Hey EI we have a referral. Let’s talk!

Dr. Jean Anderson¹,², Chuck Scheier³, Beth Toelupe², Ruth Te’o¹
¹ American Samoa EI and EHDI Programs, AS DOH, Pago Pago, American Samoa 96799
² Center on Disability Studies, University of Hawai’i at Manoa, Honolulu, HI 96822
³ Scheier Consulting, Inc., Raleigh, NC 27614

Abstract

Our EHDI program has performed an inpatient screening at birth and a follow-up in the clinic. Both refer and we perform an Audiological Evaluation (AE). The child has a diagnosed hearing loss. Now it’s time to refer this child to Early Intervention (EI) services. Sure, we can print paper, use the sneaker-net, or send a fax, but we also have computers and networks that connect them. Let’s talk, electronically that is!

This paper will explore the workflow of an automated data exchange in a longitudinal data system. We start with a technology independent referral protocol that involves making all pertinent referral information available to EI and logging the event. Next, EI determines eligibility and creates an Individual Family Service Plan (IFSP). After that, the eligibility determination and IFSP date, or reason not eligible, are noted in the EHDI program. And finally, the referral is closed with all the information needed for reporting to the Centers for Disease Control and Prevention (CDC).

There are three key points in this workflow. First, the sharing of core data such as demographics, caregiver and family contact information, screening history, risk factors, and any other pertinent information that is included in the data sharing agreement between the two programs. Second, automating the EI Referral at diagnosis. And third, recording the eligibility outcomes in EI when services begin.

When getting programs to exchange data electronically, we start by defining the process. After that, automating is a series of baby steps, removing one piece of paper, fax, or email at a time!
1. Introduction

**Share Integrate Link American Samoa (SILAS)**

Share, Integrate, Link American Samoa (SILAS) has been developed under a multi-year grant from the CDC. It is a web based data system to monitor and track the status and progress of every birth throughout the components of the Early Hearing Detection and Intervention (EHDI) program, including newborn hearing screenings, diagnostics, and intervention. One of the primary goals of SILAS, through collaboration with other programs on-island that also serve children, is to improve our ability to minimize “lost” children and children who “fall through the cracks.” We also hope to increase the ability to find children that are more likely to develop late onset losses.

By sharing information, fewer resources are needed to more successfully find and provide services to “lost” children. In addition to helping with follow-up, diagnostic and intervention services, SILAS enables policy makers and public officials to make data-based decisions. The programs that agreed to initial collaboration are Homeland Security/Office of Vital Statistics, LBJ Tropical Medical Center, Department of Health, ECE (Head Start program), DOE Special Education, and Department of Human and Social Services.

The two programs that followed through on their commitment and are participating in the SILAS initiative today are Newborn Hearing Screening (EHDI) and Part C (EI). Both programs are co-located and administered by the American Samoa Department of Health (ASDOH). The program names on island are:
**Helping Babies Hear (HBH):** This is the newborn hearing screening program, or EHDI. Helping Babies Hear, HBH, and EHDI will be used interchangeably in this paper.

**Helping Hands (HH):** This is the Part C or IDEA program for Early Intervention (EI) for Babies and Toddlers. Part C, Helping Hands, HH, and EI will be used interchangeably in this paper.

**Helping Babies Hear**
In 2008, the HH program took the leadership to establish the EHDI program (called Ulua‘i Lagona). The American Sāmoa Department of Health (DOH) is the lead agency for Part C (EI) in American Samoa. The American Samoa Department of Health and the Early Intervention team along with support and assistance from the University of Hawaii Center on Disability Studies made a commitment to establish a hearing-screening program since children were found at a later age to have hearing loss.

The American DOH Newborn Hearing Screening Program “Helping Babies Hear” began implementation in January 2009 and since then the program has screened over 9,500 infants in American Samoa.

American Samoa has an average of 1,500 babies born per year and the research shows that 1-2 babies out of 1,000 are born with congenital hearing loss. Given this, there are an estimated 3 babies born per year in American Samoa with hearing loss.

Before January 2009, American Samoa did not have a newborn hearing-screening program. As a result, there are a number of children in the community who are suspected of having hearing loss. Efforts are being made to identify these children so that necessary services can be put in place.

The DOH Helping Babies Hear team screens newborns every single day of the year. The goal of the program is to screen all newborns before they are discharged from LBJ Medical Center. If a baby fails the initial hearing screening, a follow up screening is performed at home or at the DOH HBH office. If a baby fails this second screening then the baby is referred to the DOH Audiologists for a full audiological examination. The baby is also referred to the American
Samoa Early Intervention Program for monitoring, and possible enrollment, as he or she is considered “at-risk” for hearing loss.

