

Health

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Promoting Children's Health

Health Ripples

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Table of Contents

PGH Child Protection Unit: Sanctuary for the Abused, Pioneer of Child Protection in PH Anne Marie D. Alto	2
Strengthening Child Protection Services Through Training and Research Charmaine Lingdas	8
Dr. Bernadette Madrid: A Warrior for Children's Welfare Fedelynn M. Jemena	14
Upholding Children's Right to Healthy Development Through Newborn Hearing Screening Anne Loren Claire A. Santos	18
A Clearer Vision for Filipino Children Through Early Screening and Intervention Cynthia M. Villamor	24
Birth Defects Surveillance: From Prevention to Policy Intervention January Kanindot	29
Detecting Critical Congenital Heart Diseases in the 1st 48 Hours of Life Patrick Jose D. Padilla, MD and Jose Jonas D. Del Rosario, MD, FPPS, FPCC	33
Kalusugan ng ating Kabataan, Dapat Pangalagaan A Poem by Josephine D. Agapito	

Multi-disciplinary clinics, such as the PGH-CPU, with other organizations, play an important role in addressing the psychosocial needs of abused children. From primary prevention, intervention, to rehabilitation, the PGH-CPU shines a light on this cruel reality.

Child abuse is multi-faceted. A child encounters various forms of abuse that, in most cases, come unreported. Verbal abuse, physical injury, psychological injury, sexual abuse, sexual exploitation, and abandonment are some of the common forms of abuse children experience. It occurs in the home, in the neighborhood, even in schools that so affects the child's physical, mental, and psychosocial being.

The Philippine General

The PGH Child Protection Unit

Through the initiative of American Fulbright scholar **David Bradley**, a study (Children at Risk, 1994) was conducted to investigate why children are roaming, sleeping, and living in the streets – an increasing problem in the Philippines then and now. The study revealed that children opted living into the streets mainly because they were being abused in their homes.

Bradley had already been extending help to shelters but wanted to do more than just giving money. He realized that there was a greater need for holistic care services for abused children.

States, asking them what they think about a hospital-based program we should offer,” Dr. Madrid explained.

The idea of establishing a child protection program at the Department of Pediatrics was first thought about in the early '90s but at that time, there was no enabling child protection law in the Philippines. Dr. Madrid admits, “[It is difficult] when you work on child abuse programs and there is no law that would define what child abuse is. Are there

PGH Child Protection Unit: Sanctuary for the Abused, Pioneer of Child Protection in PH

Anne Marie D. Alto

Hospital **Child Protection Unit** (PGH-CPU) aids children who are victims of neglect and abuse. The PGH-CPU, in partnership with national and local governments, and non-government organizations, has developed a multi-disciplinary child protection system and programs that provide holistic services to the child-patients in the country. This is to ensure that the children's need for forensic, medical, legal, and social services are attended to promptly and effectively.

“There were only a few services for abused kids in the '90s. Since David is very comfortable working with hospitals, he wanted a partner hospital,” Child Protection Network Executive Director and CPU Director Dr. Bernadette Madrid pointed out. When Bradley asked the advice of his friend, Dr. Vicky Herrera, she suggested the University of the Philippines as the best partner for this project. Aside from being the location of the biggest government hospital in the country, the Philippine General Hospital is also a university hospital.

“When we started developing CPU, [we thought,] what would its vision be? I accepted the leadership in 1996 and we went around different non-governmental organizations and government agencies that are working with abused kids in the Philippines and the United

government services for those children? Nothing.”

She also pointed out that when they were still resident doctors, no one was thinking about abused kids. “There were, but we were not calling them ‘abused children’. [Just] patients – burnt patient, fractured, but no one really thought that they were being abused by parents or by somebody else... And as for street children, they were just called street children, not labeled as anything else, such as ‘neglected’ or what.”



A child-patient in the playroom of the Child Protection Unit at the Philippine General Hospital

Finally, in 1997, the Philippine General Hospital established the first child protection unit in the Philippines. David Bradley, together with dedicated personnel of the PGH Department of Pediatrics, were able to establish a 'child-friendly unit whose goal is to serve every abused child with compassion and competence to ensure that all abused children, as well as children at risk, are safe, healthy, and developing to the best of their potential within a nurturing family environment.'

In order to keep pace with this mission, the unit is using a multi-disciplinary approach to provide comprehensive medical and psychosocial services to abused children, including their families, to initiate the process of healing and prevent further abuse.

Milestones

In 1992, child abuse officially became a crime when the **RA 7610** or the **Anti-child Abuse Law** came out defining what constitutes abuse. The law made the system more structured as it delineated

the duties and responsibilities of physicians, nurses, social workers, police, and other key stakeholders.

In 1998, the **Department of Social Welfare and Development (DSWD)** and the **PGH-CPU** sealed their partnership by formalizing a referral network for abused children in Metro Manila. This made coordination of efforts and resources in the comprehensive management of abused children and their families.

A year later, the Department of Health became a partner in developing **Women and Child Protection Units (WCPUs)** nationwide to extend support for abused women and children across the regions (please see more details in another article). In 2002, the Philippine National Police (PNP) became a partner by training officers for women and children's desks.

In 2013, an administrative order was issued mandating the establishment of WCPU in all government hospitals. From six (6) child protection clinics in 2002, a total of 79 WCPUs are now established nationwide. This working together of different agencies made possible a system of services covering the whole spectrum of child protection.

According to Dr. Madrid, the unit receives an average of 1,400 new patients a year, and to date, the efforts of the PGH-CPU has helped 19,138 individual patients heal and recover from trauma. She added that the long-term effect of abuse is the top priority of child protection.

The UP Manila and PGH, with the Department of Pediatrics, oversee the daily operations

of the unit, while the Child Protection Network Foundation Inc., chaired by Bradley, provides funding and support.

This year, the PGH-CPU had its interiors renovated with the help of the Consuelo Foundation to give an even more cheerful and welcoming environment for child-patients while undergoing treatment. With help from Bambi Mañosa and other donors, the unit was refashioned to create a playful and soothing atmosphere that is also calming to traumatized children. From the furniture to the decorations, every detail was designed to maximize the children's comfort and feel a sense of refuge and security while in the process of healing.

Irish Cabrera, 26, is a court social worker at the PGH-CPU. She explained that the playroom is also a venue that builds a support system among child-patients where they meet others who are going through the same experience.

"Yung mga bata na nasa playroom, nakikita nila, especially 'yung mga teenagers, na hindi na lang



The PGH-CPU Multidisciplinary Team at the UP Manila Oblation; CPN Executive Director Dr. Bernadette Madrid with the child protection team

silá 'yung nakaranas ng ganó'n, na hindi nila dapat maisip na katapusan na para sa kanila (The kids in the playroom, especially the teenagers, realize that they are not the only ones struggling with the same problem, and that they should not think that it is the end of their lives)," Cabrera said.

Services

The PGH-CPU began its operations having only pediatricians, child psychiatrists, and social workers in the team. Eventually, the unit added a police and a lawyer to assist the child-patients going through the legal system.

A referral system among the CPU, government, and non-government groups enable reported cases to access resources of other agencies for additional support.

Just as Cabrera said, "*karamihan ng abused cases nire-report sa pulis. 'Pag dating sa police women's desk, wala naman silang doctor to check for medical exam kaya ang DSWD, LGUs, police station, partner institutions, at mga private doctors, nag-re-refer dito.* (Most cases of abuse are reported first in the police station. But since they do not have the means to perform a medical exam on the child, the DSWD, LGUs, PNP, partner institutions and private doctors forward those cases here.)"

Cabrera, a registered nurse, admitted that when she applied as a social worker at the PGH-CPU, she doubted if she can do the job.

"*After ng final interview, na-hire [ako]... Gusto ko magback-out, bawiin 'yung application ko kasi nagkaroon ako ng idea na [I'll be working with] sexually abused children, eh 'pag sinabing sexually abused cases, ang bigat niyan. Ang*

sinabi ko lang, kailangan ko i-enjoy 'yung work and until now, nag-e-enjoy naman ako. (I was hired after my final interview. At that time, I wanted to take back my application because I realized I'll be working with sexually abused children which I knew would not be easy. I just told myself that I will enjoy my job, and until now, I still am."

Irish has been doing child protection work since August 2015. She, along with other social workers and doctors at the PGH-CPU, offer the following services to its child-patients and their families, all free of charge:

Forensic Services

Forensic services have five components. The first is **medico-legal evaluation**, where the patients are jointly interviewed by the physician and social worker, followed by a comprehensive pediatric examination including genital and anal examination. The second is a **videotaped forensic interview**, where either a physician or a police officer performs the interview,



The PGH-CPU playroom

with the social worker or lawyer in the other room watching through a one way mirror and jotting down notes. In accordance with the legal guidelines for collecting evidence, the video forensic interview is conducted in a child-friendly manner to avoid causing secondary stress to the child. The video may also be presented in a court of law if necessary.

“What we want is a seamless and child-friendly system without traumatizing the children because the process itself can cause secondary traumatization. That’s why our services involve medical, psychological, social, [and] legal aspects because those are the needs of the children,” said Dr. Madrid.

The third is **forensic psychiatric evaluation**, where the forensic psychiatrist assesses the child for at least three sessions and afterwards gives a testimony in the court on the findings of the evaluation. The fourth is **forensic social work** where the social worker conducts a case study which may be used in the proceedings of the

family courts. The court may also ask the social worker to testify if the need arises. For criminal cases, the police officer conducts crime scene investigations and collateral interviews which is part of the fifth component, **crime investigation**.

Medical Services

The PGH-CPU also performs regular medical check-ups on the child-patients to monitor their physical well-being. Medical services include routine vaccination for children or adolescents and reproductive health counseling for sexually active adolescents. Patients are also screened for sexually transmitted infections (STIs). The unit provides diagnosis and treatment if the child is positive for a sexually transmitted disease (STD). Children with special needs undergo developmental evaluation by the Pediatric Child Developmental Specialist.

Mental Health Screening

As for mental health care services, the unit's child psychiatrists or child psychologists examine the patient for any mental or behavioral problems that may also be a consequence of the abuse.

The parent or guardian is evaluated for any mental problems that affect his or her parenting capability.

Social Services

The PGH-CPU social workers make an assessment of the safety of the child and the family and prepare an action plan to prevent the re-abuse. The plan may include placing a child in a shelter or under the protective care of a close relative while the case is under investigation.

The social workers conduct home visits for all Metro Manila patients to assess the risk for re-abuse, validate information and assess other needs that the family may have.

As part of case management, a systematic and structured helping process is conducted to help individuals improve self-esteem and become functional in society. Safety concerns on the child's placement, legal issues, and other issues are discussed as well in a case conference with partner agencies and non-government organizations.

The PGH-CPU conducts parenting sessions for the parents of child abuse survivors. In six sessions of basic parenting class, the parents are expected to



The PGH-CPU interview rooms

develop and practice 'age-appropriate positive discipline techniques,' promote positive interaction with their children, enhance their capability to prevent abuse, and foster the optimal development of their children and themselves. The PGH-CPU is also a venue for parents to share information on prevention of re-abuse. The goal of the parent support group is to provide encouragement and hope to the parents of child-patients, help them increase their coping skills, and decrease feelings of isolation.

