



# Newborn Screening

August 1996 Vol. 1 No. 1

Official Publication of the Philippine Newborn Screening Project

## NEWBORN SCREENING TAKES OFF!

### The Dream

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Acknowledging that obstetricians and pediatricians are aware that newborn screening is already a preventive health measure in most developed countries, we invited chairs of all PPS and POGS Metro Manila accredited hospitals to a breakfast meeting on February 22, 1996 to discuss the feasibility of a collaborative project.

We were surprised and touched by the enthusiastic response from the different hospitals. We had 77 physicians representing 26 hospitals in that first meeting. On that day, we knew that our dream was no longer a dream. This dream was making its first step towards reality!

### The First Meeting

The objectives of the first meeting were: 1) to give an over-

view on newborn screening; 2) to present newborn screening practices in representative countries, i.e. USA, Japan, Australia, Singapore, Taiwan, China, Hongkong and Thailand; 3) to present local experience on *Congenital Hypothyroidism, Maple Syrup Urine Disease, Glucose 6 phosphatase deficiency* and 4) to present the Collaborative Newborn Screening Projects on Newborn Screening and the Birth Defects Registry.

### The Newborn Screening Project

It is difficult to argue with statistics which proclaim that every third person walking down the street has TB. Indeed, *Newborn Screening* deals with conditions that are rare compared to TB, diarrhea or URTI. If these conditions are rare, why screen them?

For decades now, screening of these conditions have been well in place in other countries. The reason is: it has been shown that newborn screening is cost effective and early treatment can prevent mental retardation or even death!

Newborn screening is not yet routine in the Philippines because there are no local data to support the urgency of this need. And because of the rarity of these condi-

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## MESSAGES



*To all the participants to this multicenter study, I offer my warm fraternal greetings.*

*It has been our goal as obstetricians to deliver a healthy infant free from the scourge of any physical or mental deformity. Studies like these are congruent with the 1996 POGS Golden Jubilee Year theme of POGS AT 50: EVER ONWARD TOWARDS EXCELLENCE. On a personal note, studies like these will hopefully make the general obstetric community aware of that body of perinatologists interested in metabolic and genetic problems.*

*You are involving yourselves on a worthy project aimed at minimizing mental retardation by screening for Neonatal Hypothyroidism and by starting a statistical cooperative and registry on Birth Defects. These should make you all proud for you will produce meaningful data which are truly Filipino.*

MABUHAY!

**Walfrido W. Sumpaico, M.D. FPOGS**

President  
Phil. Obstetrics and Gynecology Society



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*My sincere wish for your success in this undertaking.*

**Mary N. Chua, M.D.**

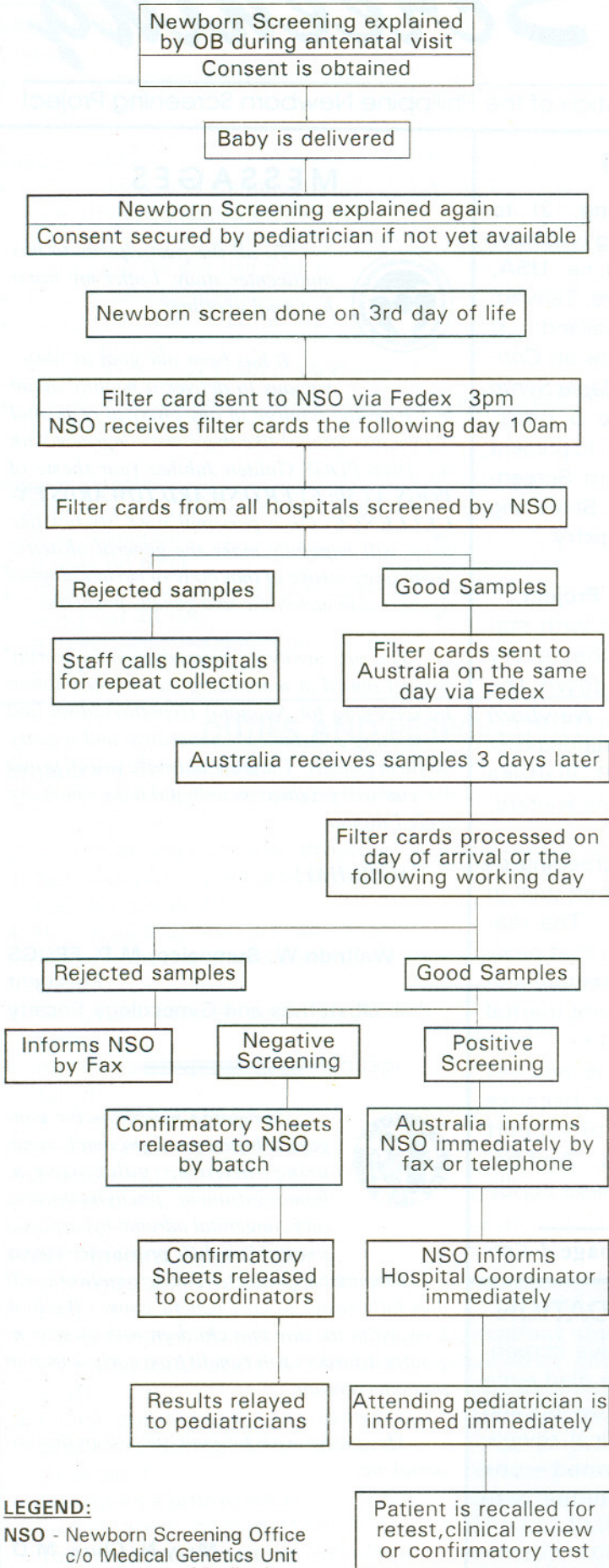
President  
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## SCREENING SAVES 2 FROM MENTAL RETARDATION