Helping Hands
The American Samoa HH program is under the auspices of the American Samoa Department of Health. American Samoa has a unitary system of Early Intervention in that the “Helping Hands” Early Intervention Program serves as both the state and local program. Although the American Samoa Department of Health provided lead agency support, the Helping Hands program is responsible for state level and local level program responsibilities.

The Helping Hands Early Intervention System seeks to provide services in each child’s natural environment and gears services to fit the needs and resources of each individual family. All individualized services are provided in a family’s home environment or other community settings of which a family frequents. Visits made by Service Coordinators and professionals are most frequently at a family’s place of residence. Any exception to this policy would likely be due to a child being hospitalized for an extensive period of time or if a family requests a location more convenient to the family.

Overview
Our EHDI program has performed an inpatient screening at birth and a follow-up in the clinic. Both screenings result in a “refer” outcome, and we perform an Audiological Evaluation (AE). The child has a diagnosed hearing loss. Now it’s time to refer this child to Early Intervention (EI) services. Sure, we can print paper, use the sneaker-net, or send a fax, but we also have computers and networks that connect them. Let’s talk, electronically that is!

This paper will explore the workflow of an automated data exchange in a longitudinal data system. We start with a technology independent referral protocol that involves making all pertinent referral information available to EI and logging the event. Next, EI determines eligibility and creates an IFSP. After that, the eligibility determination and IFSP date, or reason not eligible, are noted in the EHDI program. And finally, the referral is closed with all the information needed for reporting to the CDC.

2. SILAS is Longitudinal
When the SILAS proposal was written, the premise was that “This island is too small to not have a longitudinal data system”. Small is the keyword here. American Samoa has a total population of about 55,000, and that number is flat to decreasing according to census data. For perspective, this is the population of a small US city. Looking through the census data, it is hard to find a city whose name is broadly known. White Plains, NY will have to serve, but we could just as well name Ocala, FL. The point here is that these are small cities.

In addition, there is only one hospital in American Samoa and everyone has to get a unique hospital Id (HID) to receive health care. So, the numbers are small, we have a unique identifier, and the local IT infrastructure is not in place to support multiple complex data systems in general. Therefore, hosting a web based longitudinal data system off-island in Hawaii is the best and current solution.

Figure 1 below shows a portion of the submarine cable map for the pacific Ocean. The highlighted link in dark red is the American Samoa - Hawaii (ASH) fiber optic cable. This cable runs from Hawai’i to American Samoa as the name implies. It should be pretty clear that if SILAS is going to be hosted off-island then Hawai’i is the first choice.

Figure 1: Submarine Cable Map

Although a longitudinal system solves many problems, it does not mean that data systems have to be longitudinal to have good communication. With the proliferation of secure services based on api’s, the separation and sharing of data sources is much easier to accomplish today. Whether disparate or all in one, data sharing agreements still have to be worked out, and this is independent of the architecture.

Figure 2 is a block diagram representation of SILAS today, with EHDI and EI programs sharing common core data.
3. Share Core Data

In SILAS, all programs share the following core child and family data:

- **Child**
  - Name
  - Gender
  - Date of Birth
  - Time of Birth
  - NICU Dates
  - Risk Factors

- **Family**
  - Caregiver Name
  - Contact Type (Primary/Emergency)
  - Family Role
  - Details (many)
  - Contact Information
    - Addresses
    - Phones

- **Details (Family)**
  - Mother
  - Newborn
  - Prenatal and Labor & Delivery

Figure 3 below shows the SILAS view child page, with a vertical menu containing each of these areas: Child, Family, and Details. Drill down further for risk factors (Figure 4), and the risk factors help screen (Figure 5).
Figure 3: View Child

