

  "I would assume any educated person could figure this out. If this is for educated people I would think it would be fine. If not, it might be hard to understand for others."

Appendix A: Child Preventive Care Timeline

Clinical Preventive Services for Children and Adolescents (Birth to 18 Years)

IMMUNIZATION

Range of Recommended Ages
Catch-up Immunization
Pre-adolescent Assessment

Vaccine ▼ Age ▶	Birth	1 mo	2 mos	4 mos	6 mos	12 mos	15 mos	18 mos	24 mos	4-6 yrs	11-12 yrs	13-18 yrs
Hepatitis B[1]	HepB#1	only if mother HBsAg(-) HepB#2			HepB#3				HepB Series			
Diphtheria, Tetanus, Pertussis[2]			DTaP	DTaP	DTaP		DTaP			DTaP	Td	Td
Haemophilus Influenzae Type b[3]			Hib	Hib	Hib[3]	Hib						
Inactivated Poliovirus			IPV	IPV	IPV					IPV		
Measles, Mumps, Rubella[4]						MMR#1				MMR#2	MMR#2	
Varicella[5]						Varicella			Varicella			
Pneumococcal[6]			PCV	PCV	PCV	PCV			PCV		PPV	
Hepatitis A[7]	Vaccines below this line are for selected populations.								Hepatitis A Series			
Influenza[8]					Influenza (yearly)							

This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines, as of December 1, 2003, for children through age 18 years. Any dose not given at the recommended age should be given at any subsequent visit when indicated and feasible. ▒ indicates age groups that warrant special effort to administer those vaccines not previously given. Additional vaccines may be licensed and recommended during the year. Licensed combination vaccines may be used whenever any components of the combination are indicated and the vaccine's other components are not contraindicated. Providers should consult the manufacturers' package inserts for detailed recommendations. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete a VAERS form can be found on the Internet at http://www.vaers.org/ or by calling 1-800-822-7967.

1. Hepatitis B (HepB) vaccine. All infants should receive the first dose of hepatitis B vaccine soon after birth and before hospital discharge; the first dose may also be given by age 2 months if the infant's mother is hepatitis B surface antigen (HBsAg) negative. Only monovalent HepB vaccine can be used for the birth dose. Monovalent or combination vaccine containing HepB may be used to complete the series. Four doses of vaccine may be administered when a birth dose is given. The second dose should be given at least 4 weeks after the first dose, except for combination vaccines which cannot be administered before age 6 weeks. The third dose should be given at least 16 weeks after the first dose and at least 8 weeks after the second dose. The last dose in the vaccination series (third or fourth dose) should not be administered before age 24 weeks.

Infants born to HbsAg-positive mothers should receive HepB and 0.5 mL Hepatitis B Immune Globulin (HBIG) within 12 hours of birth at separate sites. The second dose is recommended at age 1 to 2 months. The last dose in the immunization series should not be administered before age 24 weeks. These infants should be tested for HBsAg and antibody to HBsAg (anti-HBs) at age 9 to 15 months.

Infants born to mothers whose HBsAg status is unknown should receive the first dose of the HepB series within 12 hours of birth. Maternal blood should be drawn as soon as possible to determine the mother's HBsAg status; if the HBsAg test is positive, the infant should receive HBIG as soon as possible (no later than age 1 week). The second dose is recommended at age 1 to 2 months. The last dose in the immunization series should not be administered before age 24 weeks.

2. Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine. The fourth dose of DTaP may be administered as early as age 12 months, provided 6 months have elapsed since the third dose and the child is unlikely to return at age 15 to 18 months. The final dose in the series should be given at age ≥4 years. **Tetanus and diphtheria toxoids (Td)** is recommended at age 11 to 12 years if at least 5 years have elapsed since the last dose of tetanus and diphtheria toxoid-containing vaccine. Subsequent routine Td boosters are recommended every 10 years.