According to the PGH-CPU 2013 Annual Report, social workers conduct home visits to assess risk in the home and monitor their situation to ensure that the child and her siblings remain safe.

"Ang invited dito ay 'yung mga parents ng mga bata, additional information para sa kanila... paano bibigyan ng discipline na hindi pamamalo ang gagawin, o pagsigaw, o pagmumura. Example, kapag nagkamali 'yung bata, sa loob ng bahay may isang place ka doon na sasabihin mo sa bata

'Okay, diyan ka muna for how many minutes dahil may na-violate ka na rules. Pagbabawalan siya, halimbawa, manood ng T.V. o gumamit ng gadgets," Cabrera said.

(We invite the parents of child-patients to attend our parenting classes. The classes provide additional information on how parents can discipline their child without hurting, or shouting, or cursing them. For example, the child may be asked to cool down in a certain area of the house, explaining that he/she would have to stay there for a specified time depending on the child's age because of violating an agreed-upon house rule. They may also prohibit the use of the television or gadgets as punishment).

Janet, 42, is a mother of a child-patient in CPU. She is on her fifth session of parenting classes and she revealed that attending the sessions taught her to control her self especially when it comes to reprimanding her kids.

"Batay doon sa pinag-aaralan, hindi nga sila makukuha sa pananakit o sa pagsisigaw. Nag me-mellow na ako ng kaunti hindi kagaya dati na masyadong hyper 'pag nagalit talaga," Janet explained. (Like what we're being taught here, hitting or yelling at your kids doesn't really help. Somehow, now, I became more patient to my children unlike before.)

Part of the unit's social programs is to provide educational assistance to child-patients who come from very poor families. Each grant covers enrolment, school uniforms, and transportation of the child to and from school.

Social workers coordinate with local government units to monitor the progress of recipients and the recipients' families.

Another is a livelihood assistance program that gives out interest-free loans to patients' families for income-generating projects. The CPU coordinates with the barangay which encourages the families to pay their monthly dues on time.

Legal Services

The unit coordinates with the PNP and the DSWD or LGU Social Welfare Office in cases when the child or family decides to take legal action. The unit supports the child and the family on legal matters by providing (1) legal counseling for individual children and their parents, (2) legal expertise at case conferences, (3) preparation of legal documents, and (4) assistance to parent victims of domestic violence, and providing advice and reviewing cases for filing with the police in charge of the case.

The CPU also conducts a 'Kid's Court' where once a month, the children are given an opportunity to learn their rights before going to court for them to know and understand what they need to do while on the witness stand and what happens after they give their testimony in court. The children visit the actual courtroom, meet court personnel, as well as the presiding judge of a family court. This is to prepare for their court testimony, assist the family members on



Women and Child Protection Desk (WCPD) police trainees conducting a crime scene investigation (CSI) on simulated cases of child abuse



Parenting classes conducted in PGH-CPU

their roles in supporting the child-witness, address court trial-related concerns, and empower children during the pre-court, actual and post-court experience.

"Ang kid's court ay orientation, preparation sa mga bata para 'pag sila na 'yung sasalang para mag-testify, hindi sila matatakot. May mga lectures puwedeng at hindi puwedeng gawin ng bata," said Cabrera.

The child may yet refuse to see the perpetrator in court, or even bring a comfort item of the child's choosing, such as a toy or doll, to help him or her calm while testifying.

"May option ang bata na pagharap niya sa korte ay sabihin na hindi pa handa makita 'yung umabuso sa kanya, so hindi sila pagtatagpuin. At kung halimbawa, may paboritong laruan 'yung bata, puwede niyang dalhin 'yun sa pag testify niya." Cabrera continued.

She mentioned that after the orientation in court procedures, the child is given a certificate of completion to recognize the child's bravery and boost his or her confidence when the day of trial comes.

"Pinapakita at pinapagawa

din sa kanila kung paano 'yung panunumpa, after n'on may binibigay kami na certificate para i-congratulate para sa pagiging matapang ng bata, para i-boost 'yung confidence ng bata."

Police Services

A PNP officer is stationed at the PGH-CPU to investigate child abuse cases from anywhere in the country. Aside from forensic services, the police officer functions in (1) on-site case filing, where the police officer conducts forensic interviews and submits the Sworn Statement to the prosecutor; (2) preliminary investigation hearings, which the police officer attends to and testifies in; (3) submission of police reports for board of claims, where report requirements are presented to the Department of Justice Board of Claims for victim assistance; and (4) training of other police officers who are part of multi-disciplinary teams.

Trainings

The PGH-CPU is also a training center for medical and paramedical personnel dealing with child abuse in the country. The unit gives training on understanding child development, appropriate and effective ways of interviewing children, and how to properly interpret the findings (please see separate article).

One look at the face of the child and one wonders why anyone would want to intentionally hurt them. And what like Dr. Madrid stated that 65% of children experience abuse; that is two out of three innocent, defenseless Filipino children who seek help.

As the Constitution mandates, the State shall defend the right of children to assistance,

including proper care and nutrition, and special protection from all forms of neglect, abuse, cruelty, exploitation and other conditions prejudicial to their development.

Multi-disciplinary clinics, such as the PGH-CPU, in cooperation with several agencies and organizations, play an important role in addressing the psychosocial needs of abused children. From primary prevention, intervention, to rehabilitation, the PGH-CPU, along with other WCPUS, shine a light on this cruel reality.

The PGH-CPU is located opposite the PGH Emergency Department and is available for consultation 8 a.m. to 5 p.m. daily. After office hours, CPU services can be availed of through the Pediatric Emergency Room.

Sources:
 • <https://sites.google.com/site/childprotectionfoundation/programs/cpu-pgh>
 • aboutphilippines.ph/files/Child-Protection-Unit.pdf
 • 2009, 2010, 2011, 2014 Child Protection Network Annual Reports
 • Photo credits: Joseph Bautista, Anna Teresa Clemente, Anne Marie Alto

At the core of the pillars or services provided by the PGH-CPU and other CPUs in the Philippines are two undertakings: capability building for all the service providers through training and gathering of baseline data and other evidence through research.

Treatment and care for abused children are no ordinary tasks. These patients require specialized care and supplementary management to properly meet their needs. Apart from the usual treatment of diseases and disorders, these children require a more complex approach to the management of the effect of abuse on them, such as

Dr. Madrid cited the reasons why other hospitals and doctors are reluctant to cater to this type of patients. These are the necessity to appear and testify in court, badgering lawyers, no additional or inadequate compensation, and the tedious workload required by the legal process. The hospitals would usually send away these patients to the Philippine National Police (PNP) or National Bureau of Investigation (NBI) for medico-legal services. To which Dr. Madrid pointed out, “the needs of an abused child is not just to gather evidence. These were the things that we had to change” as

increasing number of cases, PGH-CPU could no longer accommodate and efficiently provide services to all patients coming to the unit.

“This is why we needed the creation of other child protection units,” stressed Dr. Madrid.

At the core of the above pillars or services provided by the PGH-CPU and other CPUs in the Philippines are

Strengthening Child Protection Services Through Training and Research

Charmaine Lingdas

diagnosis and treatment of sexually transmitted diseases, mental health services, and developmental assessment alongside the requirement for forensic medical services, legal services, and social services that most of the time require long-term care and involvement.

“Other hospitals will not accept these patients,” admitted Child Protection Network Foundation (CPN) Executive Director and PGH Child Protection Unit (CPU) Director Dr. Bernadette Madrid.

she explained that the appropriate services and specific attention needed by the abused children are best provided by a hospital-based program that deals with this type of patients, specifically a Child Protection Unit.

This was the situation when the CPU was founded in 1997 at the Philippine General Hospital as the first in the country to provide free services in the treatment and management of abused children.

“As time went on, we realized that it’s not possible to have only one CPU in the Philippines,” recounted Dr. Madrid. She added that there is a high number of cases being referred to the PGH-CPU that patients have to go through long waiting time just to be given the specific service they need. With this

two undertakings: capability building for all the service providers through training and gathering of baseline data and other evidence through research.

Milestones of the PGH-CPU Training Programs

In the same year that the PGH-CPU was founded, the Department of Health (DOH) issued Administrative Order 1-B that mandates the establishment of a Women and Children Protection Unit (WCPUs) in all DOH hospitals.



The PGH-CPU Multidisciplinary Training Team (Photo courtesy of Child Protection Network Foundation)

In 1999, child abuse was integrated in the curriculum of all medical school members of the Association of Philippine Medical Colleges (APMC). In that same year, PGH-CPU started training WCPU teams in child protection.

In 2002, the Child Protection Network (CPN) was founded and began the task of establishing child protection network clinics in hospitals throughout the country in partnership with the DOH. The partnership between the CPN and PGH-CPU, and with several local government units, resulted in the establishment of more WCPUs in DOH-retained and local government unit (LGU)-supported hospitals.

Since then, the PGH-CPU has been a major partner of CPN in training physicians, mental health professionals, social workers, court-appointed guardians, police officers, prosecutors, judges, and municipal health officers in the field of child protection.

Its continuing medical education and training programs equipped the said providers with knowledge and skills on proper and sensitive management of child abuse cases.

In 2009, the PGH-CPU offered the training program internationally through Blended Distance Learning in Pakistan and helped establish CPUs in Lahore and Peshawar, Pakistan.

In 2011, the DOH recognized the PGH-CPU training program as a requirement for the establishment of WCPUs nationwide. Since then, PGH-CPU has been the frontrunner in ensuring the delivery of quality service of WCPUs by providing in-depth Specialty Training and Multi-disciplinary Training to the

different members of WCPU teams in the country.

In 2013, DOH issued Administrative Order No. 2013-0011 to institutionalize and standardize the quality of health service delivery in all women and child protection units and ensure the establishment of at least one WCPU in every province or chartered city in the country.

The CPU Training Program

"Currently, there are two kinds of training being offered by the PGH-CPU: the 'On-site' Certificate Course for Child Protection Specialty Training (CCPST) and the Multidisciplinary Training (MDT)," stated Dr. Melissa Joyce P. Ramboanga, pediatrician and child protection specialist and CCPS Training Director.

Dr. Ramboanga explained that the CCPST was designed to specifically address the need for a standardized curriculum for child protection specialists in the Philippines. The



Dr. Bernadette Madrid facilitating a recent training of the Women and Child Protection Program



Trainees from the Masbate Provincial Hospital, LGU-Eastern Samar, Luis Hora Memorial Hospital, La Union, and San Ricardo, Samar (Photo courtesy of the Child Protection)Network Foundation)

objective of the program is to equip physicians, social workers, and police officers with proper knowledge, competence, and attitude in handling neglected, maltreated or at-risk children utilizing an interdisciplinary approach.