Figure 4: Risk Factors
Figure 5: Risk Factors Help Screen

- **Caregiver Concern:** Caregiver Concern regarding hearing, Speech Language or Developmental delay
- **Family History:** Family History of permanent childhood hearing loss
- **5+ Days in NICU:** Neonatal intensive care of more than 5 days
- **NICU:** Neonatal intensive care for any of the following regardless of length of stay: ECMO, assisted ventilation, exposure to ototoxic medications (gentamycin and tobramycin) or loop diuretics (furosemide/Lasix), and hyperbilirubinemia that requires exchange transfusion
- **In utero infection:** In utero infections, such as CMV, herpes, rubella, syphilis, and toxoplasmosis
- **Craniofacial anomalies:** Craniofacial anomalies (including those that involve the pinna, ear canal, ear tags, ear pits, and temporal bone anomalies)
- **Physical findings:** Physical findings that are associated with a syndrome known to include a sensorineural or permanent conductive hearing loss (such as white forelock)
- **Hearing loss syndromes:** Syndromes associated with hearing loss or progressive or late-onset hearing loss or other frequently identified syndromes (such as Down Syndrome (Trisomy 21), neurofibromatosis, osteopetrosis, Usher syndrome131, Waardenburg, Alport, Pendred, and Jervell and Lange-Nielsen)
- **Neurodegenerative disorders:** Neurodegenerative disorders (such as Hunter syndrome)
- **Sensory motor neuropathies:** Sensory motor neuropathies (such as Friedreich ataxia and Charcot-Marie-Tooth syndrome)
- **Culture-positive postnatal infections:** Culture-positive postnatal infections associated with sensorineural hearing loss, including confirmed bacterial and viral (especially herpes viruses and varicella) meningitis.
- **Head trauma:** Head trauma, especially basal skull/temporal bone fracture that requires hospitalization.
- **Chemotherapy**

When an address or phone number changes, all programs see the updated information because it is only stored in one place. Data sharing agreements dictate which programs can see which information, and who can modify what. Here, the EI program has read only access to the EHDI activities (screenings, progress notes, Audioligical Evaluations, and referral).

The fourth view child tab is where the program information is stored. When you’re in the EHDI program, this tab contains the EHDI program activities. When you’re in the EI program, this tab contains the EII program activities. Each program workflow is broken down into logical “Phases”. Figure 6 shows a child that has activities in all 5 of our EHDI program phases: Inpatient, Outpatient, Evaluation, Treatment and Follow Up, and Tracing.
Opening up the Evaluation Phase, where the EI Referral is made, you can see several activities in Figure 7. Visibility of program activities is controlled by the data sharing agreement between programs, and security trimming is applied accordingly.

4. Automating the EI Referral at Diagnosis

There are three scenarios where an EI referral is made in Helping Babies Hear, and they are described below:
1) Confirmed hearing loss by an Audiologist during the Audiological Evaluation (AE). When the AE activity is completed and submitted the rules engine fires and automatically displays the EI Referral next activities.

2) A refer on the hearing screening when the risk factor: NICU is present. Again, the rules engine fires and automatically displays the EI Referral next activities.

3) A pass on the hearing screening when a risk factor other than NICU is present. In this case, this is a program decision to make an EI referral and the EI referral activity is added manually by the staff.

The HBH EI referral activity is shown in Figure 8 below:

![Figure 8: HBH EI Referral](image)

This is the EI Referral Activity form in HBH. Because the child’s full screening history and AE are present in the record, the purpose of this activity is to record the basics of the referral: when, who, concerns, and comments for follow-up.

When this activity is submitted, the rules engine presents suggested activities, or rules with a choice, as shown below. Here we have a choice to submit this referral to EI. Most of the time we take the advice (choices) of our automations, but we have found that there are always exceptions to the rule, so the evolution of “Rules with a Choice” (Figure 9).
Hitting Save here triggers the following actions:

1. The child is added to the Helping Hands program if they do not already have that program association.

2. The Referral Phase is added to Helping Hands.

3. The HBH EI Referral is copied to the EI Referral Phase and is read only in both places.

4. The HH Referral activity is added to the Referral Phase in HH. It is seeded with the date completed by referral source, the referral source as “EHDI Program”, the EHDI staff that submitted the referral, suspected concerns, and comments.

5. There are several other HH activities that are automatically added, such as the 45 Day Clock, First Contact, and Case Assignment. These are all HH referral activities, and the full list is included in the “Path to Electronic Data Exchange” section below.

The HH Referral Phase, after is is automatically added, is shown in Figure 10 below. Note that we are now looking at the Helping Hands program, Referral Phase, and EI activities.
The more detailed HH Referral activity, on the Part C side, is shown in Figure 11 below.
Figure 11: HH EI Referral Phase
There is always a design decision over whether to copy or share data when two data systems need to view and operate on common data. The idealist will argue that we should never copy data, while the pragmatist might say that it depends. Here, we had the design decision about whether to copy or share the HBH EI Referral between the two programs. Figure 12 below shows the share approach, where there is only one HBH EI Referral Activity, and it is shared between the programs. Below that the copy approach is shown (Figure 13).

