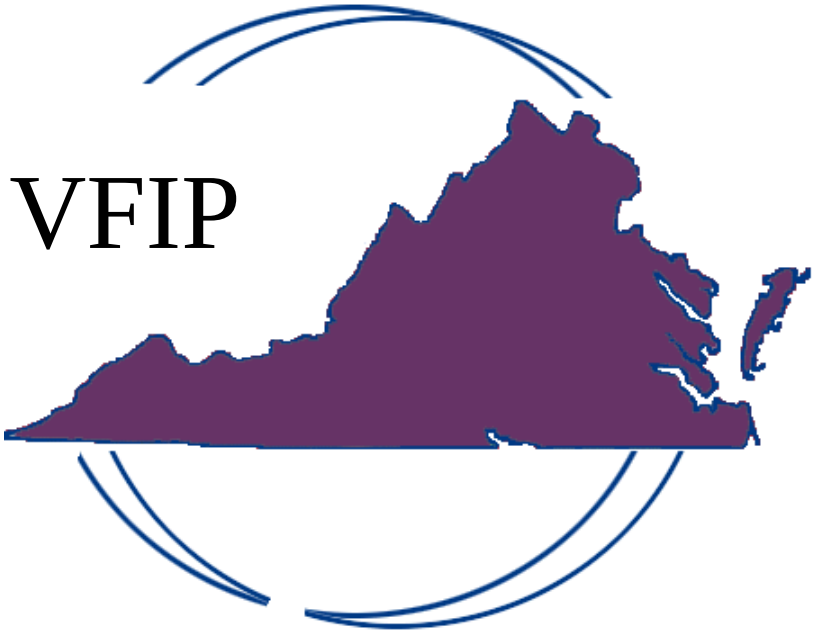
Virginia Department of Health

HRSA 08-067

Virginia Follow-up Improvement Project

Reducing Loss to Follow-up After Failure to Pass Newborn Hearing Screening



Cooperative Agreement for
Health Resources and Services Administration
Universal Newborn Hearing Screening and Intervention Program
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ABSTRACT

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The Virginia Department of Health has successfully maintained the Virginia Early Hearing Detection and Intervention Program (VEHDIP), which mandated newborn hearing screening in 1999. In the past year, there were 108,261 live births in Virginia with 99.7% of infants being screened at the hospital before discharge; however, in this process, 0.3% of the infants were missed. In addition, 12% were referred and lost to follow up. Recognizing the need to address infants who are lost to follow up, the Virginia Follow-up Improvement Project (VFIP) has been created to provide quality services to the diverse population that exists. VFIP is designed to increase the percentage of infants who failed newborn hearing screening and who have a diagnosis before 3 months; increase the percentage of children with hearing loss who receive recommended early intervention services before 6 months of age; increase the effectiveness and efficiency of the VEHDIP surveillance system to promote the best use of public health resources; enhance the quality of VEHDIP services that are provided for families, health care providers, and other stakeholders; and increase public awareness and knowledge of VEHDIP through the development and implementation of a public promotion campaign. This project plans to achieve improvements in the number of infants who are lost to follow up by continuing some previously successful activities and incorporating a number of new activities. Currently, parents and primary care physicians receive letters of notification of the infant's hearing status, parents receive resource materials, and referrals are made to the appropriate agencies for health care services. Public meetings are held to engage stakeholders and any other interested parties, quarterly reports are sent to hospitals and audiologists notifying them of their compliance, and databases for participating facilities are maintained with the intention of improving the services that are offered. Within the auspices of VFIP, the Follow-up Specialist (FS) position will continue, a Quality Improvement Coordinator (QIC) position will be established, and the number of approved audiological partners who are important to reducing the number of infants who are lost to follow up will be increased. Furthermore, the development of reporting requirements for birthing facilities, provision of educational trainings, review and update of protocols, appointment scheduling and reminders, compliance with the exchange of client information, implementation of the quality services improvement plan, and the promotion of a public health campaign will be components. Use of current efforts combined with new efforts have the ability to impact and reduce the 12% of infants who are lost to follow up in Virginia.

PROJECT NARRATIVE

INTRODUCTION

The purpose of the **Virginia Follow-up Improvement Project** (VFIP) is to reduce the number of infants who are lost to Virginia Early Hearing Detection and Intervention Program (VEHDIP) follow-up services—hearing rescreening, audiometric evaluation, medical diagnosis, and early intervention services—following a failed newborn hearing screening.

This will be accomplished by (1) improving the monitoring functions of the status and progress of every infant through the three components of the Early Hearing Detection and Intervention (EHDI) process via the newly redesigned population-based surveillance and data tracking system called Virginia Infant Screening and Infant Tracking System (VISITS II); (2) expanding partnerships with stakeholders to address identified barriers to follow-up services; and (3) designing and implementing quality control and quality assurance methods, activities, and processes that will improve outcomes related to follow-up services.

NEEDS ASSESSMENT

There were 108,261 live births in Virginia in 2007; however, Virginia law only requires infants born in Virginia hospitals to receive newborn hearing screenings (63 to date). Provisional data for 2007 reveals that 7% of live births were outside of Virginia hospitals. VEHDIP has plans to address the need to capture this 7% in a timely and effective manner through (1) the development of reporting requirements for other birthing facilities, (2) additional training, and (3) a dedicated Quality Improvement Coordinator (QIC) role.

With the purpose of reducing the number of newborns who are lost to follow up after failure to pass newborn hearing screenings, VEHDIP will track all reported newborns. Current tracking methods consist of (1) an initial letter generated to parents and primary care physicians (PCP) of reported newborns who are missed, do not pass screening, and pass with a risk indicator; (2) reminder letters and phone calls to parents and PCP for children who lack follow-up information; (3) entry of updated information from PCPs and audiologists; (4) reasonable attempts to identify child's medical home; (5) reasonable attempts to locate children with incorrect contact information; and (6) referrals to early intervention services. Despite using those methods, 400 newborns were lost to follow up in 2007. Of those newborns, 11.5% were missed before hospital discharge, between the hospital and outpatient screening 88% were lost, less than 1% were lost between outpatient screening and audiological diagnosis, and less than a 1% lost between diagnosis and entry into early intervention services. In order to decrease the number of newborns lost to follow up in upcoming years, VEHDIP plans to (1) incorporate cultural and linguistic parental messages, (2) implement appointment scheduling and reminders, (3) implement a parental contact form for release of information for early intervention

providers, and (4) coordinate efforts with the Division of Women's and Infant's Health (DWIH) to focus on participation of the family unit in the provision of health services.

Currently, VEHDIP maintains a database that cites 150 audiological facilities in the state, but only 51 are approved assessment sites. Approval is based exclusively on a facility having otoacoutstic emission, auditory brainstem response technology, and a licensed audiologist on staff. Approval does not take into consideration the proficiency of a facility to offer pediatric services, compliance with reporting, or knowledge and ability regarding the intervention process. To increase the number of approved audiological facilities, VEHDIP will (1) enhance the recruitment process by utilizing information from participating audiological facilities, (2) utilize the QIC position to provide personal training, and (3) collaborate with efforts being made by the Virginia Department of Medical Assistance Services (DMAS) to address changes in Medicaid reimbursement rates.

Presently, information about the status of a medical home for infants can be identified using VISITS I. Provisional data for 2007 reports that there are approximately 508 infants without a reported medical home. Infants may not have a reported medical home due to, among other reasons, the child not being able to be located. Recognizing that this is a problem and with the intention of reducing the numbers, VEHDIP will (1) continue to maintain the Follow-up Specialist (FS) position, which focuses on locating infants who do not have a reported medical home and (2) partner with hospital staff and obstetricians to encourage families to name their physician before discharge.

The number of reported children identified with hearing loss in Virginia is below expectations based on incidence figures. According to the Centers for Disease Control and Prevention (CDC), early hearing detection and intervention programs should identify 3 infants per 1,000 births with moderate to profound bilateral hearing loss. In 2006, there were over 100,000 live births; therefore, Virginia should have identified at least 300 children, but only 129 were identified. To increase the identification and reporting of children with hearing loss, VEHDIP will (1) develop protocols for birthing facilities; (2) provide educational opportunities to hospital and audiological personnel about the process of identification and reporting; (3) increase the number of audiological partners; (4) utilize the QIC position to identify obstacles to identification and reporting; and (5) increase communication with family, providers, and stakeholders about EHDI goals.