The “On-site” CCPSTs are held at the PGH-CPU which consist of four weeks of training for doctors, social workers, and police officers, and an additional two weeks of practicum training for doctors. It includes orientations, lectures, conferences, and exposure to the patients. The PGH-CPU works closely with the UP-PGH Women’s Desk and PGH Crisis Center in this training program.

The Multi-disciplinary Training is a four-day, live-in, comprehensive, and interactive training program for multi-disciplinary teams, composed of municipal health officers, municipal social workers, and WCPD police

officers that will eventually become “CPU Satellites.” In the MDT, the local government units request the PGH-CPU to conduct the training in their respective provincial medical centers. MDTs are shortened versions of the “on-site” specialty training usually composed of lectures and workshops.

“The primary outcomes of the MDTs are for MHOs, police officers, and social workers to be able to recognize child abuse cases and serve as frontliners in the provision of services. In the “on-site” training, the goal is to have Child Protection Specialists working in the field or provinces, so that patients don’t have to go to the PGH-CPU in Manila for the services

they need,” explained Dr. Ramboanga.

Currently, there are four levels of WCPUs/CPU in the country that have undertaken the PGH CPU training program. These are the MDTs, Level 1, Level 2, and Level 3. The levels are categorized following the DOH AO 2013-0011. The levels differ from the trained personnel and services available as categorized in Table 1.

Dr. Madrid disclosed that the PGH-CPU could only accommodate a maximum of 12 teams of trainees a year. Since the beginning of the PGH-CPU training programs, about 79 Women and Child Protection Unit teams have already undergone the Specialty Training and 147 the Multidisciplinary Training in 42 provinces and eight cities in the country. Roughly 38 provinces have yet to undergo the Specialty Training program. The CPU director stated that since the



Dr. Melissa Joyce Ramboanga, Training Director of PGH-CPU training program for the Certificate in Child Protection Specialty (CCPS)

Table 1: (5 WCPUs are under evaluation)

Level	Minimum of Trained Personnel	Services	No. of Trainees
MDT	Municipal Health Officers, Social Workers, and Police Desk Officers	Basic care services; Refers patients to other WCPUs for complex cases	147
Level 1	Trained physician and social worker	Acute medical treatments, Medico-legal examinations, Safety and risk assessment, Peer-review, Documentation and record-keeping, and Expert testimony in court	22
Level 2	Level 1 Trained personnel, Police investigation Officer and/or Mental Health Professional	Level 1 medical services, social worker home visit investigation, mental health care, specialty consultation, and Child Protection Management Information System CPMIS.	51
Level 3	Level 2 Trained personnel, additional Trained physician, and social worker	Level 2 medical services, sub-specialty consultation and other services and offer training programs	1

PGH-CPU does not want to become the bottleneck of the DOH AO implementation, the current goal of the PGH-CPU training program is to create other training centers or Level 3 CPUs.”

Currently, the PGH-CPU is the only Level 3 CPU in the country. Dr. Ramboaga stressed that awareness and social commitment are integral aspects in the successful implementation of child protection programs in the country.

“Child protection is a field that involves everyone. Everyone can be a child protection specialist in his/her own right. You just need to have the initiative to put the rights of the child first and prioritize their best interests,” she said.

PGH-CPU Research Program

The PGH CPU has been conducting researches to strengthen its programs on child protection. Several of its researches, such as the legal outcomes of sexually abused children, detection and objective confirmation of child sexual abuse, visual arts and poetry as therapeutic interventions for abused adolescents, child maltreatment in the Philippines, and Adverse Childhood

Experiences (ACE) and health-risk behaviors among adults in a developing country setting, were published in national and international journals. A recent major research was the assessment of the implementation of all WCPUs in the country.

Evaluation of WCPUs in the Country

The said research, led by Dean Nemuel Fajutagana of the UP Manila National Teacher Training Center for the Health Professions, evaluated 51 WCPUs representing 69% of all WCPUs and covering almost all regions of the country. It aimed to determine the overall status of WCPU implementation as stipulated by the DOH Administrative Order No. 2013-0011 and make recommendations.

Several issues affecting WCPU program implementation were noted in the study. These



Multidisciplinary training in Baguio, Bukidnon participants (Photo courtesy of Child Protection Network Foundation).

were overburdened WCPU staff due to lack of personnel who are shared with other units of the hospital, absence of permanently designated physical base that can ensure the patient's confidentiality and safety, discrepancy between the ratio of the number of patients and available staff, shortage of mental health professionals, lack of financial support and difficulty in reimbursing expenses, distance or location of hearings that increases the risk to the staff members' safety, and pressure from stakeholders complicated by the absence of temporary shelters for victim survivors.

"In summary, the evaluation showed that while most of the WCPUs are facing major challenges, they remain active and visible in the provision of service to women and children victim survivors. The commitment of the WCPU

staff is a force that keeps a WCPU going. However, they need to be provided all the necessary support to make managing WCPU less of a burden," emphasized Dr. Fajutagana.

He added that there should be a balance between capacity and capability and quality of services and this could be achieved by capacitating smaller but more community-based health facilities like the rural health units and district and provincial hospitals. He also cited the need to link graduates of MDT (in areas where it is not yet being done) to WCPUs within their area of operation."

Child Protection Management Information System (CPMIS)

In 2000, the Child Protection Management Information System (CPMIS) Database was developed to facilitate case management at the PGH-CPU. The database aids in the generation of official reports, such as medico-legal certificates for police and courts and Suspected Child Abuse Report (SCAR) forms and process reports, such as list of patients for home visit, list of patients for case conference, and daily appointments. Through local area network (LAN) professionals

working in child protection services and research, such as pediatricians, psychiatrists and psychologists, social workers, lawyers, and police officers can access efficiently patient data. The CPMIS can also be used in identifying emerging issues and creating a national database for tracking common patients and perpetrators of child abuse.

The CPMIS database includes patient information, case profiles, forensic interviews, medical examination records, court testimonies, safety assessment, psychiatric care, case conference, case management, and reports. It is used by 40 child protection units across the country.

Future Steps

Dr. Madrid revealed that the current and future projects of



Multidisciplinary training in Baguio with PNP/NBI Manila participants (Photo courtesy of Child Protection Network Foundation)



Multidisciplinary training in Baguio (left photo), Cagayan De Oro participants (right photo), Bukidnon participants (Photo courtesy of Child Protection Network Foundation)

PGH CPU are focused on the prevention of child abuse.

"We are currently working with Grade 7 and Grade 8 pupils of two public high schools in Metro Manila." She emphasized that the "Safe Schools" research aims to decrease the number of high-risk individuals to become victims and offenders of sexual abuse. The project also aims to help the teachers and the school officials operationalize their School Child Protection Committee. A website for "Safe Schools" will also be set up along with this research. Dr. Madrid acknowledged the assistance of the Ateneo College of Psychology and UP College of Education as its partners in this project.

Another project being worked on is a parenting program in partnership with Oxford University, Cape Town University, and Philippine Ambulatory Pediatric Association. This project aims to educate parents and reduce the use of harsh punishment in young children.

Dr. Madrid also announced that the Child Abuse, Neglect, and Exploitation (CANE) Study

Group, a research collaboration with the Institute for Child Health and Human Development of the UP Manila National Institutes of Health and Child Protection Network Foundation, was approved in 2015. It will study the escalating problem of online child sexual abuse and will be part of the future projects of the PGH CPU. The overall goal is to decrease the prevalence of child abuse and neglect in the Philippines through research that results in evidence-based policies and programs. The primary objectives of this research are to build the evidence-base on what works in the primary prevention and intervention for child abuse and neglect in the Philippines and to provide policy makers and program implementers with the information they need to come up with effective policies and strategies that can be taken to scale nationally to decrease the prevalence of child abuse and neglect.

With several existing and future endeavors, the PGH-CPU will continue to spearhead child protection efforts in the country. This is beneficial because, as affirmed by Dr. Madrid, child protection is listed as one of the targets and priorities under the 2030 Agenda for Sustainable Development Goals.

She asserted that the PGH CPU aims to make "the Philippines an example to the rest of the world in the global coalition to end violence against women and children."

Child Protection Unit

Update Profile:

Last Name: [] First Name: [] Middle Name: [J.] Birthdate: 01/15/1994 13 years old Gender: ☒ Male ☐ Female

Consent Signed on: 05/24/2007 03:00pm Date Initiated: 05/24/2007

Guardian: Name: [] Relationship: Mother

Informant: Name: [] Relationship: Mother

Hospital No.: 3 Inpatient? ☐ Yes ☒ No Other Companion: []

Referral Source: Self Services Sought: Full Evaluation

Primary Diagnosis: Sexual Abuse ☐ Reabuse?

Others: []

Comorbid Abuse: ☐ Child Trafficking ☐ Emotional/ Psychological/ Verbal Abuse ☐ Neglect ☐ None ☐ Physical Abuse ☐ Physical and Sexual Abuse ☐ Sexual Abuse

Intake Social Worker: SAN BUENAVENTURA, FE

Assigned Social Worker: SAN BUENAVENTURA, FE

Assigned Physician: BALUYUT, IRENE D.

Trainee: [] Add Delete

Child Protection Management Information System (CPMIS) Database (Photo courtesy of Child Protection Network Foundation)

Like other sincere and loyal warriors, she has accumulated a lot of hurts and frustration. But they are part of the job, and she remembers her goals: Stop the abuse. Treat their physical and mental health wounds. Keep them safe. Help them remain in school.

The University of the Philippines-Philippine General Hospital (UP-PGH) **Child Protection Unit (CPU)** is crowded as usual. Parents and guardians are seated in the small waiting room, watching TV until their charges return from various sessions within the office.

developing to be the best of their potential within a nurturing family environment.” They are not the actual words of CPU’s mission-vision, but same in sentiment.

The administrator of this diminutive haven, **Dr. Bernadette J. Madrid**, has been head of the the UP-PGH CPU since 1997. She has also been the Executive Director of the Child Protection Network Foundation, Inc., an alliance of Philippine CPUs, since 2002. Like

become personally aware of the issue before he/she can awaken and rally others.

During her residency days, children with fractures, wounds or black and blue discolorations on the skin were not identified as anything else other than ordinary child patients who

Dr. Bernadette Madrid: Warrior for Children’s Welfare

Fedelynn “Chat” M. Jemena

The unit has changed its look. The whimsical murals of cavorting blue whales and other animals, a staple for several years, were replaced by a tropical summer haven of multi-colored kites, many giant sipa suspended from the ceiling like falling stars, colorful birds, cool greenery. Still inviting, playful, and safe, but more relaxing this time and somehow spacious.

On the stairs leading to the administrative office and training rooms, there is a framed poster which reads: “We shall serve every abused child with compassion and competence, ensuring that all abused children and children-at-risk are safe, healthy, and

her unit, Dr. Madrid had changed, too: from a pediatrician who looked like a happy, round-cheeked kindergarten teacher into one with the air of a warrior. Still pretty and still smiling and laughing easily.