Thirteen out of 3398 newborns screened yielded positive screening results (6 for CAH, 6 for CH, 1PKU). Of the 13, 5 have died even before confirmatory tests could be done. One did not follow-up and recall measures were futile. Seven were recalled for clinical review and confirmatory tests. Of the seven, two have been confirmed -- one with salt losing type of congenital adrenal hyperplasia and one with congenital hypothyroidism.

Screening results arrived even before onset of symptoms. These 2 lucky newborns have been saved from the scourge of mental retardation!

# Newborn Screening Flow of Operations



**LEGEND:**

NSO - Newborn Screening Office  
 c/o Medical Genetics Unit  
 Department of Pediatrics  
 Philippine General Hospital  
 Fedex - Federal Express

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tions, it will be difficult for a single institution to establish baseline data in a short time. Thus, the rationale behind a collaborative project.

## Newborn Screening Study Group

After a series of meetings, twenty four hospitals (Table No. 1) finally bonded to embark on the Philippine Newborn Screening Project which will establish prevalence of six (6) disorders (Table No. 2) and subsequently make recommendations to the government on screening priority disorders on a nationwide scale.

**Table No. 1**  
**List of Participating Hospitals**

Capitol Medical Center	Philippine General Hospital
Cardinal Santos Medical Center	Polymedic General Hospital
Children's Medical Center	Rizal Medical Center
Chinese General Hospital	Perpetual Help Medical Center
De los Santos Medical Center	Quezon City General Hospital
FEU-NRMF	Quirino Memorial Medical Center
Manila Doctors Hospital	Our Lady of Lourdes Hospital
Mary Chiles General Hospital	St. Luke's Medical Center
MCU-FDTMF	St. Martin de Porres Charity Hospital
Medical Center Manila	United Doctor's Medical Center
Metropolitan Hospital	
Opistal ng Maynila	
Philippine Children's Medical Center	
	UERMMMMC

**Table No. 2**  
**Disorders for Newborn Screening**

Congenital Hypothyroidism	1: 4,000
Phenylketonuria	1: 12,000
Congenital Adrenal Hyperplasia	1: 12,000
Maple Syrup Urine Disease	1:200,000
Homocystinuria	1: 80,000
Galactosemia	1: 60,000

## Collaboration

This project is being undertaken in collaboration with the NSW Newborn Screening Program (Royal Alexandra Hospital for Children, Westmead Australia).