The average refer rate for hospitals in Virginia is 2.8%. The refer rate is monitored and reported to hospitals on a quarterly basis. Utilizing VISITS I, VEHDIP is not currently able to differentiate between refer rates for infants in the general population versus refer rates for Neonatal Intensive Care Unit (NICU) infants. VEHDIP will address this concern by (1) implementation of VISITS II in June 2008, (2) continuous monitoring of hospital refer rates by the Surveillance and Evaluation Coordinator, and (3) notices to hospital Chief Executive Officers (CEO) when hospitals are out of range.

In 2006, VEHDIP established the Guide By Your Side (GBYS) program, which connects parents of children who have been newly diagnosed with hearing loss to other parents

who have already had that experience. In 2007, GBYS trained seven new family guides and has already trained three in 2008. Family guides were matched to 81 families in 2007. GBYS is being funded by the HRSA MCHB grant but as of September 1, 2008, will be funded by the Virginia Department of Education (VDOE). VEHDIP promotes the use of GBYS to newly diagnosed families. VEHDIP will maintain a relationship with GBYS by (1) meeting to assist in problem resolution, (2) encouraging new parents to use GBYS, and (3) supporting more experienced parents to become a GBYS parent.

Below are data that represent the progression and the current status of goal achievement.

*2007 Data are Provisional.

Reported to VDH	**2005**	**2006**	**2006**	**2007 ***
# of total live births by place of occurrence	102,647	108,587	108,716	108,261
Percent of infants screened before hospital discharge	99.6%	99.5%	99.5%	99.7%
Total # of infants who failed initial hearing screening	3056	3052	3054	2986
# of infants expired, declined follow up or unable to locate	131	111	156	39
# of infants failed initial hearing screening (minus expired, etc.)	2925	2941	2898	2947
# of referred infants who received follow up (re-screening or audiological evaluation)	2521	2413	2487	2305
% of referred infants who received follow up (re-screening or audiological evaluation)	86.2%	82%	85.8%	75.6%
# of referred infants who received follow up (re-screening or audiological evaluation) before 3 months of age	2140	2102	2149	2111
% of referred infants who received follow up (re-screening or audiological evaluation) before 3 months of age	73.2%	71.4%	86.4%	71.6%
# of referred infants lost to follow up	404	528	357	354
% of referred infants lost to follow up	13.8%	17.9%	12.3%	12.0%
# of referred infants who have audiological diagnosis	2335	2228	2301	2033
% of referred infants who have audiological diagnosis	79.8%	75.8%	79.4%	69.0%
# of referred infants who have audiological diagnosis before 3 months of age	2002	1973	2087	1851
% of referred infants who have audiological diagnosis before 3	68.4%	67%	72.0%	62.8%

months of age				
# of infants identified with permanent hearing loss (PHL)	119	106	129	81
Average age when diagnosed (months)	5.2	3.2	4.6	3.4
# of infants identified with PHL with a medical home		95	128	80
% of infants identified with PHL with a medical home		89.6%	99.2%	98.8%
# of infants identified with PHL enrolled in early intervention	86	92	120	43
% of infants identified with PHL enrolled in early intervention	72.3%	86.7%	93.0%	53.8%
# of infants identified with PHL enrolled in early intervention before 6 months of age	73	84	91	40
% of infants identified with PHL enrolled in early intervention before 6 months of age	61.3%	79.2%	70.5%	50.0%

2007 Total Live Births Demographics	108,261
Birthing Hospitals in the State	63
BIRTHING FACILITIES	
General Hospitals Births	93%
Other Birthing Facilities	7%
2007 AVG HOSPITAL REFER RATE	2.8%
AVG HOSPITAL REFER RATES	
1st Quarter	2.8%
2nd Quarter	3.1%
3rd Quarter	2.7%
4th Quarter	3.3%
2007 LOST TO FOLLOW UP	401
BETWEEN HOSPITAL AND OUTPATIENT SCREENING	
Missed before hospital discharge	11.4%
Referred infants-failed hospital screening	87.7%

BETWEEN OUTPATIENT SCREENING AND AUDIOLOGIC DIAGNOSIS (DX)	
Referred infants-failed hospital screening and failed last outpatient screening	0.5%
BETWEEN AUDIOLOGIC DX AND EARLY INVENTION SERVICES	
Infants diagnosed with hearing loss and unable to locate	0.4%
INFANT MEDICAL HOME STATUS	
PCP is known	2553
PCP is unknown	508

METHODOLOGY

In order to increase the percentage of infants who failed newborn hearing screenings and who have a diagnosis before 3 months of age to 75%, VEHDIP will (1) track all reported newborns who do not pass hospital newborn hearing screening; (2) develop, implement, and evaluate VEHDIP reporting requirements that are specific to birthing centers and certified professional midwives (CPM); (3) decrease the shortage of approved audiological partners; and (4) engage stakeholders to monitor progress and support improvement efforts.

Increasing the percentage of children with hearing loss who receive recommended intervention services before 6 months of age to 70% will be achieved by (1) increasing family, health care providers, and other stakeholders knowledge about the benefits of implementing the "1-3-6" goals of EHDI; (2) enhancing communication and dissemination of information to PCPs regarding referral and enrollment into early intervention services; (3) improving referrals to Part C; and (4) engaging stakeholders to monitor progress and support improvement efforts.

The process of increasing the effectiveness and efficiency of the VEHDIP surveillance system to promote the best use of public health resources will continue by (1) developing a plan to implement VEHDIP Evaluation Report recommendations to improve quality and efficiency, (2) developing a VEHDIP Surveillance and Evaluation Plan for implementation on a long-term basis, and (3) engaging stakeholders to monitor progress and support improvement efforts.

Enhancing the quality of VEHDIP services that are provided for families, health care providers, and other stakeholders will be accomplished by (1) initiating comprehensive quality improvement processes, (2) conducting targeted interventions for hospital screening staff who have demonstrated high data-reporting errors, (3) conducting targeted interventions for audiological staff who have demonstrated high data-reporting errors, (4) maintaining quality improvement documentation, and (5) engaging stakeholders to monitor progress and support improvement efforts.

For the purpose of increasing public awareness and knowledge of VEHDIP through the development and implementation of a public promotion campaign, VEHDIP will (1) promote awareness of the benefits of early hearing detection and intervention in the general public and (2) engage stakeholders to monitor progress and support improvement efforts.

YEAR-1 WORK PLAN

Goal 1: **Increase percentage of infants who failed newborn hearing screening and who have a diagnosis before 3 months of age to 75%.**

G 1 OB 1: *By the end of year 1, VEHDIP will engage individual stakeholders and representatives of stakeholder organizations to monitor progress in meeting Goal 1.*

Year-1 Activities:

1. Project Director (PD), in collaboration with the VEHDIP Advisory Committee (VEHDIP AC) Chair, will convene quarterly face-to-face VEHDIP AC meetings and provide updates on the status of meeting Goal 1.
2. PD, in collaboration with VEHDIP AC Chair, will refer Goal 1 issues to the appropriate VEHDIP AC Subcommittee for assistance in resolution, including identification of VEHDIP gaps that are occurring related to Goal 1 and discussion of how gaps might be best addressed.
3. PD, in collaboration with VEHDIP staff, will modify VFIP Work Plan to incorporate VEHDIP AC-identified gaps and solutions as appropriate.

G 1 OB 2: *By the end of year 3, VEHDIP will decrease the number of infants who are lost to follow-up.*

Year-1 Activities:

1. Technical Support Staff (TSS) will send VISITS-generated letters in the family's native language to family.
2. TSS will send VISITS-generated letters to the PCP of children with hearing loss by mail and fax.
3. Follow-up Coordinator (FC) will contact parents via phone as a support and resource guide.
4. FC and Follow-up Specialist (FS) will collaborate with hospital administrators to develop a plan to provide parents with EHDI contact numbers and promote VEHDIP contact before hospital discharge
5. FC and FS will provide hospitals with VEHDIP contact cards for parents of children who have failed newborn hearing screening.
6. FC and FS, in collaboration with hospital personnel, will via in-person and e-mail communications, develop and pilot a contact information form for parents to complete.
7. FC and FS will implement and evaluate the effectiveness of the use of contact information forms in hospitals in providing continuity of care.
8. Surveillance and Evaluation Coordinator (SEC) will provide hospitals quarterly reports of their compliance with timeliness by mail.