In her capable hands, the CPU became an able partner of government agencies like the Departments of Social Welfare and Development, Health, Justice, and organizations, such as the United Nations International Children’s Educational Fund (UNICEF), Save the Children, United Nations Population Fund (UNFPA), Consuelo Foundation, Kindernothilfe, Plan International, etc. Together, they slowly convinced the nation to strengthen existing laws and create government services to shield children from abuse, trafficking, and discrimination as well as to care for the victims.

The journey had not been easy. To successfully fight child abuse and trafficking, one has to

had unfortunate accidents or lived unfortunate lives. Street children then were not viewed as neglected children. Although residents mingled with and treated “Children with Special Needs” (adopted kids, orphaned kids, prostituted kids) in their Community Medicine during their last year at the UP College of Medicine, no one ever imagined that a person would purposely abuse children, much less their own. No doctor thought that recognizing signs of abuse in kids is a regular part of a pediatrician’s work.

But things changed when she was sent by the College to the Montefiore Medical Center



(New York) for her Fellowship in Ambulatory Pediatrics. The Center had a Child Abuse Program and it opened her eyes. She realized that cases of child abuse did exist and that there were many of them; she and her fellow health professionals just did not ‘see’ them.

When she came back to the Philippines, she tried to replicate the Child Abuse Program in the PGH Outpatient Department, but found it difficult to do so as its existence had nothing to support it. Although Republic Act 7610 of 1992 or “The Anti-Child Abuse Law” was there which defined child abuse and stated what the response should be of government agencies like the DSWD and the PNP, there were no guidelines for a unit like the CPU or for comprehensive services to give an abused child and his/her family.

Fortunately, there were already a few people who wanted to change that. In 1996, then UP Manila Chancellor **Perla Santos Ocampo** and **Mr. David Bradley** of The Advisory Foundation asked Dr. Madrid to head an emergency unit for abused children. At that time, per research of the Foundation, as many as 20,000 children in Manila were repeatedly abused in the home. The unit would be based at the Philippine General Hospital and its operations in the early years would be funded by the Foundation. Dr. Madrid accepted and was sent to train at the Boston Children’s Hospital and San Diego Children’s Hospital.

When the CPU opened in 1997, it was swamped with kids sent over by the DSWD and the PNP as it was the only place in the country which offered both medical and psychosocial components. It became clear that more units had to be set up, but before that, personnel must be trained.

Dr. Madrid and her team began crafting a curriculum for training social workers and doctors and, later on, professionals in the legal fields. According to a CPU Network interview with Mr. Bradley, this curriculum became possible because of the official relationships Dr. Madrid established with UP Manila, DOH,

DOJ, PNP, and the Philippine Judicial Academy. They helped in shaping it.

“Bernie created a professional society of child-abuse specialists and they’re beginning to train other healthcare workers from other countries. It’s the best medical system for abused children in Southeast Asia,” Mr. Bradley proudly said. In 2011, the DOH recognized this Child Protection Specialist Training for Physicians and Social Workers as the required training of Women and Children Protection Unit physicians.

The next task for Dr. Madrid and her team was convincing large provincial hospitals to set up their own WCPUs. Only five were receptive: Vicente Sotto Memorial Medical Center, Southern Philippine Medical Center, Dr. Paulino J. Garcia Memorial and Medical



Children patients at the CPU playroom

Center, Baguio General Hospital and Medical Center, Philippine National Police Women and Child Protection Center. These hospitals already had people who work with cases about violence against women and child abuse. As for the rest of the DOH hospitals, they were not willing: doctors didn't want to be bothered appearing in court; not enough social workers, etc. But Dr. Madrid and her team got around it with persistence and cunning:

"We had to lobby with each LGU to let their provincial hospitals have WCPUs. Our Memoranda of Agreements with them stated where the funding will come for the unit's operations and the salaries of the personnel."

Now, there are 79 WCPUs scattered around the country, all based on the UP-PGH model. They treat a total average of 6,000-7,000 kids each year. Still, the UP-PGH CPU gets swamped as the government hospitals refuse to see abused kids.

There is a three-month long waiting list for the psychological/psychiatric therapy. The unit had to raise funds for the honoraria of extra psychiatrists/psychologists. One day, Dr. Madrid got a Contempt of Court charge from a judge because he/she thought that an abused child was not seen and assessed by a psychologist when in fact she was seen by a psychiatrist. She was incensed with the unfairness:

"Here you are trying to find free medical, psychosocial and legal services, including educational scholarships for patients and you get served with a contempt charge. Why not penalize the government hospitals which refuse to see the abused kids because they did not want to be bothered with going to court?"

One senses that she has accumulated a lot of hurts and frustration, like other sincere and loyal warriors. But they are part of the job, and she remembers her goals: Stop the abuse. Treat their physical and mental health wounds. Keep them safe. Help them remain in school.

The hurts pass on and she perks up at the projects that she, CPU and CPN, and partners have in store for the country. These are the establishment of more CPUs and training centers; CPU personnel become a full-time part of an institution's plantilla; development of an evidence-based mental health therapy which can be given by non-psychiatrists or non-psychologists to victims and their families.

This is being developed by **Dr. Stella Manalo** and **Dr. Norie Balderrama**; development of a Positive Parenting Program that aims to teach parents skills in disciplining children without resorting to harsh punishments. CPU partners here are Oxford University, Cape Town University, and the Philippine Ambulatory Pediatric Association; and helping cement the Pathfinder status of the country. Pathfinder countries are those which want to be part of the Global Coalition To End Violence Against Children. The examples being cited here are the WCPUs and their child abuse prevention practices.

Dr. Madrid is particularly excited about three things: the creation last year of the **Child Abuse, Neglect, and Exploitation (CANE) Study Group** under the National Institutes of Health (NIH) of UP Manila; **Adverse Childhood Experiences Study**: a study on how trauma impact the lives of victims years later and how they can be treated; and

Safe Schools Project whose goal is primary prevention of high-risk behaviors (to become either victims or offenders) among school children with ages 13-15.

The project is in partnership with the Department of Education, Ateneo's Department of Psychology, UP College of Education, and University of Edinburgh. It is being piloted in two public high schools in Metro Manila. Its objectives are : (a) to see whether the modules developed on health and values will lower high-risk behaviors; (b) if effective, to plan program on how to include all schools in the Philippines; (c) to help teachers recognize abused children and report it; (d) to help schools operationalize their School Child Protection Committee; and, (e) to create a Safe Schools website to be funded by UNICEF, a web

to be hosted by UP, and constructed by the UPM's Medical Informatics units.

For Dr. Madrid, seeing children grow up safe and/or become healed from abuse, neglect, and exploitation are rewards enough, although it is very nice to record the accolades received by UP-PGH CPU. She is proud of her people and her allies. They are proud of her. They know there is still much work to be done.

Dr. Madrid, aside from heading both the UP-PGH CPU and the CPN, is also a Professorial Lecturer II of the Philippine Judicial Academy of the Supreme Court. She is a member of several government committees on health, social welfare, law enforcement, and the judiciary as well as of several international steering committees (Global Social Service Workforce Alliance; Learning in East Asia and the Pacific, a regional network of Know Violence in Childhood). She is a reviewer for Child Abuse & Neglect: The International Journal and the Journal of Interpersonal Violence. She is the convenor of the CANE Study Group of the UPM-NIH. Yes, these are all part of her "much work to be done" and, yes, she is enjoying all.

In the past, Dr. Madrid published several papers on child protection which led to changes in

policy and practice in the country. She worked as a consultant and trainer for international agencies like UNICEF, WHO, UNESCAP, and UNFPA. She did training activities on how to respond to child maltreatment and sexual violence in countries like Pakistan, India, Laos, Thailand, Indonesia, and China.

For her work, Dr. Madrid has received several honors: The Outstanding Women in the Nation's Service (2001); Five Most Outstanding Philippine Doctors (2004); Outstanding Woman Leaders of the City of Manila (2009); Outstanding Service Award for Child Protective Services by the National Children's Advocacy Center, Alabama, USA (2012); and, being elected to the Executive Council of the International Society for the Prevention of Child Abuse and Neglect (2004-2010).



Dr. Madrid speaks before participants of a training program on women and child protection.

"The problems of deafness are deeper and more complex, if not more important, than those of blindness. Deafness is a much worse misfortune. For it means the loss of the most vital stimulus – the sound of the voice that brings language, sets thoughts astir and keeps us in the intellectual company of man."

-- Famous author Helen Keller who was both deaf and blind

Whether hearing is the most important of all the senses or not, losing it means slipping away from this world's symphony of sounds and melodies that add color to life. Being deprived of it is being disengaged from everyone else.

According to the World Health Organization (WHO, 2016), "it is hearing which fundamentally facilitates

oxygen at the time of birth, among others. In a WHO study (2000), it was presented that most congenital hearing loss are included as sequelae to different disease and injury causes already included in the Global Burden of Disease Study, such as otitis media, meningitis, rubella, congenital anomalies, and non-syndromal inherited hearing loss.

In the Philippines, 1.4 per 1000 live births have congenital, bilateral severe to profound sensory neural hearing loss. A study done in 2013 by Dr. Charlotte Chiong and Dr.

Second, language deficiency leads to difficulties in learning, which may result in poor academic performance. Third, communication problems often lead to social isolation and poor self-concept. Lastly, hearing loss may have an impact on vocational choices.

Upholding Children's Right to Healthy Development Through Newborn Hearing Screening

Anne Loren Claire A. Santos

communication and fosters social interaction, allowing people to forge relationships, participate in daily activities, be alerted to danger, and experience life events."

Congenital hearing loss and child development

There are two categories of hearing loss – congenital and acquired. Congenital or hearing loss at birth may be caused by genetic or nongenetic factors, such as certain complications like infection during pregnancy, birth injuries, deficient

Regie Lyn Santos-Cortez of the Philippine National Ear Institute (PNEI), University of the Philippines Manila – National Institutes of Health (UPM-NIH), stated that this rate was at par with the rates of congenital hearing loss worldwide.

For Dr. Chiong, director of PNEI and the Newborn Hearing Screening Reference Center (NHSRC) based at the UPM-NIH, psychosocial, educational, and economic disadvantages for a child with significant hearing impairment have already been proved.

According to the American Speech-Language-Hearing Association (ASHA), there are four major ways in which hearing loss can affect the children's development. First, it causes delay in the receptive and expressive communication skills development of a child.

Prevention and the 1-3-6 algorithm

Far more than intervention, prevention is important. For Dr. Chiong, prevention of hearing loss still hinges on a very good primary ear care program. She noted that up to 50% of the causes of congenital deafness could be prevented. "Almost 38% of our patients with congenital deafness have congenital rubella, which is preventable by immunization of girls of reproductive age. That is one area where we can actually prevent congenital deafness," the PNEI Director emphasized.



A newborn undergoing hearing screening

If prevention opportunities were overlooked, many studies have shown that early detection and appropriate intervention can ameliorate the ill-effects of hearing impairment on child development. Hence, the 1-3-6 algorithm turned up. "It is the detection of hearing loss by one month, diagnostic confirmation by three months, and intervention by six months of age," Dr. Chiong explained.