3. *Haemophilus influenzae* type b (Hib) conjugate vaccine. Three Hib conjugate vaccines are licensed for infant use. If PRP-OMP (PedvaxHIB® or ComVax® [Merck]) is administered at ages 2 and 4 months, a dose at age 6 months is not required. DTaP/Hib combination products should not be used for primary immunization in infants at ages 2, 4, or 6 months but can be used as boosters following any Hib vaccine. The final dose in the series should be given at age ≥12 months.

4. Measles, mumps, and rubella vaccine (MMR). The second dose of MMR is recommended routinely at age 4 to 6 years but may be administered during any visit, provided at least 4 weeks have elapsed since the first dose and both doses are administered beginning at or after age 12 months. Those who have not previously received the second dose should complete the schedule by the 11- to 12-year-old visit.

5. Varicella vaccine. Varicella vaccine is recommended at any visit at or after age 12 months for susceptible children, (i.e., those who lack a reliable history of chickenpox). Susceptible persons aged ≥13 years should receive 2 doses, given at least 4 weeks apart.

6. Pneumococcal vaccine. The heptavalent **pneumococcal conjugate vaccine (PCV)** is recommended for all children age 2 to 23 months. It is also recommended for certain children age 24 to 59 months. The final dose in the series should be given at age ≥12 months. **Pneumococcal polysaccharide vaccine (PPV)** is recommended in addition to PCV for certain high-risk groups. See *MMWR* 2000;49(RR-9):1-38.

7. Hepatitis A vaccine. Hepatitis A vaccine is recommended for children and adolescents in selected States and regions and for certain high-risk groups; consult your local public health authority. Children and adolescents in these States, regions, and high-risk groups who have not been immunized against hepatitis A can begin the hepatitis A vaccination series during any visit. The 2 doses in the series should be administered at least 6 months apart. See *MMWR* 1999;48(RR-12):1-37.

8. Influenza vaccine.* Influenza vaccine is recommended annually for children age ≥6 months with certain risk factors (including but not limited to children with asthma, cardiac disease, sickle cell disease, human immunodeficiency virus infection, and diabetes; and household members of persons in high-risk groups; [see *MMWR* 2003*;52(RR-8)*: 1-36], and can be administered to all others wishing to obtain immunity. In addition, healthy children age 6 to 23 months are encouraged to receive influenza vaccine if feasible because children in this age group are at substantially increased risk of influenza-related hospitalizations. For healthy persons age 5 to 49 years, the intranasally administered live-attenuated influenza vaccine (LAIV) is an acceptable alternative to the intramuscular trivalent inactivated influenza vaccine (TIV). See *MMWR* 2003;52(RR-13):1-8. Children receiving TIV should be administered a dosage appropriate for their age (0.25mL if age 6 to 35 months or 0.5mL if ≥3 years). Children age ≤8 years who are receiving influenza vaccine for the first time should receive 2 doses (separated by at least 4 weeks for TIV and at least 6 weeks for LAIV).

Approved by the Advisory Committee on Immunization Practices (www.cdc.gov/nip/acip), the American Academy of Pediatrics (www.aap.org), and the American Academy of Family Physicians (www.aafp.org).

* In October 2003, the Advisory Committee on Immunization Practices recommended that all children 6 to 23 months receive annual influenza vaccine starting in the fall of 2004. For the most current information on influenza and other vaccinations, go to http://www.cdc.gov/flu and www.cdc.gov/nip/.

SCREENING

Age	Screening Test	Frequency
Newborn	Newborn screening (PKU, sickle cell, hemoglobinopathies, hypothyroidism)	Once
Birth-2 months	Head circumference	Periodically
Birth-18 years	Height and weight	Periodically
1 year	Lead	Once
3-4 years	Eye screening	Once
Younger than 5 years	Dental	Periodically

COUNSELING

As patients grow, talk to their parents and them about:

- Development
- Dental and oral health
- Child abuse
- Sexually transmitted diseases
- Nutrition
- Safety
- Alcohol and drug use
- Birth control
- Physical activity
- Tobacco use
- Sexuality

The immunization schedule is reprinted from **Recommended Childhood and Adolescent Immunization Schedule—United States, January-June 2004,** Centers for Disease Control and Prevention, U.S. Department of Health and Human Services.
Screening and counseling information is based on U.S. Preventive Services Task Force recommendations (www.preventiveservices.ahrq.gov).