G 1 OB 3: *By the end of year 3, VEHDIP will increase the number of initial hearing screening results that are reported from children born at home or at birthing centers to comply with VEHDIP Code of Virginia, Regulations, and Protocols.*

Year-1 Activities:

1. SEC, with assistance from the VEHDIP AC, will maintain a database of birthing centers and practicing CPMs.
2. Quality Improvement Coordinator (QIC), in collaboration with the Office of Family Health Services Maternal and Child Health Epidemiologist (MCH EPI) and DWIH Director or designee(s), will develop and implement a mechanism for the assessment of training needs for CPMs and birthing centers that pertain to fulfilling VEHDIP reporting requirements.
3. VEHDIP AC will assist QIC with the design of VEHDIP Reporting Requirements Training Plan for birthing centers and CPMs. This plan will be based upon assessed learning needs; include training, learning objectives, methods, activities, and evaluation components; and incorporate adult learning principles.

G 1 OB 4: *By the end of year 3, VEHDIP and its stakeholders will increase the number of approved audiological partners.*

Year-1 Activities:

1. SEC, in collaboration with VEHDIP AC, will identify areas of the state where a shortage of approved audiological services exist.
2. PD and SEC will provide, via in-person and e-mail communications, an overview of the status of audiological shortage situation to the appropriate VEHDIP AC Subcommittee, which is staffed by the FS.
3. FS, with input from the VEHDIP AC, will develop efforts to recruit audiologists that will be implemented by PD, VEHDIP AC, and staff.
4. PD, with assistance from VEHDIP AC and other VEHDIP staff, will collaborate with state speech and hearing organizations to identify training opportunities for audiologists.

Goal 2: Increase the percentage of children with hearing loss who receive recommended early intervention services before 6 months of age to 70%.

G 2 OB 1: *By the end of year 1, VEHDIP will engage individual stakeholders and representatives of stakeholder organizations to monitor progress in meeting Goal 2.*

Year-1 Activities:

1. PD, in collaboration the VEHDIP AC Chair, will convene quarterly face-to-face VEHDIP AC meetings and provide updates on the status of meeting Goal 2.
2. PD, in collaboration with VEHDIP AC Chair, will refer Goal 2 issues to the appropriate VEHDIP AC Subcommittee for assistance in resolution, including identification of VEHDIP gaps that are occurring related to Goal 2 and discussion of how those gaps might be best addressed.
3. PD, with assistance VEHDIP staff, will modify VFIP Work Plan to incorporate VEHDIP AC-identified gaps and solutions as appropriate.

G 2 OB 2: *By the end of year 3, VEHDIP will enhance communication with family, health care providers, and other stakeholders about the benefits of implementing the goals of EHDI.*

Year-1 Activities:

1. FC will contact by phone those families of children who are reported to VEHDIP with hearing loss to assure receipt of the Parent Resource Guide and to make referrals as needed.
2. TSS will continue to generate need-specific family follow-up letters via VISITS and mail such letters to families.
3. FS will continue follow up on all returned letters by utilizing various databases in efforts to contact parents/guardians of children with hearing loss.
4. FS will maintain a database that allows for a follow-up reminder letter to be sent to PCP regarding child's status at 2 months of age.
5. QIC, in collaboration with FS, will assess feasibility of implementing additional supports to include scheduling appointments, appointment reminders, and reminder calls and letters.
6. QIC, in collaboration with VEHDIP AC and Virginia Department of Health (VDH) Office of Minority Health, will complete implementation of the review and revision of current family follow-up letters to ensure cultural and linguistic competency and make reasonable accommodations for all non-English speakers to receive the results of the hearing screening in their native language.
7. QIC will identify ways to promote EHDI processes within the Bright Futures framework focusing on increasing family knowledge, skills, and participation in health-promotion and prevention activities.
8. QIC, in collaboration with other health services organizations, will explore potential methods for education and counseling activities that could extend beyond the immediate family to allow others to offer positive support.
9. VEHDIP will develop a plan with early intervention (EI) providers to exchange client information in compliance with federal and state regulations.

G 2 OB 3: *By the end of year 3, VEHDIP will enhance communication with PCPs by dissemination of information about the importance of referring infants for and encouraging enrollment into appropriate early intervention services.*

Year-1 Activities:

1. Upon notification, the TSS will notify PCP of hearing loss through letter generation via VISITS and mail to each family's PCP.
2. QIC and FC, in collaboration with the Virginia Chapter-American Academy of Pediatrics (VaAAP) and its Chapter Champion, will identify training needs based on 2007 Joint Commission on Infant Hearing (JCIH) recommendations.
3. QIC, with assistance from other VEHDIP staff, will continue to provide information and implement additional trainings for PCPs allowing for modifications based on assessment findings.
4. QIC, in collaboration with other VEHDIP staff, will collaborate with Part C and DMAS to promote EPSDT services through provider education.

G 2 OB 4: *By the end of year 2, VEHDIP will improve referrals to Part C for children with hearing loss who have been reported to VEHDIP.*

Year-1 Activities:

1. FC, in collaboration with Part C providers, will provide referrals to Part C.
2. PD and FC—in collaboration with VEHDIP developers—will ensure the completion of the automatic/semiautomatic referral processes to Part C through linked databases for children with hearing loss.

Goal 3: Increase the effectiveness and efficiency of the VEHDIP surveillance system to promote the best use of public health resources.

G 3 OB 1: *By the end of year 1, VEHDIP will engage individual stakeholders and representatives of stakeholder organizations to monitor progress in meeting Goal 3.*

Year-1 Activities:

1. PD, in collaboration the VEHDIP AC Chair, will convene quarterly face-to-face VEHDIP AC meetings and will provide updates on the status of meeting Goal 3.
2. PD, in collaboration with VEHDIP AC Chair, will refer Goal 3 issues to the appropriate VEHDIP AC Subcommittee for assistance in resolution, including identification of VEHDIP gaps that are occurring related to Goal 3 and discussion of how those gaps might be best addressed.
3. PD, with assistance from VEHDIP staff, will modify VFIP Work Plan to incorporate VEHDIP AC-identified gaps and solutions as appropriate.

G 3 OB 2: *By the end of year 1, VEHDIP will develop a plan that provides for the implementation of the recommendations of the VEHDIP Evaluation Report for improving quality and efficiency.*

Year-1 Activities:

1. SEC will convene a meeting with authors of the report (MCH EPI and Council of State and Territorial Epidemiologists [CSTE] Fellow) and other VEHDIP staff to review findings and recommendations of the VEHDIP Evaluation Report.
2. SEC will prepare a comparison analysis report of the completed parental, maternal, and audiological surveys.
3. SEC, in coordination with MCH EPI, will conduct a presentation on the findings and recommendations of the VEHDIP Evaluation Report and the comparison analysis report to the VEHDIP AC.
4. PM, with input from the VEHDIP AC, will determine which recommendations of the VEHDIP Evaluation Report should be implemented given priority needs, including findings from the comparison analysis report, available resources (e.g., staffing), standards (e.g., JCIH Position Statement), and requirements (e.g., Code of Virginia, Virginia Administrative Code).
5. QIC, with input from the appropriate VEHDIP AC Subcommittee, will develop a plan for implementation of appropriate VEHDIP Evaluation Report recommendations.

G 3 OB 3: *By the end of year 2, VEHDIP will develop a Surveillance and Evaluation Plan for implementation on a long-term basis.*

Year-1 Activities:

1. SEC, in collaboration with QIC, DCAH Genetics Counselor (GC), and MCH EPI, will assess the efficacy of developing a combined VEHDIP-VaCARES Surveillance Methodology Evaluation Plan for implementation at periodic and regular intervals on a long-term basis.
2. SEC, in collaboration with QIC, GC, and MCH EPI, will initiate the development of a combined VEHDIP-VaCARES Surveillance Methodology Evaluation Plan based on assessment findings.