While it is true that the HH staff could go to the HBH program and look at the referral there, what we desired was for the HBH EI Referral to be displayed in the HH Referral Phase right next to the activities there. In the end we compromised on a copy, with the restriction that this activity is read only in both programs. It is possible to build a sharing capability into the SILAS framework, where a single activity can be viewed across programs in the respective program’s phase. This became a budgetary constraint, and in the end we decided to hold off on adding this feature.
The HBH Referral Phase is shown in Figure 14 below, and you can see both referral activities displayed in the grid.

Figure 14: Both Referral Activities in HBH Referral Phase

5. Eligibility Determination in EI

When the EI Referral is made, the child immediately appears in the 45 Day Timeline queue on the SILAS Dashboard. This is shown below in Figure 15. Here, the queue is sorted by Referral Date and our child, referred today, is at the top of the queue.

Figure 15: 45 Day Timeline Queue

This queue tells the staff several things, but most important, that there are new referrals, and also who needs attention as the required timeline ticks down. In other words, who is in referral that needs evaluation and services before the 45 day clock expires.
In the Intake Eligibility Phase in HH we have the Eligibility Determination Activity. A simplified version of this activity is shown in Figure 16 below. Here you can see that the eligibility determination results are reported as well as the reason of the child is not eligible. The IFSP date is also recorded here.

![Figure 16: Simplified Eligibility Determination Activity](image)

A new Eligibility Determination Activity, that contains considerable more detail, is currently under development. The following are the data elements from the new activity:

- Scheduled Date
- Eligibility Determination Date
- Date of Evaluation
- Reviews and assessments that were conducted
  - Clinical Observation
  - Physical Therapist Assessment
  - Review of Medical Records
  - Speech Therapist Assessment
  - Medical Diagnosis: (Other Text)
  - Review of Department of Social Service Documents
  - Occupational Therapist Assessment
  - Hawaii Early Learning Profile Assessment
  - Nutritional Assessment
  - DAYC Tool
  - Hearing Screening/Evaluation
  - Vision Screening/Evaluation
  - Assistive Technology Assessment
  - Parent Report
  - Other (Other Text)
• Recommending additional assessments when available
  ○ Physical Therapist Assessment
  ○ Vision Screening/Evaluation
  ○ Speech Therapist Assessment
  ○ Hearing Screening/Evaluation
  ○ Occupational Therapist Assessment
  ○ Nutritional Assessment
  ○ Assistive Technology Assessment

• Eligibility Determination
  ○ Not Eligible
    ■ If not eligible then list recommendations to the family as memo
  ○ Eligible

• Eligibility Determination Based On:
  ○ Established Condition
    ■ Genetic Disorders/Chromosomal Anomalies
      ● Chromosomal anomalies such as Down Syndrome, Trisomy 18, or Fragile X Syndrome
      ● Inborn Errors of Metabolism such as Hurler Syndrome, Maple Syrup Disease, Infant Phenylketinuria (PKU), and Tay-Sachs Disease
      ● Other Syndromes/Abnormalities such as Prader-Willi, Williams Syndrome, Marfan’s Syndrome, Lesch Nyhan Syndrome, or Osteogenesis Imperfecta
    ■ Neurologic
      ● Congenital anomalies of the brain such as hydrocephalus
      ■ Anomalies of the spinal chord such as meningomyelocele
      ■ Degenerative or progressive disorders such as muscular dystrophies, spinal muscular atrophy, Leukodystrophies, or spinocerebellar disorders
      ■ Neuromotor/Muscle Disorders including Cerebral palsy, shoulder dystocia, congenital hypotonia or guillain- barre syndrome
      ■ cerebrovascular Diseases such as Cerebral Artery Thrombosis, Cerebral Embolism, Cerebral Venous Thrombosis and Intracranial Hemorrhage
      ■ Neurocutaneous Disorders such as Bloch-Sulzberger Syndrome, Neurofibromatosis, Sturge-Weber Syndrome and Tuberous Sclerosis
      ■ Malignancies including intracranial tumors
      ■ Head and spinal cord trauma
      ■ Abnormal movement patterns such as generalized hypotonia, ataxias, myoclonus or dystonia
      ■ Epilepsy
    ○ Sensory Abnormalities
      ■ Blindness (legal blindness 20/200 uncorrected or 20/70 with fully completed correction
        ● Congenital impairments such as cataracts, retinitis pigmentosa or ear malformations