If an infant is diagnosed with hearing impairment, an appropriate hearing aid can be fitted as early as two to three months of age. "After three to six months of hearing aid trial and no significant benefit is demonstrated in terms of amelioration of hearing loss, then a child might be considered for possible cochlear implantation," Dr. Chiong said.

While they were able to provide evidence that the implantation can reverse hearing loss and restore hearing among children

with congenital deafness, they realized how exorbitant the procedure can be for some families. However, their experience revealed that some of the kids who were given hearing aids at an early age were able to develop some form of speech.

"So, it is possible to actually decrease the number of cochlear implantations if you are able to intervene earlier appropriately with hearing aids. But of course, there would still be a subset of patients, who, despite early intervention, will not benefit," Dr. Chiong pointed out. Yet, she also underscored evidences of earlier cochlear implantation having better outcomes in terms of speech production for patients who were given hearing aids at an earlier age, but who demonstrated to not have benefitted from it. "Looking at developmental milestones in terms of speech, you really [are] able to show significant benefits with cochlear implantation," she added.

The NHSRC started its cochlear implantation program as early as 1998. According to Dr. Chiong, the Center has done more than 300 cochlear implantations already, the largest in the country.

With the move towards bilateral cochlear implantation in developed countries, the Philippines did not want to lag behind. "We started our bilateral cochlear implantation program way back in 2003. In fact, I think, we were the first in South East Asia to do so.

The added advantage of bilateral cochlear implantation is that it allows one to hear even in noisy background. The localization of sound is another benefit," Dr. Chiong explained.

The emergence of RA 9709

In 1997, a group asked Dr. Chiong and her colleagues to support the bill on Newborn Hearing Screening (NHS). However, Dr. Chiong's team was half-hearted because there were no existing data at that time to support their presentation for action at the Congress. "We said we have to come up first with the researches before we can support this, because we cannot just follow hook, line, and sinker whatever the laws are in other countries."

In 2002, their first paper came out where they looked at the sickest babies at the Philippine General Hospital (PGH) and found that about 29% of the babies in the neonatal intensive care



Breiden Zayle Dancel, 4 months old, being screened for hearing loss at the PGH-Ear Unit

unit (NICU) were at risk for significant hearing loss.

The next study looked at the average age by which these young children suspected of hearing loss were being referred to the PGH-Ear Unit. Dr. Chiong's group noted that majority of the children were above the age of two to three years, which is already late, because the critical age is six months.

Based on the two studies, Dr. Chiong felt the need to do something. "As an offshoot of the study that looked at the prevalence of congenital hearing loss among Filipinos, we were fortunate to piggyback on one other study, which looked at fetal outcomes after maternal exposure to environmental toxins. This was a US-NIH funded study led by Dr. Enrique Ostrea, along with Dr. Esterlita Uy and Dr. Alexis Reyes," she explained. The population-based study on NHS was done in Bulacan, Dr. Chiong's home province.

Once they had all the data, the creation of a task force on

NHS was initiated by the Philippine Society of Otolaryngology-Head and Neck Surgery, which is currently led by Dr. Chiong as president. She headed the task force and it was coordinated by the NIH Deputy Executive Director, **Dr. Rina Reyes**.

In 2006, the task force came up with a position paper that proposed the Universal Newborn Hearing Screening (UNHS) in the country.

A year after, **Senator Loren Legarda** was informed of the results of the study and the contents of the position paper. The position statement presented to her was the one that was ratified during the meeting, which they call CONHSA (Collaboration on Newborn Hearing Screening Advocacy), organized by the Philippine Academy of Neurotology, Otology and Related Sciences (PANORS), of which Dr.

Chiong was also the president at that time. Senator Legarda then sponsored the bill.

By the early part of the second quarter of 2008, a technical working group was called by the Senate and all the stakeholders were invited. Then, on 10 June of the same year, Senator Legarda spoke about it in the plenary.

A year later, in August 2009, President Gloria Macapagal-Arroyo signed it into law. Probably, one of the fastest health bills ever passed. "After the bill was passed, it had to take another year before



The first Collaboration on Newborn Hearing Screening Advocacy meeting that ratified the Universal Newborn Hearing Screening position statement presented to Senator Loren Legarda was held in 2007.



Dr. Charlotte Chiong speaking during the drafting of the Manual of Operations



the implementing rules and regulations (IRRs) could be finalized. It was under the leadership of Department of Health (DOH) Secretary Esperanza Cabral that the IRR was approved,” Dr. Chiong stated.

The first version of the **Manual of Operations (MOP)** of **RA 9709** came out under the leadership of Secretary Enrique Ona. The second version has already been completed under the term of Secretary Janette Garin.

Universal vs. targeted NHS

Otherwise known as the Universal Newborn Hearing Screening and Intervention Act of 2009, RA 9709 is “an act establishing a Universal Newborn Hearing Screening Program for the prevention, early diagnosis and intervention of hearing loss.”

“RA 9709, at the very outset, pushed for Universal Newborn Hearing Screening because studies have shown that it is more cost-beneficial or more cost-effective to have a Universal Newborn Hearing Screening Program rather

than a Targeted Newborn Hearing Screening Program. We have a study published in *Acta [Medica Philippina]* that showed that we have savings of almost P1.4 million per child with appropriate intervention,” Dr. Chiong highlighted. A follow up study, which is still unpublished, together with Dr. Hilton Lam and Dr. Ado Rivera of the NIH-Institute of Health Policy, showed that, indeed, universal is better than targeted hearing screening.

Unlike the Universal Newborn Hearing Screening Program (UNHSP), which aims to ensure that all newborns have access to hearing loss screening, targeted newborn hearing screening is confined only to those with risk factors. “However, there have been studies that showed that if you rely only on risk factors, you are likely to miss out on 50% of children with significant hearing impairment, because almost half of them will probably not present with risk factors,” Dr. Chiong expounded.

Ensuring access to NHS

To provide all newborn Filipinos complete access to the NHS, especially the impoverished, the Philippine Health Insurance Corporation (PHIC) or PhilHealth was ordered under Section 14 of RA 9709 to include the cost of hearing loss screening in its benefit package, such as testing costs, registry, follow up, reasonable overhead expenses, among others.

Moreover, with its mandate to develop a program for the gradual coverage of hearing

loss screening, audiologic diagnostic evaluation, and intervention services, the PhilHealth Board has approved the benefits for children with hearing loss on 16 June 2016, which is part of the Z Benefits for Children with Disabilities.

According to **Dr. Mel Santillan**, team leader of PhilHealth's Special Benefits Team, the specific details of the package, such as the operationalization, provider payment, contracting mechanisms, and monitoring, are still being finalized. “The general policy on these benefit packages shall be published within the year and the specific rates circular for the benefit packages on hearing shall be published in a separate issuance,” she added.

The role of the NHSRC

The creation of the **Newborn Hearing Screening Reference Center (NHSRC)** was provided for under the law. As defined under Section 4 of RA 9709, the NHSRC “shall refer to the central facility at the National Institutes of Health that

defines testing and follow-up protocols, maintains an external laboratory proficiency testing program, oversees the national testing database and case registries, assists in training activities in all aspects of the program, and oversees content of educational materials."

It was instituted in 2012 with Dr. Chiong as the founding director. In 2013 to 2014, they had a pilot project that looked at different modes of reporting to the registry. The results of the study, although still unpublished, but had already been presented during the NIH anniversary in 2015, showed that the preferred mode of reporting was web-based, followed closely by Excel file, and lastly, through tablet application.

The NHSRC has already certified more than 284 newborn hearing screening centers all over the country, and is currently in the process of certifying more. These centers, as provided under Section 11 of RA 9709, shall "undertake newborn hearing loss screening, audiologic diagnostic evaluation and



Mommy, did baby hear you say "I LOVE YOU"?



(Source: <http://newbornhearingsscreening.ph/overview/>)

recall, follow-up and referral programs to infants with hearing loss."

Moreover, it has trained more than 500 certified personnel to run these centers. "We have gone all around the country training people to make sure that the processes are standardized with respect to newborn hearing screening," the NHSRC Director said.

A story to empower

From an ear study group by virtue of its research outputs, which was formed within UP Manila's Department of Otolaryngology in 1987, to being society's prime mover, the NHS journey has proven inspiring.

Prior to PNEI's creation in 2004, Dr. Chiong's study group, which won as Most Outstanding Study Group of UP Manila in 1999, had already done studies that included efforts on hearing loss. With the initial success of the NHS and the process of fully implementing RA 9709 being underway, Dr. Chiong is hopeful that the NHS story encourages other study groups to make a positive impact in the lives of Filipinos, especially among the disadvantaged.

"You also want to empower other study groups that you can actually come up with studies, and then you come up with a position paper that can lead to policy changes, and can become a law," she concluded.

Dr. Jose Rizal's words resound in the pages of history that the youth is the hope of this nation; hence, the Filipino children's right to healthy development must always be championed.



A group of Newborn Hearing Screening personnel attending the certifying course.

A Story of Awakening and Hope

Marion Dancel, mother of Bryce Zackery and Breiden Zayle, could not help but feel delight mingled with pain when she learned that her eldest son is a potential candidate for cochlear implantation, while her second son passed the hearing screening on 27 June 2016.

Bryce, 3 years old, was detected with a hearing problem by age 1 year and 2 months. The boy did not undergo newborn hearing screening because, according to the mother, she was clueless about the test and got no advice from the hospital where she gave birth.

Marion suspected her firstborn to have hearing impairment when Bryce would not react to his name or respond to sharp handclaps from behind him. Hinting from the manifestations, Marion brought her child for auditory brainstem response (ABR) and auditory steady-state response (ASSR) tests in one hospital. The results found that the child has severe-to-profound hearing loss. It was then recommended that Bryce wear hearing aids and go through speech therapy.

With hearing aids on, Bryce was brought to the Philippine General Hospital-Ear Unit (PGH-Ear Unit) for the three-part aided threshold test to validate if



Bryce Zackery Dancel, 3 years old, is a potential candidate for cochlear implantation after undergoing the aided threshold test at the Philippine General Hospital-Ear Unit.

he was indeed benefiting from hearing aids. The first of the three aided threshold tests showed that Bryce is a potential candidate for cochlear implantation. However, this is yet to be confirmed through two more aided threshold tests, which Bryce will have to undergo in the coming months. Although perturbed about how to raise funds for the implantation once the tests validate the need for it, Marion feels heartened knowing her son will not be deprived of his sense of hearing anymore.

Discovering her son's condition for the first time caused a chain reaction of shock, guilt, and helplessness on Marion. She related how painful it was for her to see Bryce crying in frustration in his attempt to understand and be understood. While unsure of the specific cause of her son's hearing loss, whether congenital or due to antibiotics, Marion still regrets not having her first child screened.

With anguish in her voice, she said "siguro na-detect nang maaga if nagpa-newborn hearing screening kami (it might have been

detected earlier if we had him go through newborn hearing screening). At tsaka may baby ako ngayon, hindi pa [napa-newborn] kasi wala pang newborn hearing screening doon sa ospital na pinanganakan ko (Also, I have a baby now who has not been screened yet since newborn hearing screening is still not available in the hospital where I gave birth)."