Goal 4: Enhance the quality of VEHDIP services that are provided for families, health care providers, and other stakeholders.

G 4 OB 1: *By the end of year 1, VEHDIP will engage individual stakeholders and representatives of stakeholder organizations to monitor progress in meeting Goal 4.*

Year-1 Activities:

1. PD, in collaboration with the VEHDIP AC Chair, will convene quarterly face-to-face VEHDIP AC meetings and will provide updates on the status of meeting Goal 4.
2. PD, in collaboration with VEHDIP AC Chair, will refer Goal 4 issues to the appropriate VEHDIP AC Subcommittee for assistance in resolution, including identification of VEHDIP gaps that are occurring related to Goal 4 and discussion of how those gaps might be best addressed.
3. PD, with assistance from VEHDIP staff, will modify VFIP Work Plan to incorporate VEHDIP AC-identified gaps and solutions as appropriate.

G 4 OB 2: *By the end of the year 1, VEHDIP will initiate comprehensive quality improvement activities.*

Year-1 Activities:

1. PD will recruit for Quality Improvement Coordinator (QIC) position to provide VEHDIP quality improvement services that are described in the VFIP application.
2. PD will provide ongoing day-to-day supervision to the QIC.
3. PD, in collaboration with various DCAH staff, will orient QIC to project responsibilities.
4. QIC will convene monthly VFIP Work Group—composed of PD, PSGS Director, QIC, SEC, FC, FS, and others if appropriate—to ensure work plan stays on track by identifying accomplishments, problems, and solutions and documenting these via minutes and monthly progress reports.

G 4 OB 3: *By the end of year 3, VEHDIP will conduct ongoing, targeted interventions for hospital screening staff who are consistently non-compliant due to data reporting timeliness.*

Year-1 Activities:

1. SEC will report on non-compliant hospitals with data reporting periods greater than one week.

2. QIC, in collaboration with SEC and OFHS Surveillance and Evaluation Team (SET), will develop and administer a survey targeting non-compliant hospitals with overdue data reporting periods to determine possible causes, including training, systems, or performance needs.
3. SEC, in collaboration with QIC and OFHS SET, will analyze hospital survey results and document findings, including probable causes of overdue data reporting rates.
4. QIC, in collaboration with other SEC and other VEHDIP staff, will develop a Hospital Data Reporting Resolution Plan (HDRR Plan), based on findings from the hospital survey, to resolve hospital data reporting timeliness; interventions will be based on identified problems (e.g., training, system, or performance needs) and will include, as appropriate, onsite visits.
5. QIC, in collaboration with other VEHDIP staff, will initiate implementation of the HDRR Plan.
6. QIC, in collaboration with other VEHDIP staff, will monitor and evaluate HDRR Plan interventions for effectiveness and modify accordingly.

G 4 OB 4: *VEHDIP will conduct ongoing, targeted interventions for audiological staff who are consistently non-compliant due to data reporting timeliness.*

Year-1 Activities:

1. SEC will report on non-compliant audiological personnel with data reporting periods greater than two weeks.
2. QIC, in collaboration with SEC and OFHS SET, will develop and administer a survey targeting non-compliant audiological personnel with overdue data reporting periods to determine possible causes, including training, systems, or performance needs.
3. SEC, in collaboration with QIC and OFHS SET, will analyze audiologist survey results and document findings that include probable causes of overdue data reporting rates.
4. QIC, in collaboration with SEC and other VEHDIP staff, will develop an Audiologist Data Reporting Resolution Plan (ADRR Plan), based on findings from the audiologist survey, interventions will be based on identified problems (e.g., training, system, or performance needs) and will include, as appropriate, onsite visits.
5. QIC, in collaboration with other VEHDIP staff, will initiate implementation of the ADRR Plan.
6. QIC, in collaboration with other VEHDIP staff, will monitor and evaluate ADRR Plan interventions for effectiveness and modify accordingly.

Goal 5: Increase public awareness and knowledge of VEHDIP through the development and implementation of a public promotion campaign.

G 5 OB 1: *By the end of year 1, VEHDIP will engage individual stakeholders and representatives of stakeholder organizations to monitor progress in meeting Goal 5.*

Year-1 Activities:

1. PD, in collaboration the VEHDIP AC Chair, will convene quarterly face-to-face VEHDIP AC meetings and will provide updates on the status of meeting Goal 5.
2. PD, in collaboration with VEHDIP AC Chair, will refer Goal 5 issues to the appropriate VEHDIP AC Subcommittee for assistance in resolution, including

identification of VEHDIP gaps that are occurring related to Goal 5 and discussion of how those gaps might be best addressed.
3. PD, in collaboration with VEHDIP staff, will modify VFIP Work Plan to incorporate VEHDIP AC-identified gaps and solutions as appropriate.

G 5 OB 2: *VEHDIP will promote awareness of early hearing detection and intervention in the general public including administrators, policy makers, hospital personnel, and health insurers.*

Year-1 Activities:

1. QIC, with consultation from OFHS Public Relations Coordinator (PRC), will review current promotional materials for quality, comprehension, and appeal and will review other approaches to promote and ensure their effectiveness.
2. QIC will document summary of promotional materials review and present findings to VEHDIP staff.
3. PD, with consultation from PRC and approval by DCAH Director, will determine which methods should be utilized for promotion.
4. QIC will apply methods to targeted populations and use findings to determine the most effective and well-received methods for implementation in year 2.
5. QIC, with assistance from other VEHDIP Staff and PRC, will develop an information dissemination plan that will coordinate with onsite visits in locations that have highest needs.
6. VEHDIP will develop a plan to monitor and evaluate the impact of disseminated information to determine effectiveness.

HEALTHY PEOPLE 2010 OBJECTIVES

VFIP Goal 1 will increase the percentage of infants who failed newborn screening and who have a diagnosis before 3 months of age to 75%. Objectives under goals 1 and 2 are related to the following Healthy People objectives.

Healthy People 16-20: Ensure appropriate newborn bloodspot screening, follow up testing, and referral to services.

G 1, OB 2: VEHDIP will track reported newborns who failed initial newborn hearing screening.

G 2, OB 3: VEHDIP will enhance communication with PCPs by dissemination of information about the importance of referring infants for and encouraging enrollment in appropriate early intervention services.

G2, OB 4: VEHDIP will improve referrals to Part C for children with hearing loss who have been reported to VEHDIP.

Healthy People 16-20a: Ensure that all newborns are screened at birth for conditions mandated by their State-sponsored newborn screening programs.

G 1, OB 2: VEHDIP will track reported newborns who failed initial newborn hearing screening.

Healthy People 16-20b: Ensure that follow up diagnostic testing for screening positive is performed within an appropriate time period.
G 1, OB 4: VEHDIP and its stakeholders will increase the number of approved audiological partners.

VFIP Goal 2 will increase the percentage of children with hearing loss who receive recommended intervention services before 6 months of age to 70%. Objectives under goal 2 are related to the following Healthy People objective.

Healthy People 16-22: (Developmental) Increase the proportion of children with special health care needs who have access to a medical home.
G 2, OB3: VEHDIP will enhance communication with PCPs by dissemination of information about the importance of referring infants to and encouraging enrollment in appropriate early intervention services.
G2, OB 4: VEHDIP will improve referrals to Part C network for children with hearing loss who have been reported.

VFIP Goals 1 and 2 are related to the following Healthy People objective.

Healthy People 28-11: (Developmental) Increase the proportion of newborns who are screened for hearing loss by age 1 month, have audiologic evaluation by age 3 months, and are enrolled in appropriate intervention services by age 6 months.

RESOLUTION OF CHALLENGES

One of the major goals of VEHDIP is to reduce the number of children who are lost to follow up; however, efforts to reach this goal have the potential to produce a few challenges. These challenges and resolutions plans are described below.

1. **Delayed implementation of VISITS II by the targeted time frame:** The use of VISITS II will enhance the current process of communication with parents, hospital staff, and PCPs. In the event that VISITS II is delayed, VEHDIP will continue using VISITS I for reporting, updating the status of children who have failed the hearing screening, and generating letters to parents and PCPs.