18
- Acquired impairments such as retinopathy of prematurity or ototoxic drug damage to ears
  - Cortical visual impairment
  - Substantiated hearing loss

- Perinatal Factors
  - Prenatal infections such as Toxoplasmosis, Rubella, CMC or Herpes (Torch)
  - Prenatal toxic exposures such as Fetal Alcohol Syndrome (FAS)
  - Birth trauma such as neurologic sequelae from asphyxia or shoulder/hip dystocia

- Congenital/Acquired Impairments
  - Congenital impairments
    - Cardiovascular such as Aortic Valve Atresia and Stenosis, Coarctation of Aorta, Patent Ductus Arteriosus, Tetralogy of Fallot, Transposition of Great Arteries and Williama Syndrome
    - Orofacial including Cleft/Lip Palate, Oblique facial cleft, Hypoplastic Mandible (Pierre Robin), Noonan Syndrome, Rubenstein-Taybi Syndrome, and Treacher Collins
    - Genitourinary such as Adrenal-Genital Syndrome, Potter Syndrome, Renal Agenesis and Hypoplastic and Kidneys/Renal Insufficiency
    - Musculoskeletal including Arthrogryposis, Reduction Deformity of lower limbs and Reduction Deformity of upper limbs, scoliosis, torticollis, hip dysplasia, or scheuermann’s disease
    - Pulmonary/Respiratory failure (ongoing)
    - Central Nervous System such as Central Hypoventilation, Encephalocele, Uncorrected Hydrocephalus, Microcephaly and Spina Bifida/Meningocele
  - Acquired impairments such as amputations or severe burns
    - Gastrointestinal such as omphalocele

- Infectious Disease
  - Congenital infections such as Cytomegalovirus (CMV), Herpes, HIV positive (AIDS), Rubella, Syphilis, Toxoplasmosis
  - Acquired infections such as Bacterial or Viral Meningitis, Encephalitis, Poliomyelitis, Severe burns, HIV, AIDS

- Mental/Psychosocial Disorders
  - such as Autism spectrum disorders.

- Developmental Delay - DD area(s)
  - Cognitive development
  - Physical development, including vision and hearing
  - Communication development (articulation, expressive and receptive language)
  - Social and emotional development
  - Adaptive development (self-help skills)

- Biological Risk Condition
  - Genetic Disorders with increased risk for developmental delay
- Chromosomal anomalies such as Turner Syndrome or Fragile X Syndrome
- Other Syndromes such as (Goldenhar) neurofibromatosis, multiple congenital anomalies (no specific diagnosis)
  - Perinatal Factors
    - Prematurity and/or small gestational age - <33 weeks gestation, birth weight less than 2500 grams or 5.5 pounds
    - Prenatal toxic exposures such as alcohol, street exposure, or fetal hydantoin syndrome
    - Birth trauma such as seizures, low apgars, intraventricular or periventricular hemorrhage
    - Hypoglycemia
  - Neurologic
    - Anomalies of the brain such as absence of the corpus callosum, hydrocephalus or macrocephaly
    - Anomalies of the spinal cord such as spina bifida or tethered cord
    - Epilepsy (except simple febrile seizures)
    - Abnormal movement patterns such as severe tremor or gait problems
    - Other CNS influences
      - CNS or spinal cord tumors
      - CNS infection such as meningitis
      - CNS toxins such as lead poisoning
      - CNS trauma such as Shaken Baby Syndrome
  - Sensory Abnormalities
    - Poor vision after correction such as severe Strabismus or visual field defects
    - Mild and/or intermittent conductive hearing loss such as in chronic otitis media or serous otitis media (> 4 months duration)
  - Physical Impairments
    - Congenital impairments such as cleft lip/palate, torticollis, limb deformity or club feet (treated)
    - Acquired impairments such as severe arthritis, scoliosis, brachial plexus injury or shoulder dystocia
  - Mental/Psychosocial Disorders
    - Severe attachment disorder, severe behavior disorders, severe sociocultural deprivation, or “failure to thrive” disorder
  - Other Medical Factors and Symptoms
    - Growth problems such as severe growth delay, feeding or swallowing problems, such as gastrostomy tube feeding
    - Medical factors such as hypothyroidism or severe chronic anemia
    - Chronic Illness/medically fragile such as congenital heart disease/failure, cystic fibrosis, complex chronic conditions, ventilator dependent or technology-dependent
    - Maternal PKU
    - Maternal HIV
  - Other
6. Path to Electronic Data Exchange

How do we go about automating the data exchange process? The processes in each program are most likely established to start. Let’s also assume that data sharing agreements are in place for EHDI and EI to be talking in the first place. This is independent of any medium and is a prerequisite for any exchange.