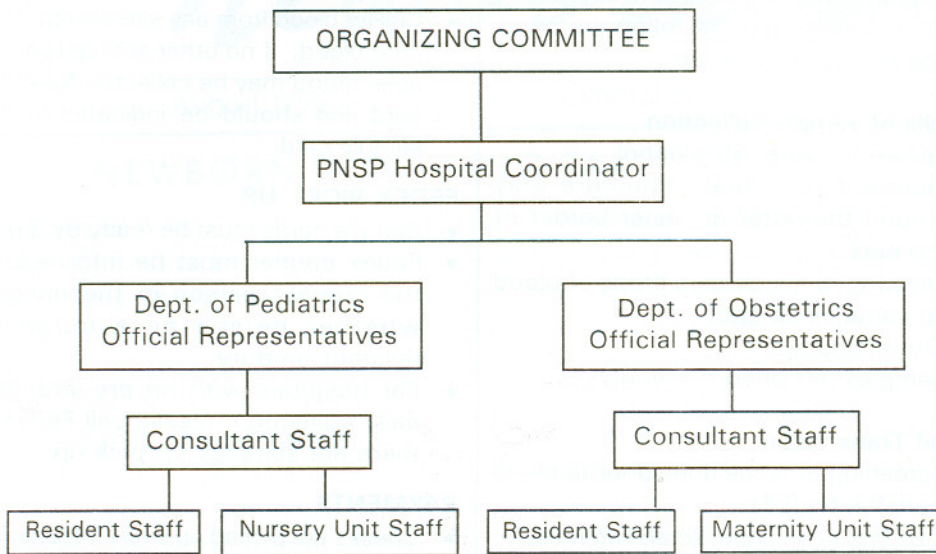
## Support

Although screening one baby is relatively cheap, screening 200,000 babies to establish the prevalence of the six disorders will cost millions of pesos! The private sector will take care of the screening fee but funds are being solicited for patients born in government hospitals. To ensure the success of this project, papers are now being prepared for the "Sponsor a Child Campaign".

The Newborn Screening Study Group would like to thank Wyeth Phils for helping us start the project in the Philippines. We look forward to the support of the other companies, government and non-government organizations.

**CPadilla**

## PHILIPPINE NEWBORN SCREENING PROJECT ORGANIZATIONAL SET UP



### STUDY UPDATE

*As of August 15, 1996*

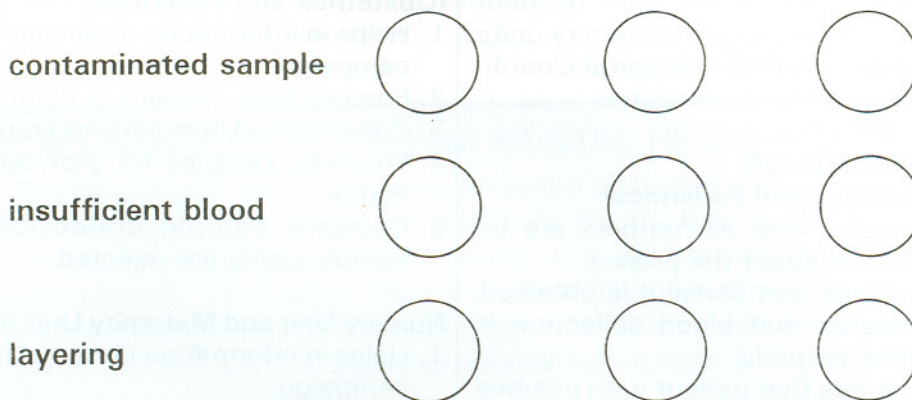
Total No. of Patients Entered in Study : 4124

	Dry Run Period		Official Study		Total
	6/17 - 6/30	7/1 - 7/15	7/16 - 7/31	8/1 - 8/15	
Accepted Sample Cards :	828	749	942	879	3398
Rejected in Manila :	97	463	146	20	726
Rejected in Australia :	19	13	7	0	39

Total No. of Patients Screened: 3398  
 Total No. of Patients with Positive Screening: 13  
 Breakdown of Patients with Positive Screening: CAH : 6  
 CH : 6  
 PKU : 1

Patients with positive screening must be recalled for clinical review and confirmatory tests.

### SAMPLES OF REJECTED FILTER CARDS



### WARNING SIGNALS

#### Congenital Hypothyroidism (CH)

Prolonged Jaundice  
 Feeding Difficulties  
 Choking Spells  
 Subnormal Temperature  
 Somnolence  
 Constipation

#### Congenital Adrenal Hyperplasia (CAH)

Progressive Weight Loss  
 Vomiting  
 Anorexia  
 Failure To Gain Weight  
 Dehydration  
 Virilization In Female  
 Precocity In Male

#### Phenylketonuria (PKU)

Vomiting  
 Hypertonia  
 Seizures  
 \*Usually Normal At Birth\*

#### Maple Syrup Urine Disease (MSUD)

Poor Feeding  
 Vomiting  
 Seizures  
 Lethargy  
 Hypoglycemia  
 \*Mistaken For Sepsis/Meningitis\*

#### Homocystinuria (Hcy)

Failure To Thrive  
 Vomiting  
 Lethargy  
 Hypotonia  
 Seizures  
 Developmental delay  
 Mental retardation  
 \*may be normal at birth\*

#### Galactosemia (Gal)

Jaundice  
 Vomiting  
 Hypoglycemia  
 Feeding Difficulties  
 Seizures  
 Lethargy  
 Irritability  
 Poor Weight Gain

#### EDITORIAL BOX

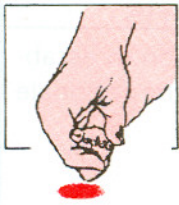
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*Help prevent Mental Retardation*

**Sponsor a Child Now!**



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