2. **Travel limitations:** VEHDIP staff must adhere to state and agency policies regarding travel. Future travel limitations have the ability to limit the number of people who attend certain conferences. VEHDIP plans to send two staff and one parent to the annual National EHDI Conferences. If travel is limited, VEHDIP will request that VDH management allow at least one representative to attend these conferences.

3. **Reluctance of certified professional midwives, birthing centers, and audiological and hospital personnel to participate in trainings, interventions, and evaluations:** Audiological and hospital personnel, CPMs, and birthing centers are fundamental components to the provision of hearing screenings. To

encourage their participation in a partnership with VEHDIP, trainings will be provided at central locations and events will be designed to address the specific needs of personnel.

4. **QIC position not recruited in a timely manner:** There are a number of significant responsibilities related to the accomplishment of goals for the QIC. VDH will make every effort to recruit this position. Nonetheless, if this position is not recruited in a timely manner, VEHDIP staff will collaborate to develop a feasible plan to initiate and perform QIC activities where reasonably possible.

5. **In-kind staff resignations:** At the present time, VEHDIP does not have any vacant staff positions. The majority of VEHDIP staff members will be providing in-kind services. The resignation of any staff who provides these services has the potential to reschedule specific activities if the recruitment process is postponed due to a hiring limitations or if there are a lack of qualified applicants.

EVALUATION AND TECHNICAL SUPPORT CAPACITY

EVALUATION

Comprehensive Project Evaluation. The QIC, with assistance from VFIP Work Group, will complete monthly progress reports on activities accomplished, barriers to achieving them, and steps to address the barriers for review during monthly VFIP Work Group meetings. In addition, quarterly summary reports will be presented to the VEHDIP AC during its face-to-face meetings to identify gaps that are occurring, discuss how those gaps might best be addressed, and provide assistance in accomplishing certain activities. Issues that require more extensive assistance from the VEHDIP AC will be referred to the appropriate VEHDIP AC Subcommittee for further assistance. QIC, with assistance from all VFIP Work Group members, will consider VEHDIP AC feedback and adjust activities as necessary.

Evaluation of Project-Funded State Employees. As a state employee of VDH, the QIC will be required to have a performance plan that will be tied to meeting VFIP goals and objectives and accomplishing VFIP QIC Work Plan activities. The performance plan will be developed by the PD and reviewed and signed by the PSGS Director, PD, and QIC. The PD will conduct annual performance evaluations of the QIC; the evaluation form will be reviewed and signed by the PSGS Director, PD, and QIC. These performance planning and evaluation processes will ensure QIC performance accountability. In addition, ongoing, informal performance reviews will take place, such as regular, and as-needed, face-to-face QIC and PD meetings to review performance and address performance issues should they arise. QIC monthly progress reports will be a component of the monthly VFIP Work Group meetings. If there are performance issues, resolution will follow existing human resources management policies.

As a state employee of VDH, the FS will be required to have a performance plan, which will be tied to meeting VFIP goals and objectives and accomplishing VFIP FS Work Plan

activities. The performance plan will be developed by the PD and reviewed and signed by the PSGS Director, PD, and FS. The PD will conduct annual performance evaluations of the FS; the evaluation form will be reviewed and signed by the PSGS Director, PD, and FS. These performance planning and evaluation processes will ensure FS performance accountability. In addition, ongoing, informal performance reviews will take place, such as regular, and as-needed, face-to-face FS and PD meetings to review performance and address performance issues should they arise. FS monthly progress reports will be a component of the monthly VFIP Work Group meetings. If there are performance issues, resolution will follow existing human resource management policies.

Evaluation Measures: The following evaluation measures will assess to what extent VFIP objectives are met.

G 1-5 OB 1: By the end of yr-1, VEHDIP will engage individual stakeholders and representatives of stakeholder organizations in the progression of meeting goals.

- **Measure:** Percent of VEHDIP AC face-to-face meetings in which members review VFIP progress, including identifying gaps and discussing how gaps might be best addressed.
- **Measure Type:** Outcome
- **Measure Frequency:** Annually
- **Measure Baseline:** Percent of VEHDIP AC face-to-face meetings in which VFIP progress is reviewed during VFIP budget year 1 (9/1/2008 – 8/30/2009).
- **Measure Target:** 100% for VFIP budget year 1.
- **Measure Source:** This measure is determined using information obtained from VEHDIP AC minutes.

G 1 OB 2: By the end of yr-3, VEHDIP will decrease the number of infants who are lost to follow-up.

- **Measure:** Percent of newborns screened for hearing loss before discharge, do not pass screening, and have an unknown follow up status at three months of age.
- **Measure Type:** Outcome
- **Measure Frequency:** Annually
- **Measure Baseline:** Percent of newborns who were screened for hearing loss before discharge, did not pass screening, and who have an unknown follow up status at three months of age during calendar year (CY) 2006.
- **Measure Target:** 10% improvement during each VFIP budget year.
- **Measure Source and Calculation:** This measure is calculated using VISITS information. The numerator is the number of newborns who were reported to VEHDIP during a calendar year, did not pass hearing screening before discharge, and at the age of three months have an unknown follow up status. The denominator is the number of newborns who were reported to VEHDIP during a calendar year and did not pass hearing screening before discharge. This information will be analyzed and reported by the SEC.

G 1 OB 3: By the end of year 3, VEHDIP will increase the number of initial hearing screening results that are reported for children born at home or at birthing centers to comply with the VEHDIP Code of Virginia, Regulations, and Protocols.

- **Measure:** Percent of reports received for children born at home or at birthing centers.
- **Measure Type:** Outcome
- **Measure Frequency:** Annually
- **Measure Baseline:** Percent of births at home or at birthing centers that report hearing screening data to VEHDIP during the year proceeding VFIP budget year 1. (The year proceeding VFIP budget year 1 is 9/1/2007 – 8/31/2008.)
- **Measure Target:** 5% improvement during each VFIP budget year.
- **Measure Source and Calculation:** This measure is calculated using VISITS information. The numerator is the number of reports received for infants born at home or at birthing centers. The denominator is the number of reported live births at home or at birthing centers. Information will be analyzed and reported by the SEC.

- **Measure:** Percent of children born at home who have hearing screening data reported to VEHDIP.
- **Measure Type:** Outcome
- **Measure Frequency:** Annually
- **Measure Baseline:** Percent of children born at home who have hearing screening data reported to VEHDIP during the year proceeding VFIP budget year 1. (The year proceeding VFIP budget year 1 is 9/1/2007 – 8/31/2008.)
- **Measure Target:** 5% improvement during each VFIP budget year.
- **Measure Source and Calculation:** This measure is calculated using information from VISITS. The numerator is the number of live home births with hearing screening data reported. The denominator is the number of children born at home. Information will be analyzed and reported by the SEC.

G 1 OB 4: By the end of year 3, VEHDIP and its stakeholders will increase the number of approved audiological partners.

- **Measure:** Number of VDH-approved providers for diagnostic audiological assessment in Virginia.
- **Measure Type:** Outcome
- **Measure Frequency:** Biannually
- **Measure Baseline:** Number of VDH-approved providers for diagnostic audiological assessment in Virginia who are on the VDH provider list as of 9/1/2008 (~51).
- **Measure Target:** Increase of one audiological partner per year.
- **Measure Source and Calculation:** This measure is calculated from the number of providers who reported that they have the staff and equipment to do clinical audiological evaluations for infants and young children, as recommended by the VEHDIP AC and the Protocols for Diagnostic Audiological Assessment.

G 2 OB 2: By the end of year 3, VEHDIP will enhance communication with families, healthcare providers, and other stakeholders about the benefits of implementing the goals of EHDI.

- **Measure:** Number of successful communication methods utilized during each VFIP budget year.
- **Measure Type:** Outcome
- **Measure Frequency:** Annually
- **Measure Baseline:** Number of successful communication methods utilized by VEHDIP during proceeding VFIP budget year 1. (The year proceeding VFIP budget year 1 is 9/1/2007 – 8/31/2008.)
- **Measure Target:** Utilization of one new communication method per VFIP budget year.
- **Measure Source and Calculation:** The source of information is the VFIP Monthly Progress Reports. The numerator is the number of successful communication methods utilized. The denominator is the total number of communication methods utilized.