Fearing that Breiden, 4 months old, will suffer the same fate as his brother, Marion brought her second son to the PGH-Ear Unit to be screened. Although the baby was not showing symptoms of hearing loss, she wanted to be certain about it. Upon entering the testing room, the anxiety was evident in the face of Marion. When the otoacoustic emission (OAE) and ABR handheld screening equipment revealed a passing remark, the mother showed a smile of relief.



The otoacoustic emission and auditory brainstem response handheld screening equipment displays "PASS," confirming that Breiden Zayle is not suffering from hearing loss.

Vision screening is an efficient and cost-effective method to identify and treat visually-impaired children. The Philippine Eye Research Institute is currently working on two projects aimed at improving the vision of Filipino children - National Vision Screening Program and Retinopathy of Prematurity.

Losing one's sight is frightening. But growing up with an impaired vision that can easily be detected and managed by timely and proper screening is more distressing. Filipinos tend to neglect eye disorders until such time that they have become worse and complications have set in. Consequently, treatment becomes difficult and costly, and at times, impossible.

Since newborns and young children are the ones who

often ignored and corrected only during the adolescent or adult stage.

According to the **Philippine Eye Research Institute (PERI)**, one in 20 preschoolers and one in 40 school-aged children has amblyopia. In addition, more than 10% of young children, have visual acuity problems, including errors of refraction and amblyopia or lazy eye.

PERI, under the UP Manila National Institutes of Health, is currently working on two projects aimed at improving the vision of Filipino children. One is the **National Vision Screening Program (NVSP)** and the other is **Retinopathy of Prematurity** or ROP.

At birth, a person is not born with a 20/20

number are preventable and treatable. They can affect productivity, education, employment opportunities, thus, their quality of life and general well-being.

Vision Screening for Preschool Children

The NVSP aims to screen all kindergarten pupils entering the Filipino school system at age 5 or 6 to detect errors of refraction and amblyopia.

A Clearer Vision for Filipino Children Through Early Screening and Intervention

Cynthia M. Villamor

are predisposed to and suffer the most from such illnesses, there must be early and integrated efforts to save their eyesight from possible avoidable blindness and other low vision outcomes.

Of the Philippines' 102 million population, 35% are children aged 15 years and below with a big percentage of this figure classified as preschool and school children, based on the 2015 report of the National Statistics Office. This is the age group most vulnerable to visual impairments that are

vision; sight is developed as the child grows. During the development stage, a child may have one of the eyes develop a different area of refraction. One eye will have a higher refraction than the other, thus, one eye will be clearer than the other.

"With timely screening and appropriate intervention, we can save more children from permanent blindness caused by ROP and amblyopia or lazy eye," PERI Director and NVSP Project Leader **Dr. Leo Cubillan** stated in a previous interview. He noticed in his ophthalmology practice the high prevalence of amblyopia among children.

Blindness from ROP and amblyopia are part of the causes of blindness of an estimated 480,000 Filipinos of which a significant

"For pre-schoolers, an eye problem often goes unnoticed since one eye is absolutely normal for a child with amblyopia. Without intervention, children in the early ages would suffer from visual impairment that will affect the quality of their learning and productivity," Dr. Leo Cubillan explained.

For proper screening, the use of appropriate materials is essential. After three years of extensive research, PERI has developed a vision screening kit for Filipino pupils. The kit includes the LEA symbol and



PERI Director Dr. Leo Cubillan with a child patient.

number chart, right occluder glasses, left occluder glasses, a transparent response key, a 10-foot string to measure distance consistently, and a training manual, among others. The Institute has pilot tested the kit in several public schools and it was rated favorably for ease of use, reliability, and reproducibility.

In a paper published by the Philippine Academy of Ophthalmology (PAO) Journal in 2015, Dr. Cubillan affirmed that the preference for the LEA Symbols was based on an excellent design that took into account equal blurring capabilities of the different symbols. This means that children who do not see well will find it hard to guess the correct figures as the images will look similar. The LEA Symbols were also described as more culturally neutral and could be recognized across different cultures or socio-economic status.

The development of an age-appropriate screening kit was part of the recommendations formulated by local pediatric

ophthalmology experts in view of the revised guidelines developed in 2014. The updated recommendations for 2014 are as follows: vision screening for amblyopia and strabismus for all children at least once using an age-appropriate chart (Level 2); and screening infants at six months of age for ocular problems, and age 2 to 3 years, at 5 years, and every 1 to 2 years thereafter for visual acuity and ocular alignment may be done (Level 4). The levels refer to the number of screening criteria that must be satisfied.

Dr. Cubillan stated in the said PAO journal article that the younger age of Filipino children, pegged at 5 years old or more meant that the initial recommendations for students aged 7 years published in the Philippine Guidelines on

Periodic Health Examination in 2004 were no longer enforceable. The experts agreed that the previously used Snellen acuity and Titmus fly stereo acuity tests were too difficult for the former age group, thus, the recommendation for the Lea Symbols and charts that are now endorsed internationally and available locally through PERI.

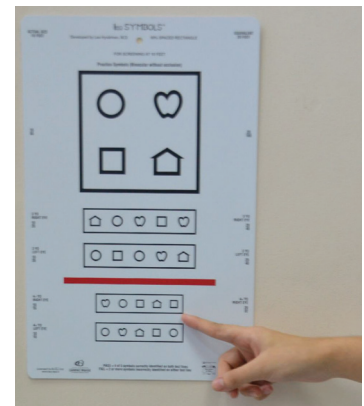
Pilot Study Results

The program covers all kindergarten pupils in the Philippines. During the past three years, PERI has been conducting pilot studies and trainings across the country, from the Ilocos Region, Nueva Ecija, Iloilo, and Bacolod, and Metro Manila.

Out of 863 pupils screened from 19 pilot schools, 713 (83%) passed the screening while 150 (17%) failed. From those who failed, 75% were diagnosed with errors of refraction while 25% were found to have amblyopia. As an immediate intervention, students who failed in the test will be asked to sit in the front



Teachers at the Cecilio Apostol Elementary School screens kindergarten pupils for possible amblyopia and refraction errors.



The screening kit developed for the vision screening program includes the LEA symbol and number chart, right and left ocular glasses, response key, and training manual.

row of the class and will be referred to eye practitioners for comprehensive examination and further management.

As with all screening projects, the detection of the pass and failure rate among the pupils hinges greatly on the ability of the screeners. Dr. Cubillan is optimistic that the introduction of the K to 12 program and the adjustment of the school age entry to five years old would enable the researchers to use this window period as a catchment for children with amblyopia.

Treatment of this visual disorder usually is very simple. It involves patching the stronger eye for a few hours each day to force the child to use the weaker eye. Patching works well if started early enough and provided instructions are carefully followed. The results of treatment are very good if treated at this age.

Retinopathy of Prematurity

ROP is a condition that affects the retinal blood vessels in premature babies which, if left untreated, can lead to permanent blindness. It is an emerging cause of avoidable blindness in children worldwide. It can lead to complications, such as refractive errors, amblyopia, strabismus, glaucoma, and blindness.

The Philippines has the highest incidence of low birth weight babies in Asia. Figures from a study conducted by PERI and the World Health Organization show that of the 237,070 annual premature births in the Philippines, 34,500 or roughly 15% are at high risk for developing ROP. Of this number, only 9% are screened for ROP, leaving around 22,000 newborns unscreened and with the potential to develop eye problems that will affect their quality of life. In his article titled "Childhood Blindness in the Context of VISION 2020 – The Right to Sight" published in the Bull WHO 2001, Gilbert Foster cited some of the risk factors for ROP, such as degree of prematurity, low birth weight, poor weight gain, sepsis, and exposure to fluctuating supplemental oxygen.

At the Philippine General Hospital alone, 15% of deliveries or around 1,000 babies are born premature each year. One fourth of those screened would have ROP of which 90% are mild cases. If



Dr. Leo Cubillan and PERI researchers with the teachers, staff and students of Gapan Central School in Nueva Ecija.

we include those from other hospitals, the number of ROP patients will definitely be more.

Two recent studies were led by PERI on the retinopathy of prematurity. One is a situational analysis that aimed to provide an overview of the screening and treatment practices for ROP in selected places in the Philippines. It was a survey among pediatric ophthalmologists and vitreo-retina specialists which showed that the majority screened premature infants less than 32 weeks or those below 1,500 grams in birth weight. Other criteria used were older babies or larger babies with prolonged oxygen therapy and those with stormy and unstable course in the Intensive Care Unit.

The ROP situational analysis enabled Filipino ophthalmologists to develop appropriate guidelines for the Philippines based on recent reports showing that older and bigger babies sometimes acquire ROP, especially in developing countries.

The study used a protocol



A newborn with Retinopathy of Prematurity

that aimed to provide an overview of current screening and treatment practices on ROP, estimate the proportion of childhood blindness due to ROP, and assess the number of premature babies at risk for ROP. These are the data mentioned above. As published in a 2013 issue of the PAO Journal, the study protocol was a descriptive, cross-sectional study design using survey questionnaire sent out to pediatric ophthalmologists, vitreo retina specialists, and division heads of the neonatal intensive care units of different hospitals in a selected area. Data from the survey were augmented by student records and medical abstracts from local schools for the blind.

The second is a **Prospective ROP Screening Study** (PROPS) which is a multi-center trial screening of larger and bigger babies born

prematurely that is ongoing. Results from the PROPS will serve as basis for changing the current accepted criteria on ROP screening by the Philippine Pediatric Society.

Both studies have a common goal: that no baby or child should become blind or have low vision due to ROP and other eye diseases.

Active partnerships

Both programs are being undertaken jointly with other organizations. The NSVP thrives because of PERI'S active partnership with the Department of Health (DOH) and Department of Education (DepEd) while the ROP's implementation is sustained and nurtured by the efforts of the PAO in terms of preferred practice patterns and clinical guidelines and provision of standards of care and treatment for ROP.

PERI researchers and doctors conducted the survey and wrote the paper on the ROP situational analysis. The Institute continues to



Dr. Leo Cubillan with the students of Aurora Quezon Elementary School vision screening pilot testing in November 2013.

conducts researches to provide evidence-based recommendations to the DepEd and DOH on NSVP matters. It is responsible for the training of vision screening trainers and the recommendation of the appropriate vision screening kit for quality assurance.

DOH is tasked with developing a referral system and corrective measures for pupils suspected or diagnosed with eye ailments. Meanwhile, PhilHealth shall develop a benefit package for the consultation and treatment of eye diseases for children. For ROP, it can adopt a policy on screening, either the current practice of 32 weeks and less than 1.5 kilos or those with an unstable course, or the newer recommendations of 35 weeks and/or less than 2 kilos as basis for screening.

Policy legislation

Dr. Cubillan cited the pending bills on vision screening in both the Congress and Senate. At the House of Representatives, **House Bill 6441** authored by **Rep. Kimi Cojuangco** (5th District, Pangasinan) and establishing the National Vision Screening Program for Kindergarten Pupils has been endorsed

for plenary approval by three committees (Committees on Basic Education and Culture, Appropriations, and Ways and Means).