By now, the EHDI screening, follow-up, and evaluation are well defined. If not, define this workflow clearly. What happens with a confirmed hearing loss, and how is EI notified? What are the exceptions and other scenarios where a referral is made.

Similarly, the EI program workflows are also well known. How are referrals received? Where do they go, and what happens? When is the eligibility determination made and how is the EHDI program notified? Fill in any gaps that exist here.

Automating these workflows then is a series of baby steps, where each piece of paper, fax, or email is replaced, one at a time. In a longitudinal data system, or uni-system, the data exchange challenge is in the software architecture and programming. Our approach was to build a rules engine that fires when an activity with a specific outcome is submitted. For example when the HBH EI referral is submitted, the following things happen on the HH side:
- Child is added to the HH program, if they are not already associated
- Referral Phase is added
- HH Referral Activity is created and seed from the HBH referral activity
- 45 Day Clock Activity is added
- Referral Clock Activity is added
- First Contact Activity is added
- Case Assignment Activity is added and initialized to "Unassigned"

This automation is independent of the longitudinal architecture in SILAS. What this says is that an automation mechanism has to be implemented to do certain things when an EI Referral is received, no matter how it gets there. The following are 3 common ways that data is exchanged today.

1. Message Queue: EHDI places a referral message in the queue, EI polls the queue, pulls out referrals when they come in, and processes the referral.

2. SOAP Web Services: EI exposes a traditional web service. EHDI invokes a submit EI referral method and EI processes the referral.

3. RESTful Http Services: REST has gained widespread acceptance across the Web as a simpler alternative to SOAP based Web services. RESTful systems typically communicate over the Hypertext Transfer Protocol (Http) with the same HTTP verbs (GET, POST, PUT, DELETE, etc.) used by web browsers to retrieve web pages and send data to remote servers.

When two systems, unified or disparate, need to communicate, the process is the same. Define the processes and workflows, define and lock down the exchange interface, and then automate on both sides, one piece at a time. This is really no different from any other engineering challenge where two or more systems have to communicate with each other. Define the interface, and build outwards from there.
7. Conclusions

Electronic data exchange between health systems is difficult on several levels. If it was easy, we’d all be done long ago. There are data sharing agreements, interfaces, technology, and ontologies. The term ontology is used here to mean the problem where different systems refer to the same thing by different names.

To automate the data exchange of an EHDI referral to EI, it is first necessary to have the appropriate data sharing agreements in place. Then, make sure you have well defined processes on both sides. This is strictly program protocols, and is technology independent.

During data system design, try to share core data if possible. When something changes, everyone references the same record. Several technology approaches exist for doing this, and web services are fairly ubiquitous today. That being said, share versus copy is tricky and the answer just depends. Sometimes copy turns out to be best.

When designing and building an interface between programs and platforms it is important to nail down the interface first and then design out from the middle.

We have found that implementing a rules engine is helpful. For multiple platforms, have a rules engine on each platform. Use the rules engine to automate the referral at diagnosis. In other words, the rules engine fires on a confirmed hearing loss and starts the EI Referral.

On the EI side, capture the eligibility determination and IFSP for DCD reporting.

Finally, remove paper and email one piece at a time!
Contact Information

**Dr. Jean Anderson**, EHDI Coordinator  
American Samoa Helping Babies Hear EHDI Program  
7477 Fagaima Road  
Pago Pago, AS 96799  
(684) 699-7754  
jeanaa@hawaii.edu

**Beth Toelupe**, Program Manager  
American Samoa Helping Babies Hear EHDI Program  
7477 Fagaima Road  
Pago Pago, AS 96799  
(684) 699-7754  
bethany.toelupe@helpinghands-as.org

**Ruth Te’o**, Part C Coordinator  
American Samoa Helping Hands Early Intervention Program  
7477 Fagaima Road  
Pago Pago, AS 96799  
(684) 699-7754  
ruth.teo@helpinghands-as.org

**Chuck Scheier**  
Scheier Consulting, Inc.  
12713 Waterman Drive  
Raleigh, NC 27614  
919.412.1923  
chuck@scheierconsulting.com  
www.scheierconsulting.com