G 2 OB 3: By the end of year 3, VEHDIP will enhance communication with PCPs by dissemination of information about the importance of referral for and enrollment in appropriate early intervention (ei) services.

- **Measure:** Percent of information disseminated to PCPs during each VFIP budget year.
- **Measure Type:** Outcome
- **Measure Frequency:** Annually
- **Measure Baseline:** Percent of information disseminated to PCPs during proceeding VFIP budget year 1. (The year proceeding VFIP budget year 1 is 9/1/2007 – 8/31/2008.)
- **Measure Target:** Utilization of one new communication method per VFIP budget year.
- **Measure Source and Calculation:** The source of information is the VFIP Monthly Progress Reports. The numerator is the amount of information disseminated. The denominator is the total amount of information to be disseminated.

G 2 OB 4: By the end of year 2, VEHDIP will improve referrals to Part C for children with hearing loss who have been reported to VEHDIP.

- **Measure:** Percent of referrals made to Part C for children with hearing loss who have been reported to VEHDIP.
- **Measure Type:** Outcome
- **Measure Frequency:** Annually
- **Measure Baseline:** Percent of referrals made to Part C for children with hearing lost who have been reported to VEHDIP during the year proceeding VFIP budget year 1. (The year proceeding VFIP budget year 1 is 9/1/2007 – 8/31/2008.)
- **Measure Source and Calculation:** This measure is calculated using information from VISITS. The numerator is the number of children with hearing loss who have

been reported to VEHDIP and who were referred by VEHDIP to Part C. The denominator is the number of children with hearing loss who have been reported to VEHDIP.

G 3 OB 2: By the end of year 1, VEHDIP will develop a plan that provides for the implementation of the recommendations of the VEHDIP Evaluation Report for improving quality and efficiency.

- **Measure:** Percent of activities accomplished under G 3 OB 2 during each VFIP budget year.
- **Measure Type:** Process
- **Measure Frequency:** Annually
- **Measure Baseline:** Percent of activities listed under G 3 OB 2 during each VFIP budget year.
- **Measure Source and Calculation:** The source of information is the VFIP Monthly Progress Reports. The numerator is the number of activities accomplished. The denominator is the number of activities listed.

G 3 OB 3: By the end of year 2, VEHDIP will develop a Surveillance and Evaluation Plan for implementation on a long-term basis.

- **Measure:** Percent of activities accomplished under G 3 OB 3 during each VFIP budget year.
- **Measure Type:** Process
- **Measure Frequency:** Annually
- **Measure Baseline:** Percent of activities listed under G 3 OB 3 during each VFIP budget year.
- **Measure Source and Calculation:** The source of information is the VFIP Monthly Progress Reports. The numerator is the number of activities accomplished. The denominator is the number of activities listed.

G 4 OB 2: By the end of the year 1, VEHDIP will initiate comprehensive quality improvement services.

- **Measure:** Percent of activities accomplished under G 4 OB 2 during each VFIP budget year.
- **Measure Type:** Process
- **Measure Frequency:** Annually
- **Measure Baseline:** Percent of activities listed under G 4 OB 2 during each VFIP budget year.
- **Measure Source and Calculation:** The source of information is the VFIP Monthly Progress Reports. The numerator is the number of activities accomplished. The denominator is the number of activities listed.

G 4 OB 3: By the end of year 3, VEHDIP will conduct ongoing, targeted interventions for hospital screening staff who have demonstrated a lack of compliance in data reporting timeliness.

- **Measure:** Hospitals with an average reporting period greater than one week.
- **Measure Type:** Outcome
- **Measure Frequency:** Quarterly
- **Measure Baseline:** Percent of hospitals with a lack of compliance in data reporting timeliness during the year proceeding VFIP budget year 1. (The year proceeding VFIP budget year 1 is 9/1/2007 – 8/31/2008.)
- **Measure Target:** 10% improvement during each VFIP budget year.
- **Measure Source and Calculation:** This measure is calculated using information VISITS. The numerator is the number of hospitals with an average reporting period greater than one week. The denominator is the total number of reporting hospitals. Information will be analyzed and reported by the SEC.

G 4 OB 4: VEHDIP will conduct ongoing, targeted interventions for audiological staff who have demonstrated a lack of compliance in data reporting timeliness.

- **Measure:** Audiological staff with an average reporting period greater than two weeks.
- **Measure Type:** Outcome
- **Measure Frequency:** Quarterly
- **Measure Baseline:** Percent of audiological staff with an average reporting period greater than two weeks during the year proceeding VFIP budget year 1. (The year proceeding VFIP budget year 1 is 9/1/2007 – 8/31/2008.)
- **Measure Target:** 10% improvement during each VFIP budget year.
- **Measure Source and Calculation:** This measure is calculated using information VISITS. The numerator is the number audiological staff with an average reporting period greater than two weeks. The denominator is the total number of reporting audiological staff. Information will be analyzed and reported by the SEC.

G 4 OB 5: VEHDIP will maintain quality improvement documentation.

- **Measure:** Percent of activities accomplished under G 4 OB 5 during each VFIP budget year.
- **Measure Type:** Process
- **Measure Frequency:** Annually
- **Measure Baseline:** Percent of activities listed under G 4 OB 5 during each VFIP budget year.
- **Measure Source:** The source of information is the VFIP Monthly Progress Reports. The numerator is the number of activities accomplished. The denominator is the number of activities listed.

G 5 OB 2: VEHDIP will promote awareness of early hearing detection and intervention in the general public including administrators, policy makers, and health insurers.

- **Measure:** Percent of activities accomplished under G 5 OB 2 during each VFIP budget year.
- **Measure Type:** Process
- **Measure Frequency:** Annually
- **Measure Baseline:** Percent of activities listed under G 5 OB 2 during each VFIP budget year.
- **Measure Source:** The source of information is the VFIP Monthly Progress Reports. The numerator is the number of activities accomplished. The denominator is the percent of number listed.

Outcomes Attributable to VFIP. It is not possible to determine if the previously described outcome measures are directly attributable to VFIP because this is not a controlled study. Nonetheless, it is possible to monitor the progress of outcome measures to determine the amount of time, personnel, and the need for that kind of activity in the future. Process measurements are directly attributable to VFIP because the activities will be performed by the VFIP Team.

TECHNICAL SUPPORT CAPACITY

Project Personnel. The following individuals will be members of the VFIP Team and responsible for performing various assigned activities that are described in the VFIP Work Plan. For specific information about each individual, see Attachment #3 Biosketches.

- **PSGS Director:** Nancy Ford, RN, MPH, is the current PSGS Director, which is a state full-time equivalent (FTE) position. The PSGS Director will provide oversight to ensure that the project is carried out according to HRSA MCHB requirements and the completed application. Oversight services will be in-kind support.
- **Project Director (PD):** Gayle Jones, MPH CHES, is the current VEHDIP Program Manager, which is a state FTE position. PD will be responsible for managing and performing activities described in the Work Plan under PD. Services will be in-kind support.
- **Project Follow-Up Coordinator (FC):** Ruth Frierson is the current VEHDIP FC, which is a state FTE position. The FC will be responsible for performing FC activities described in the Work Plan. Services provided by FC will be in-kind support.
- **Project Follow-Up Specialist (FS):** Lou Lambert is the current VEHDIP FS, which is a grant restricted state FTE position; the funding source is the current HRSA MCHB UNHS grant that ends 8/30/2008. The FC will be responsible for performing FC activities described in the Work Plan. The FC position will be funded by the cooperative agreement. For specific job responsibilities, see Attachment #2 Position Descriptions.
- **Project Surveillance and Evaluation Coordinator (SEC).** Michelle Ballard, MPH, is the current VEHDIP SEC, which is a state FTE position. The SEC will be responsible for performing activities described in the Work Plan under SEC. Services provided by the SEC will be in-kind support.