In the upper house, **Senate Bill 2948**, the **National Vision Screening Act** authored by Senator Pia Cayetano, has been approved on second reading with amendments.

Both bills stipulate the mandatory vision screening of kindergarten pupils nationwide as an efficient and cost-effective method to identify and treat visually-impaired children. Other intended outputs of the bill are a database that will show the vision screening results of each child and a system of referral and corrective measures diagnosed with eye ailments.

As stated in the proposed bills, PhilHealth will create a benefit package for the consultation and treatment of eye diseases affecting children.

Future plans

Through the above programs and other researches being conducted and with the

looming legislation of a bill on mandatory screening, PERI continues to generate accurate and updated information and collaborate with national agencies and other relevant institutions.

In the future, PERI plans to launch a web portal that will be used to collect data from the entire population. This would help streamline the program and make recommendations to further improve the conduct of vision screening.

"Our active partnership with DOH, DepEd, PAO, and other stakeholders will hopefully step up efforts to provide a clearer vision for the country's young generation and contribute to a healthier and more productive citizenry," Dr. Cubillan stated.



Pilot testing at Justo Lukban Elementary School, in November 2013

WHO defines birth defects as congenital malformations, deformations and chromosomal abnormalities. They can be structural or functional abnormalities, including metabolic disorders, which are present from birth. Birth defects can be life-threatening conditions that most often result to long-term disability.

Yearly, 7.9 million children are born with serious birth defects which translate to 6% of total births worldwide. In a 2000-2013 World Health Organization (WHO) report, out of 2.761 M deaths in children, 9.9% or roughly 276,000 were caused by congenital anomalies. It is a global problem but the severity of its impact is felt more in low and middle class countries like the Philippines where congenital anomalies have remained in the top 10 causes of deaths in a lifespan of over the last 50 years.

Birth defects

WHO defines birth defects as congenital malformations, deformations and chromosomal abnormalities. They can be structural or functional abnormalities, including metabolic disorders, which are present from birth.

Birth defects can be life-threatening conditions that most often result in long-term disability. This becomes a burden to individuals affected and their families as well as they cause a negative impact on health-care systems and societies. Currently, more than 7,000 different birth defects have been identified that are genetic or partially genetic in origin mostly occurring before conception (preconception),

chemicals, and high doses of radiation.

Prevention

With so much factors to consider in the causes of birth defects, a plethora of preventive programs must also be in place. In the 63rd World Health Assembly of WHO in 2010, a series of multi-platform approaches were to be considered. Birth defects that are environmental in origin may be prevented through public health

Birth Defects Surveillance: From Prevention to Policy Intervention

January Kanindot

To address this problem, the need to establish a systematic and accurate surveillance is crucial. A comprehensive study of the causes of birth defects can pave the way to recommendations, policies and programs that will help prevent, manage, and improve the lives of children living with these congenital conditions.

or after conception but before birth (post-conception).

While more than half of these defects have no established causes, some may be linked to gene defects, chromosomal disorders, multi-factorial inheritance, environmental teratogens and micronutrient deficiencies. Maternal health is also among the crucial factors. Exposure to infectious diseases, such as syphilis and rubella, can cause significant birth defects in low- and middle-income countries. Other factors that may cause birth defects are maternal illness, such as diabetes mellitus, deficiency in iodine and folic acid, exposure to medicines and recreational drugs, such as alcohol and tobacco, select environmental

programs, such as prevention of sexually transmitted disease infections, policies in control and management of chemicals, vaccinations, and fortification of food with micronutrients. Preconception health of women in their reproductive age must also be considered to ensure optimal physical and mental well-being at the onset and during early pregnancy to increase the likelihood of a normal and healthy baby. Furthermore, screening of newborn infants



An infant confined in PGH with Hydrocephaly

for congenital disorders expedites early detection. This ensures that infants will be given the proper treatment and care, making some of the birth defects manageable and preventing them from becoming life threatening.

Birth Defects in the Philippines

Despite the enormity of the birth defects problem, there is no centralized birth registry in the Philippines. The UP Manila National Institutes of Health's (NIH) Institute of Human Genetics, in partnership with the Department of Health (DOH), has conducted a limited hospital and community surveillance project with the following objectives: (1) to implement a surveillance program for newborns with birth defects in different settings, such as government hospitals, private hospitals, and community health units; (2) to determine the incidence of birth defects in all participating sites;

(3) to determine the rate of occurrence of different types of birth defects; (4) to provide morbidity and mortality statistics to assist in national policy and program planning; (5) to identify possible risk factors for commonly encountered birth defects; and (6) to make recommendations for adoption of BDS on a nationwide scale.

A total of 82 participating health facilities revealed the top 10 birth defects: (1) oral facial clefts; (2) multiple congenital anomalies; (3) talipes equinovarus; (4) neural tube defects; (5) limb reduction deformities; (6) Down syndrome; (7) congenital hydrocephalus; (8) imperforate anus; (9) hypospadias; and (10) hydrocele.

Birth defects registration has been difficult to implement despite being free and requiring only the cooperation of the health provider to fill up a form and submit for proper recording. Although it is ideal that the Philippines participate in the International Clearinghouse for Birth Defects Surveillance and Research (ICBDSR), engagement is impossible until our health providers (physicians, nurses, midwives) assist in providing accurate birth defects registration reports.

One of the major milestones of the BDS is **Administrative Order 2014-0035** issued by the DOH on the Implementing Guidelines on the Setting up of Newborn Screening

Continuing Clinics. Anchored in this AO is the **Birth Defects Surveillance Continuing Clinic (BDS CC)**. In the same structure and facility of Newborn Screening Continuing Clinics is BDS CC. This is an ambulatory clinic based on regional and provincial referral centers identified by DOH. The clinic will cater to patients with birth defects for diagnosis and long-term management.

Currently, BDS is divided into four cluster groups; North Luzon, National Capital Region-South Luzon, Visayas, and Mindanao. Under these clusters are 14 BDS CC. These are Ilocos Training Hospital, Cagayan Valley Medical Center, Jose Lingad Memorial Regional Hospital, Baguio General Hospital and Medical Center, Philippine General Hospital, Bicol Regional Training and Teaching Hospital, General Emilio Aguinaldo Memorial Hospital, West Visayas State University Medical Center, Vicente Sotto Memorial Medical Center,

Eastern Visayas Regional Medical Center, Zamboanga City Medical Center, Northern Mindanao Medical Center, Southern Philippines Medical Center, and Cotabato Regional Medical Center.

Dr. Maria Melanie Liberty

B.Alcausin, consultant of the North Luzon BDS cluster, emphasizes the importance of data gathered from the surveillance. "The data would support the **policies on folic acid supplementation and fortification** and policies on better immunization of women of reproductive age," she stated.

Folate is a B-vitamin that plays a significant role in preventing birth defects, particularly of the baby's brain and spine, which are collectively known as neural tube defects (NTDs). Folic acid is the synthetic form of folate that occurs in fortification and supplementation. Folic Acid is one of the water-soluble vitamins (B9) that occurs in food. It is not stored in the body, ergo, a continuous supply of the vitamin is needed on a daily basis. Folic acid is needed at least a month prior to pregnancy and on the first trimester. However, not only are most pregnancies unplanned, most women are also unaware of the importance of taking folic acid when they reach sexual maturity.

In a recent **Science Legislative Forum on Folic Acid** hosted by the National Academy of Science and Technology, Philippines on June 28, 2016, **Dr. Marissa B. Lukban**, Head of the Section of Pediatric Neurology,

Departments of Pediatrics and Neurosciences at the Philippine General Hospital (PGH), Manila, discussed the burden of NTDs in the Philippines. According to the data she presented, the occurrence of NTDs at the PGH is 23 per 10,000 live births. **Dr. Helena Pachon**, senior nutrition scientist of Food Fortification Initiative, Emory University USA, mentioned that based on estimates of NTDs in the Philippines, fortification with folic acid could prevent between 3,000 and 3,500 babies from being born with a neural tube defect per year. She also presented data from the 2008 National Nutrition Survey of the Food and Nutrition Research Institute which suggests that 40-60% of reproductive age women in the Philippines are folate deficient; a substantially larger proportion are, therefore, folate insufficient

Policy Development

As there are no existing folic acid fortification efforts in the Philippines and supplementation efforts had low coverage, there is a need

to put a comprehensive policy in place not only to increase the awareness and knowledge on how folic acid can prevent NTDs but also to improve the maternal health of every Filipino mother and woman of child-bearing age. **Dr. Carmencita Padilla** has been working with **Hon. Pia Cayetano** at the House of Representatives on this comprehensive policy. On August 25, 2016, Hon. Cayetano filed HB 3341, an act establishing an integrated utilization and promotion of folic acid food fortification and supplementation. This is co-sponsored by **Hon. Federico Sandoval II**.

Among the highlights of the proposed bill are: to ensure that every woman of reproductive age has



Children suffering from birth defects. (Top left) Encephalocoele; (Top right) Anophthalmos with cleft lip; (Bottom photos) Spina Bifida

access to food and food products containing folate and folic acid and folic acid supplements to reduce the risk of miscarriage and babies with NTDs and other birth defects; to ensure that there is adequate supply of folic acid-fortified food and food products and folic acid tablets at an affordable price; to ensure that there is sufficient and correct information on the role of folate and folic acid for women of reproductive age and their children; to ensure the creation of a sustained inter-agency collaboration for the aggressive implementation and monitoring of this Act; and to foster collaborative undertakings in continuous research on folic acid food fortification and supplementation.

Youth Engagement

In response to this growing concern, a volunteer group that started in 2009 advocated the importance of folic acid supplementation for women of sexual age. The group, Volunteer Youth



Dr. Maria Melanie Liberty B. Alcausin, consultant of the North Luzon BDS cluster

Leader for Health - Philippines (VYLH) has been implementing programs for the awareness of folic acid intake for women.

"Tapping the youth for the folic acid campaign is important since the sector comprises the next generation of parents, leaders and movers of society. At present, the sector represents a significant portion of the population – around 30%. Aside from the demographics, the youth sector has the dynamism, innovativeness, and energy to influence peers. They also have a great involvement in social media which is currently seen as a cost-effective and far-reaching tool for health promotion," explained **Ryan Pascual**, Convenor, #FolicAcidPH

Volunteer (Volunteer Youth Leader), 2009-2016.

On its seventh year, the VYLH has taken its folic acid campaign to the next level. Aside from annual on-the-ground programs across the country, the group launched the social media arm of its campaign hashtagged #FolicAcidPH. It was launched on several social media platforms like Thunderclap, Twitter and Facebook on July 18, 2016.

In an assessment done after the campaign, the total sum of all of the campaign supporters' friends and followers reached 556,119 for Thunderclap alone while 87.6K people have seen their tweets on Twitter; and the Facebook page created was able to reach 59,320 users. This has given the group a wider reach in its advocacy and awareness program.

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5 The Philippine Birth Defects Surveillance Project (since 2008)



VYLH-Philippines Nampicuan (Nueva Ecija) conducted a lecture on the importance of folic acid among senior high school students.