USPSTF PPIP

U.S. Preventive Services Task Force and Put Prevention Into Practice

AHRQ Pub. No. 04-IP008

Appendix B: Screener

Recruitment Screener

Project: **Child Preventive Care Timeline**
Client: **AHRQ 210 015**
Date: **August 18, 2003**

Date	Time	Characteristics
September 3-12, 2003	9:00 a.m. – 5:00 p.m EST	Children's healthcare providers

RECRUIT 17 RESPONDENTS

My name is _____ and I'm calling today on behalf of the Agency for Health Care Research and Quality—AHRQ. AHRQ would like to discuss preventive care with children's health care providers. We will conduct telephone interviews between September 3 and 12. Your interview can be scheduled at a time convenient to you and will last approximately 20 minutes. To thank you for your time and participation you will receive $125 after completing an interview. I would like to ask you some questions to see if you qualify to participate. Do you have time now to answer a few questions?

1. What percentage of your time do you spend providing patient care?
   ( ) Under 50% ..... Terminate
   ( ) 50-75% ..... Continue
   ( ) Over 75% ..... Continue

2. Are you a
   (Read & Record)
   ( ) Physician (M.D. or D.O.) ..... Continue
   ( ) Physician's Assistant ..... Continue
   ( ) Nurse practitioner ..... Continue
   ( ) Other ..... Terminate

Recruit at least 12 MD/Dos, and 3-5 PAs/NPs each

3. What is your medical specialty?

   ( ) General or family practice (G.P. or F.P.) ..... Continue
   ( ) Pediatrics ..... Continue
   ( ) Other ..... Terminate

4. What percentage of your patient load is under the age of 18?

( ) Under 20% .....Continue
( ) 20-40% .....Continue
( ) 41-60% .....Continue
( ) 61-80% .....Continue
( ) Over 80% .....Continue

Recruit a mix

5. What is your practice setting?
(Read and record)

( ) Solo or group private practice .....Continue
( ) HMO/managed care .....Continue
( ) Community health clinic .....Continue
( ) Hospital based .....Continue
( ) Other (Specify: _____) .....Terminate

Recruit a mix

6. How long have you been in practice since completing your residency/training?
(Read and record)

( ) Less than 5 years .....Continue
( ) Six to 10 years ago .....Continue
( ) 11-15 years ago .....Continue
( ) More than 15 years ago .....Continue

Recruit a mix

7. In which metro area is your practice located?
(Record)
_____ .....Continue

Recruit a Mix

8. Could you tell me a little about your practice and your interaction with patients?

.....

.....

.....

.....

This question is intended to establish that the person treats patients on almost a daily basis. If the person is only part-time, semi-retired or seldom treats patients, thank and terminate.

This question is also intended to establish whether the person can be easily understood. If they are <u>AT ALL</u> difficult to understand (thick accent, difficulty with English, serious speech impediment, can't communicate), thank and terminate.

INVITATION

Thank you for answering my questions. As I mentioned before, the interviews will be held from September 3-12 and you will receive $125 as a thank-you for your participation. Prior to the interview, you will receive a confirmation letter and a child preventive care timeline. You will need to review the timeline and have it available to discuss during your interview.

Would it be better for you to receive this confirmation letter by regular mail or e-mail?

( ) regular mail
( ) email

If by email:
Can you receive and print out PDF files?

( ) Yes; **get email address**: _____
( ) No; **tell respondent letter will be sent by regular mail instead**

I would like to schedule your interview now. It can be held anytime between the hours of 9:00 am and 5:00 p.m. Eastern Standard Time. What day and time would be most convenient for you?

Schedule on the Hour and Half-Hour until 5:00 p.m. EST

What is the best number to reach you at for your interview?

(_____) _____ -- _____

Before we hang up, let me get the correct spelling of your name and your address so we can send your thank-you check and give you a reminder call before the interview.