- **Project Technical Support Staff (TSS).** Darlene Donnelly is the current VEHDIP TSS, which is a state FTE position. The TSS will be responsible for performing TSS activities described in the Work Plan. TSS services will be in-kind support.
- **Project Quality Improvement Coordinator (QIC).** A QIC position has not been established in VEHDIP. The QIC position will be established within VEHDIP through state agency recruitment. The QIC will be responsible for performing activities described in the Work Plan under QIC. For specific job responsibilities, see Attachment #2 Position Descriptions.

Materials Published. In recent years, VEHDIP has developed and published the following materials.

- **Annual Reports:** VEHDIP developed the following annual reports: "VEHDIP 2006 Annual Report," "VEHDIP 2005 Annual Report," "VEHDIP 2004 Annual Report," and "VEHDIP 2003 Annual Report." The reports highlight progress toward the program goals of performing newborn hearing screening prior to discharge or before 1 month of age, conducting follow-up testing before 3 months of age, and completing enrollment in intervention services before 6 months of age for those children identified with hearing loss. In addition, the reports summarize program highlights, such as special recognitions for hospitals meeting reporting requirement. The reports were printed, sent to appropriate partners, and published online.
- **Protocols**: VEHDIP developed the following health care provider protocols: "Protocols for Medical Management," "Protocols for Hospital Newborn Hearing Screening," and "Protocols for Diagnostic Audiological Assessment." The protocols were printed, sent to appropriate stakeholders, and published online.
- **Parent Brochures**: VEHDIP developed the following parent educational brochures: "Can Your Baby Hear?" and its Spanish translation "¿Podrá Oír Su Bebe?Cada." The brochures were printed, made available to hospitals at no cost, given to parents at the time of their child's birth, and published online.
- **Posters**: VEHDIP developed and published the following educational posters: "Newborn Screening: How Did Your Little One Do?" and its Spanish translation "Cartel in Español" The posters were printed, sent to stakeholders, made available to order at no cost, and published online.
- **Parent Resources Guidelines:** VEHDIP develop the following parent guidelines: "Information for Parents of Children with Hearing Loss: Virginia's Resources Guide for Parents" and its Spanish translation "Información para padres de niños con pérdida auditiva, Guía de Recursos de Virginia para padres." The guidelines were printed, sent to stakeholders, made available to order at no cost, and published online.
- **Resource Directories:** VEHDIP developed the following resources directories, which were updated in 2007: "Virginia Resource Directory for Parents of Children with Hearing Loss" and its Spanish translation "Directorio de Recursos." The directories were printed, sent to stakeholders, made available to order at no cost, and published online.
- **Parent Video:** VEHDIP developed the following parent video: "Video of Information for Parents of Children with Hearing Loss, Virginia's Resource Guide for Parents." This videotape version of the resource guide is presented in American Sign

Language, spoken English, and open captions. Videos were sent to appropriate stakeholders and were made available to order without cost.

Previous Work of a Similar Nature. The following successfully completed projects and activities, which are of a similar nature to VFIP, provide evidence that VDH has the technical support capacity to bring VFIP to fruition. These accomplishments are grouped under Cooperative Agreements and VEHDIP-Specific Successes

Cooperative Agreements: In recent years, PSGS—with assistance and consultation from the VEHDIC AC, the Virginia Genetics Advisory Committee (VGAC), OFHS SET, and through contractual agreements with academic institutions—has been awarded and successfully managed the following federal cooperative agreements. These same entities remain available to ensure that VDH has the necessary technical support capacity to support VFIP.

- HRSA MCHB 4-year cooperative agreement related to hearing screening, budget period 9/1/2001 – 8/31/2005.
- HRSA MCHB 3-year cooperative agreement related to hearing screening, budget period 9/1/2005 – 8/31/2008.
- CDC National Center on Birth Defects and Developmental Disabilities (NCBDDD) 3-year cooperative agreement related to birth defects prevention and surveillance, budget period 3/1/2002 – 2/28/2005.
- CDC NCBDDD 5-year cooperative agreement related to birth defects prevention and surveillance, budget period 3/1/2005 – 2/28/2010.
- CDC EHDI 3-year cooperative agreement related to EHDI tracking, surveillance, and integration, budget period 7/1/2005 – 6/30/2008.

VEHDIP-Specific Successes: In recent years, VEHDIP—with assistance and consultation from the VEHDIP AC, OFHS SET, VDH Public Relations Team (PRT), and through contractual agreements with academic institutions—has successfully managed the completion of the following projects. These same entities remain available to ensure that VDH has the necessary technical support capacity to ensure VFIP.

- In 2004**,** using VISITS I-generated data, VEHDIP published its first annual report and has continued to publish annuals reports. The reports include quantitative trend data, data explanations, and program highlights.
- In 2004, VEHDIP developed a parent information poster that was featured in the 2004 Winter issue of Parent, a new statewide magazine published in Virginia for parents. The poster was produced in English and Spanish, disseminated to local health departments and pediatric practices, and included in the Virginia New Parent Tool Kit.
- In July 2004, VEHDIP completed a videotape version of the resource guide entitled “Information for Parents of Children With Hearing Loss, Virginia's Resource Guide for Parents.” The video was designed to be used by parents who are themselves deaf or hard of hearing and is presented in American Sign Language, open captions, and spoken English.
- In April 2005, VEHDIP, through a contractual agreement with Partnership for People with Disabilities at VCU, completed a training initiative to increase the capacity of

providers of early intervention services to deliver appropriate services to infants and young children who have hearing loss and their families.

- In June 2005, VEHDIP established the Virginia Hearing Aid Loan Bank (HALB), which makes available select digital/programmable hearing aids and FM systems for children with hearing loss who are under 3 years of age. As of December 2007, the HALB has served 151 clients. Although the funding source (HRSA MCHB) ends 8/30/2008, the Virginia Department of Education (VDOE) has agreed to provide funding for the HALB, including purchasing additional aids, beginning 9/1/2008.
- In 2006, VEHDIP established the Virginia Guide-By-Your-Side (GBYS) program, which was designed to meet the needs of parents of newly-diagnosed children with hearing loss by matching these parents with other parents who have been through the same experience. In 2006, 16 parents were trained to be family guides, and in 2007, 81 families were matched. Although the funding source (HRSA MCHB) ends 8/30/2008, VDOE has agreed to provide funding for the GBYS program beginning 9/1/2008.
- In 2007, VEHDIP collaborated with the Partnership for People with Disabilities at VCU on a successful grant application to examine the issue of children with hearing loss who have a co-morbidity.
- In 2007, VEHDIP completed its participation in the 5-state CDC-EDHI research project entitled "Lost to Follow Up – CDC '1% Evaluation Project.'" Recommendations from the report have been incorporated into this grant application.
- In 2007, VEHDIP collaborated with the Virginia Head Start Health Advisory Committee to provide hearing screening and follow-up services in Early Head Start programs.

ORGANIZATIONAL INFORMATION

Virginia Department of Health. The mission of VDH is to promote and protect the health of Virginians. The goal of VDH is a Commonwealth with healthy people in healthy communities. The structure of VDH consists of 119 local health departments that provide health care services to low-income families and at-risk populations in need of immunizations, family planning, and women's and infants' care. In addition, they reach out to their communities to promote healthy lifestyle decisions, protect drinking water and food supplies, and respond to disease. (See attachment #5. Office of the Commissioner.)

Office of Family Health Services. OFHS one of five offices within the Office of Public Health. The mission of OFHS is to provide the leadership, expertise, and resources that enable all Virginia residents to reach and maintain their optimum level of health and well-being throughout their life. OFHS is comprised of the Corporate Services Team, Policy and Assessment Unit, and the following divisions: Injury and Violence Prevention, Child and Adolescent Health, Chronic Disease Prevention and Control, Dental Health, WIC and Community Nutrition Services, and Women's and Infants' Health. Within the divisions are approximately 50 programs that focus on providing information on risk avoidance and reduction and strengthening the health of families and communities. (See attachment # 5. Office of Public Health Organization Chart.)

Division of Child and Adolescent Health. DCAH is one of six divisions within OFHS. The mission of DCAH is to promote the health of children and adolescents in Virginia. Its structure consists of the following units: Early Childhood Health and Child Care, Children with Special Health Care Needs, Pediatric Screening and Genetic Services, and Adolescent and School Health. (See attachment # 5. DCAH Organization Chart.)