This project is monumental because as with all policies, data generation is of key importance. It aims to identify the incidence of Critical Congenital Heart Diseases in the Philippines, as well as look at the feasibility and effectiveness of the screening test to serve as a stepping-stone in creating a policy on CCHD screening.

In the Philippines, two well-known screening programs exist, the newborn bloodspot screening and newborn hearing screening. The newborn bloodspot screening program, as mandated by RA 9288, ensures that every newborn is given the opportunity to undergo this screening test that may save him or her from possible mental retardation or even death. In this screening test, blood

newborn screening which screens for 28 conditions.

In 2009, RA 9709 or the Universal Newborn Hearing Screening and Intervention Act was passed and aims for the prevention, early diagnosis, and intervention of hearing loss. Numerous studies have shown the cost-effectiveness of this universal screening versus targeted screening. In the Philippines, there are more than 284 newborn hearing screening centers, and they, under Section 11 of RA 9709, shall “undertake newborn hearing loss screening, audiologic diagnostic evaluation and recall, follow-up and referral programs to

infants with hearing loss.”

Very recently, a new type of screening has emerged, which looks into the possibility of identifying newborns with structural defects in their hearts. According to Dr. Jonas del Rosario, pediatric cardiologist and proponent of this new screening test, eight to ten out of 1000 newborns have congenital heart disease (CHD) or those born with structural defects in their

Detecting Critical Congenital Heart Diseases in the First 48 Hours of Life

Patrick Jose D. Padilla, MD and Jose Jonas D. Del Rosario, MD, FPPS, FPCC

is collected from a single heel prick, and the blood is analyzed for conditions, such as congenital adrenal hyperplasia, G6PD deficiency, congenital hypothyroidism, phenylketonuria, and Maple Syrup Urine Disease, among many others.

In most of these conditions, the newborns appear normal at first, but without the necessary treatment administered immediately, may eventually result to mental retardation or even death. Recently, the newborn bloodspot screening program launched the expanded



Dr. Jonas del Rosario prepares a newborn at the PGH Dept of Pediatrics for pulse oximetry screening.

hearts. Dr. Del Rosario said that about one third of these patients will have a critical congenital heart disease (CCHD), a more serious condition that will require either a surgical or catheter-based intervention within the first year of life. If not diagnosed early, newborns with CCHD are at a significant risk for death or serious disability. About 3% of infant mortality is due to CCHD.

Examples of CCHDs, as listed by the American Heart Association (AHA) and the American Academy of Pediatrics, are as follows: outflow tract defects



The pulse oximeter shows the oxygen level in the blood of the newborn

(Tetralogy of Fallot, D-Transposition of the Great Arteries, Double Outlet Right Ventricle, Truncus Arteriosus), Total Anomalous Pulmonary Venous Return (TAPVR), Ebstein Anomaly, right obstructive defects (Tricuspid atresia, Pulmonary Valve Atresia-Intact Ventricular septum, Critical Pulmonary Stenosis), and left obstructive defects (Hypoplastic Left Heart Syndrome, Coarctation of the Aorta, Aortic arch atresia or hypoplasia, Critical Aortic valve stenosis). As mentioned, without timely and appropriate intervention, these may lead to the demise of the newborn.

A common feature of the CCHDs is hypoxemia or low level of oxygen in the blood. This is seen in patients as cyanosis or bluish darkening in the lips, tongue and fingers. Normal oxygen saturation level is greater than or equal to 95%. Cyanosis, however, will only be visible when arterial oxygen saturation is <80%. According to Dr. del Rosario, newborns with CCHD whose oxygen saturations are from 80 to 94% at the time of physical examination may not appear cyanotic and

would be missed out especially if the baby is asymptomatic and without a heart murmur. Thus, similar to some conditions being screened by newborn screening, many of these newborns with CCHD are apparently well during the first 24 to 48 hours of life.

It is important to note that the physiology of a fetus is different from a newborn, and immediately after birth, various transitional changes occur in the circulation of the newborn, such as the closure of the ductus arteriosus – a connection between the pulmonary artery and the aorta. Dr. del Rosario laments that about one third of these newborns would go home undiagnosed by routine physical examination since they are still adjusting to this transitional circulation and benefiting from the patency of the ductus arteriosus.

He adds, “Unfortunately, these babies would usually be brought back to the hospital in a very unstable condition because of shock or severe cyanosis. Many of them are so severely compromised at presentation in the emergency room that they die before any intervention. “Thus, by merely relying on physical examination, there is a big possibility that these patients will not be diagnosed in a timely manner while they are still in a stable condition with mild hypoxemia. In many other countries, such as the United States, pulse oximetry screening (POS) has been utilized to improve the timely detection of CCHD, as a complementary to the newborn physical examination. Dr. del Rosario describes this screening test as non-invasive and painless,

readily available, effective, as well as cost-effective. Pulse oximetry screening measures the percentage of hemoglobin in the blood that is saturated with oxygen, allowing the earlier diagnosis of CCHD. According to him, the American Academy of Pediatrics has already published strategies for the implementation of pulse oximetry screening, which addressed critical issues, such as necessary equipment, personnel, and training. It also provided specific recommendations for assessment of saturation by using pulse oximetry, as well as appropriate management of a positive screening result.

However, according to Dr. del Rosario, CCHD screening through pulse oximetry is not yet a routine part of newborn care in the Philippines. There are several medical centers in Metro Manila that have adapted this policy as part of their newborn care based on published data abroad.

He adds, “No wide-scale multicenter study that looks at the incidence of CCHD in the Filipino population or at the feasibility and effectiveness of a screening program in the Philippine setting has been performed. It is our intention that this study can be a basis for including POS as part of a comprehensive newborn screening policy in the future in our country.”

This project, to be done in 30 hospitals all over the country, is slated to start early 2017. For this project, the screening protocol that will be used is adapted from the Minnesota protocol.

POS will be performed prior to the newborn's discharge, within 24-72 hours of life. This will be done by either the neonatologist, general pediatrician, or nurse after undergoing the necessary training. The preferred site of the application of the pulse oximeter is the right hand and the lateral side of the foot, which should be cleaned and be free of any debris or apparatus, such as a BP cuff or an intravenous access. The environment in which the reading will be taken must also be ideal as to minimize interference with the sensors that may result to inaccurate readings. This includes removing extraneous light sources, having the appropriate room temperature, and minimizing noise. According to Dr. del Rosario, the screening will be conducted while the infant is awake, quiet and calm; and will not be attempted if the infant is sleeping, crying, or has a temperature below 36.5 °C, as these may affect the reading.

After conducting the pulse oximetry screening, newborns

will be categorized to either PASS or FAIL, which then would have its own appropriate management. Patients who PASS or have a NEGATIVE SCREEN are those whose oxygen saturation as measured by the pulse oximeter is $\geq 95\%$ in both extremities with a $\leq 3\%$ difference between the two.

On the other hand, there are several instances wherein a patient may FAIL the test and be categorized as a POSITIVE SCREEN. The first instance is when the pulse oximetry reading is $<90\%$ in either site irrespective of difference. The patient should then be immediately referred to his or her physician for additional evaluation, and infectious and pulmonary pathology should be excluded. Also, if the saturation is between 90-94% in both extremities and there is a difference of $>3\%$ points between 2 sites, the same procedure will be repeated in 15 minutes. If the saturations continue to be 90-94% or a difference of $>3\%$ points between 2 sites, the patient FAILS the test, hence a POSITIVE SCREEN, and further assessment is required.

Patients with a POSITIVE SCREEN will be then referred to a pediatric cardiologist for a 2D echocardiogram to check for any structural lesion. If the result is normal, a cardiac clearance will be given before discharge; however, if the patient has a CHD or CCHD, appropriate management will be done. According to Dr. del Rosario, it is also important to assess and rule out other possible causes of the hypoxemia, such as an infection or a pulmonary problem.

Last October 2016, during the annual Newborn Screening Convention, Ms. Annamarie Saarinen from the United States shared the story of her daughter who was saved by the early diagnosis of a CCHD. Since then, she has devoted her life to helping spread this advocacy through the US-based Newborn Foundation. The foundation is supporting projects in the US and other countries like China through the provision of the pulse oximeters. Ms. Saarinen is offering to support a pilot project in the Philippines.

This project is monumental because as with all policies, data generation is of key importance, as seen in the successful newborn bloodspot screening and newborn hearing screening. This pioneering study aims to identify the incidence of CCHD in the Philippines, as well as look at the feasibility and effectiveness of the screening test, to serve as a stepping-stone in creating a policy on CCHD screening. Dr. del Rosario has initiated discussion with the Department of Health and the Philippine Health Insurance on its possible inclusion into the newborn care package after the completion of the study.

Dr. del Rosario and his team hopes that no newborns with a CCHD will be missed, and that appropriate management may be given at the appropriate time to avoid the dire consequences of CCHDs and so that they may live a more productive life.



Ms. Annamarie Saarinen, speaker during the recent NBS convention, meets the Philippine team led by Dr. Jonas Del Rosario

Kalusugan ng ating Kabataan, Dapat Pangalagaan

Josephine D. Agapito

Ang UP Manila ay isang sentro ng kalusugan
Kung saan maraming programa ang tinututukan
Ang isyung ito ay para sa ating mga kabataan
Na sa susunod na henerasyon ay pag-asa ng bayan.

Anu-ano ang mga programa para sa mga bata?
Child Protection Unit ay ipinakikilala sa madla
Tumututok sa isyu ng pag-aabusong sadya
Upang masigurong ang kinabukasan ay maganda at payapa.

Vision Screening naman para sa kindergarten pupils
At sa mga sanggol na di gaano ng nahubog ang paningin
Upang ang mga sakit sa mata ay maiwasang magaling
At maagapan kaagad ang problema sa paningin

Newborn Hearing Screening Program ay para sa pandinig
Mga kasisilang na sanggol ay sinusuring higit
Upang matugunan ang sakit habang sila'y maliit
Pagkat mas epektibo ang interbensyon bunga ng pananaliksik.

Mayroong tinatawag na Birth Defects Registry
Kauna-unahang Database sa bansa na masasabi
Malaking tulong para makapagplanong mabuti
Evidenced-based sa pananaliksik ay kapuri-puri.

Marami pang mga gawain kung di man mabanggit
Mga pagseserbisyo ng lahat at pagmamalasakit
Sa liderato ng Chancellor na sadyang mabait
Iba pang mga plano ay maisasakatuparang higit.

Kaya naman ingatan ang kalusugan ng kabataan sa nasyon
Dapat ang lahat din ng ahensya ay magtulung-tulong
Na matugunan ang problemang nagpapatung-patong
Upang maitaas ang kalidad ng buhay sa bawat henerasyon.



*** Josephine D. Agapito**

Guro sa Department of Biology, College of Arts and Sciences, UP Manila;
nagsusulat at bumibigkas ng mga tula tungkol sa agham sa DZEC tuwing Linggo,
5 pm sa programang "Pinoy Scientist."