NAME _____

ADDRESS _____

_____

_____

ALTERNATE PHONE _____

Thanks, again, for your time and we'll look forward to speaking with you!

RECRUITING INFORMATION

Date recruited:_____ Recruiter Name:_____

Date of confirmation letter/email: _____

Confirmation call made: _____

Attended: _____ Yes _____ No

Appendix C: Interview Guide

IN-DEPTH INTERVIEW

INTERVIEW GUIDE

Project: Child Preventive Care Timeline Format
Client: AHRQ
Version: 20 Minute Interview
Date: March 18, 2004

Project Background

Fifteen to seventeen 15 to 20-minute in-depth interviews (IDIs) will be conducted with primary care providers to assess the format of the Child Preventive Care Timeline. The findings from these interviews will be used to assess the effectiveness of the timeline's format and make recommendations for its improvement, if needed.

Introduction/Overview

I want to thank you for making yourself available today to talk to me. Before we start I want to take a couple of minutes to give you an overview of what we will be doing for the next several minutes.

My firm—Equals Three Communications—has been contracted by the Agency for Healthcare Research and Quality to conduct these interviews. We are conducting some background discussions with primary care providers to discuss children's preventive care. The Agency is primarily interested in getting feedback on the organization of the Child Preventive Care Timeline we had sent to you. Do you have the timeline at hand so we can discuss it?

Also, I want to let you know that I will be recording our conversation for research purposes only. I want to assure you that your name will not be associated with any specific conclusions or opinions nor will it be included in the report. The report will focus on what gets said rather than who said what. Recording the interviews provides an accurate record of what is said and means that I can pay attention to what you are saying rather than hurrying to take notes as we talk.

Let's get started…

PART 1: Overview (5 minutes)

1. To get started, could you tell me a little about your practice setting and your patient population?

   Probe as needed for:
   Practice setting description in terms of family practice or pediatric; clinic or private; urban, rural or suburban

   Patient description in terms of ethnicity, education level and household income

2. What percentage of your patient load is under age 18?

   Probe:
   Of these, what percent are infants; eg under 18 months of age?
   What percent are toddlers, e.g. 18 months – 5?
   What percent are children, e.g. 5 – 12 years?
   What percent are teenagers, e.g. 13 – 18 years?

3. What preventive care issues for children most concern you?

   Probe:
   What issues are of greatest concern for young children, eg infants to 5 year olds?
   What issues are of greatest concern for children, eg 5-12 year olds?
   What issues are of greatest concern for teenagers, eg 13-18 year olds?

PART 2: Assessment of Child Preventive Care Timeline (10 minutes)

1. I'd like us to focus now on the table we sent you, the Child Preventive Care Timeline. Were you aware of this timeline or had you seen this timeline before?

   Probe if yes:
   Have you used it? Why/why not?

2. What's your response to the timeline?

   Probe:
   What were your thoughts when you first looked at the table? (eg simple/busy, easy to understand/confusing, etc)

3. What do you think are the main strengths of the timeline?

   Probe:
   What are its main weaknesses?

4. I want to focus now on how the information is presented. The table uses the categories of immunization, screening and counseling. What do you think about that?

   Probe:
   Does it make sense to break the information up in this way or would another way be more useful? What would you suggest?

5. In the immunization section the table first lists age by month and then by year. What are your thoughts on that?

   Probe:
   Did you notice that the screening and counseling sections list age by years only?
   Is this easy to understand or is it confusing?
   Is there a better way to distinguish between months and years of age?

6. What about the bar that goes across age spans? Is that a good way to indicate when care should be delivered?

   Probe:
   Would something else be easier to understand?

7. Overall, what do you think of the way the information is presented?

   Probe:
   How easy is it to understand the timeline?

8. What suggestions would you make to improve the timeline?

PART 3: Use of Timeline (2 minutes)

1. How useful would this timeline be in helping you provide preventive care for children? In what ways?

   Probe:
   Would you use it?
   How would you use it?
   How often would you use it?

2. If the timeline were changed in some way would you be more likely to use it?

   Probe:
   Generally speaking, do you like or use this kind of thing?

Thank you for your help.