Pediatric Screening and Genetic Services. PSGS is one of four units within DCAH. The mission of PSGS is to improve the health of children and families by preventing birth defects and developmental disabilities, promoting optimal child development, and promoting health and wellness among children and adolescents living with disabilities. PSGS consists of the Virginia Early Hearing Detection and Intervention Program and the Virginia Genetics Program. The Virginia Genetics Program includes Virginia Newborn Screening Services (dried-blood spot screening) and the Virginia Congenital Anomalies Reporting and Education System (VaCARES, which is Virginia's birth defects registry). (See attachment # 5. DCAH Organization Chart)

Virginia Early Hearing Detection and Intervention Program. VEHDIP is one of two programs within PSGS. The mission of VEHDIP is to minimize or eliminate communication disorders resulting from hearing loss. The goal of VEHDIP is to identify congenital hearing loss in children before 3 months of age and to assure enrollment in appropriate early intervention services before 6 months of age. Program services consist of providing information and referral to families; collaborating with birthing hospitals, primary care providers, audiologists, and birthing centers; and educating the community about the importance of EHDI. (See attachment # 5. DCAH Organization Chart).

Newborn Hearing Screening Legislation. Statutory authority for newborn hearing screening is provided by the Code of Virginia, § 32.1-64.1 Virginia Hearing Impairment Identification and Monitoring System and § 32.1-64.2 Confidentiality of records; publication; Commissioner required to contact parents, physicians, and relevant local early intervention program.

The Code of Virginia requires VDH to establish and maintain the Virginia Hearing Impairment Identification and Monitoring System(VHIMS) in order to identify hearing loss at the earliest possible age among newborns and to provide early intervention for all infants so identified as having hearing impairment). Since July 1, 1999, all hospitals are required to screen newborns prior to discharge and identify infants at risk for developing progressive or delayed-onset hearing loss and report these results to VDH; although, the Code allows a parent to refuse based on religious objections. An infant whose hearing screening indicates the need for a diagnostic audiological examination must be offered such examination at a center approved by the Board of Health. Audiologists are required to send reports on infants and toddlers seen for audiological follow up to VDH.

In addition, the Code of Virginia requires regulations governing newborn hearing screening. These regulations, which were required to begin July 1, 2002, are provided by the Virginia Administrative Code, 12 VAC 5-71, Regulations Governing Virginia

Newborn Screening Services. The purpose of the regulations is to provide consistent guidelines for implementation of VHIMS in order to assure that infants with hearing loss are identified at the earliest possible age and that they receive appropriate, early intervention services. Included in the regulations are descriptions of the responsibilities of hospitals, VDH, and persons providing audiological services after discharge. The regulations undergo periodic regulatory reviews, which include many opportunities for public participation such as making a public comment and attending regulatory review meetings.

The Code of Virginia also requires the state health commissioner to appoint an advisory committee to assist in the design, implementation, and revision of VHIMS. The committee, entitled VEHDIP Advisory Committee, is required to meet four times a year, and VDH is required to provide support services.

The Code of Virginia does not mandate or provide funds for newborn hearing screening and follow-up services.

VEHDIP Role Related to Legislation. Since its inception, VHIMS has evolved into VEHDIP, which collects, maintains and evaluates required hospital and audiological reports; approves providers for diagnostic audiological assessment and maintains a list of audiologic diagnostic centers and audiologists that are skilled in providing pediatric services to infants; maintains written protocols for performing hearing screening ("Protocols for Hospital Newborn Hearing Screening"), performing hearing re-screenings ("Protocols for Hospital Newborn Hearing Screening"), and performing diagnostic evaluations ("Protocols for Diagnostic Audiological Assessment"); maintains written guidelines for audiologists to report diagnostic audiological evaluations results to VDH using the VEHDIP Audiological Form and guidelines for hospitals to report screening results via VISITS; provides training and technical assistance to the hospitals that are required to screen and report results; makes follow-up information and services available to parents; provides required support services to the VEHDIP Advisory Committee; and, with other DCAH staff, manages the required periodic regulatory review process.

Integrated Child Health Data System. PSGS has managed the development and implementation of a functional statewide integrated child health data system, entitled Virginia Infant Screening and Infant Tracking System (VISITS I), that, among other functions, tracks hearing screening and follow-up information. VISITS I is a Web-based, integrated surveillance and data tracking system that supports VEHDIP and the Virginia Congenital Anomalies Reporting and Education System (VaCARES, Virginia's birth defects registry). VISITS I went live statewide in 2002. It was developed by an outside vendor (Welligent, LLC) under a contractual agreement with VDH. Subsequent to going live, VISITS I was brought in-house for ongoing hosting and security management by state personnel—the VDH Office of Information Management (OIM). PSGS is managing the redesign and implementation of VISITS I through a contractual agreement with state personnel developers (VDH OIM). The target completion date for the redesigned system, entitled VISITS II, is June 30, 2008. VISITS II will be integrated with the new Virginia Electronic Birth Certificate, which will continue to support tracking and

data management functions for VEHDIP and VaCARES, and provide automatic/semi-automatic referral functions to Part C Early Intervention.

Ability to Conduct Project Requirements and Meet Project Expectations. Summarized below is how the previously described VDH missions and structures, scope of current activities, and organizations contribute to the ability of VDH to conduct VFIP requirements and meet project expectations. These descriptions are grouped by VFIP Team, VEHDIP Advisory Committee, OFHS Surveillance and Evaluation Team, and Other VDH Program Areas.

VFIP Team. The VFIP Team will be established and modeled after other PSGS grant teams that have successfully planned, implemented, and evaluated similar federally-fund projects. As was done with the other PSGS grant teams, the VFIP Team will be chaired by the VFIP PD and will include those who have specific project responsibilities as well as ad hoc members who will provide consultation and technical assistance as needed. In addition, as was also done with the other PSGS grant teams, the VFIP Team will be convened monthly to ensure that the project stays within established time frames. During each meeting, members will review the Work Plan, provide updates on completing assigned activities, identify problems and barriers to accomplishing activities, and develop solutions to such obstacles, all of which will be documented on the VFIP Monthly Progress Report. This documentation, along with VFIP Team meeting minutes, will be used for writing progress reports requested by HRSA MCHB and will serve as reference materials for other such requests.

VEHDIP Advisory Committee: The VEHDIP AC provides an existing mechanism for convening regular meetings of all stakeholders in the newborn hearing screening and intervention system. This established group of stakeholders will continue to meet face-to-face on a regular basis and will assist the VFIP Team in identifying gaps that are occurring, discussing how those gaps might best be addressed, and providing assistance in accomplishing certain activities. The VEHDIP AC consists of representatives of stakeholder organizations and individual stakeholders, including health insurance industry, physicians (Va-AAP Chapter Champion, geneticist, otolaryngologist, neonatologist), nurses, audiologists, hearing aid dealers and fitters, teachers of the deaf and hard-of-hearing, parents of children who are deaf or hard-of-hearing, adults who are deaf or hard-of-hearing, hospital administrators, and personnel of appropriate state agencies. (See Attachment # 6. Letters of Support.)

OFHS Surveillance and Evaluation Team. The OFHS SET provides an existing mechanism for the VFIP Team to receive consultation and technical assistance on developing, administering, analyzing VEHDIP evaluation reports.

Other VDH Program Areas. The Office of Minority Health provides an existing mechanism for the VFIP Team to receive consultation and technical assistance on ensuring VEHDIP materials are culturally and linguistically competent. The OFHS PRC is available to provide consultation and technical assistance to the VFIP Team on reviewing and developing quality promotional materials. Bright Futures, which fosters

partnerships between families, health professionals, and communities, is in place as a foundation for VEHDIP to build on. As is done with existing PSGS grant teams, the OFHS MCH EPI is available to provide expert guidance to the VFIP Team on all matters concerning epidemiology, such as determining the efficacy of developing a combined VEHDIP-VaCARES Surveillance Methodology Evaluation Plan. The VISITS II developers and the DCAH VGP are available to collaborate with the VFIP Team to ensure the completion of the automatic referral processes through linked databases for children with hearing loss.