



How Far We Have Come And Where We Are Going

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Welcome & Thank you



Susan Fe
Jamie Ja
Disty Pea



Stephe
Sasha
Abstract reviewers

n/ hotel)
recognition)

Paula Miller (program development)

The treatment of congenital heart disease is largely hygienic. Fresh air, avoidance of cold and of all conditions liable to induce bronchial irritation and a carefully regulated diet constitute the most essential elements



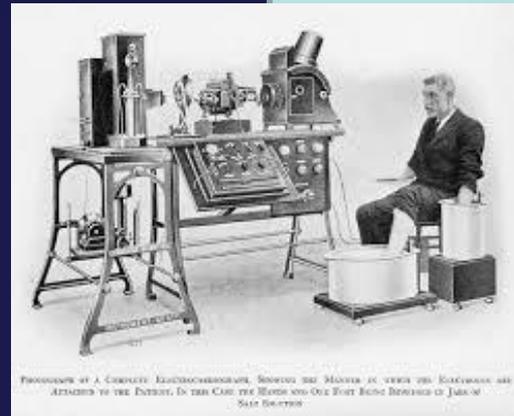
- **Baby boy is cyanosed at birth**
- **He has D-Transposition of the great arteries**
- **What is his prognosis?**

Depends on the year he was born!

1819
Laennec
Stethoscope



1901
First ECG

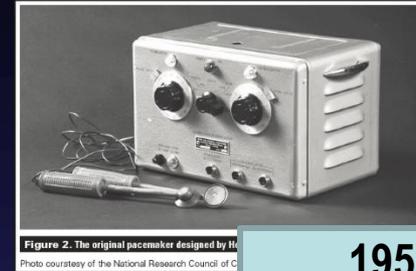


1858
Thomas Peacock
"Malformation of
the Human Heart"
TGA

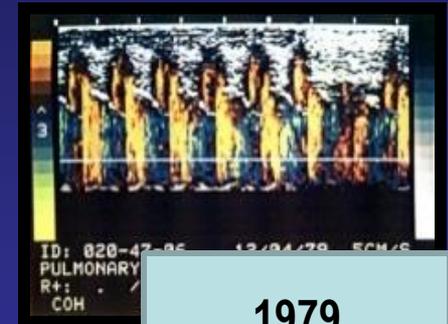
1895
Rontgen
X Ray



1929: Werner
Forssman first
cardiac
catheterization



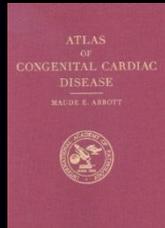
1950
John Hopps
First External
pacemaker



1979
Use of Color
Doppler



1936
Maude Abbott
publishes Atlas of
CHD



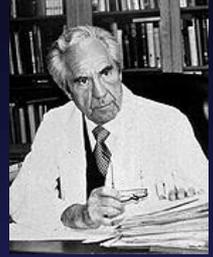
1954
W Lillehei
first open
cardiac repair



1966
Rashkind
Septostomy



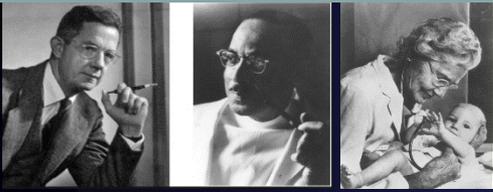
1959
Atrial switch
Senning



1964
Atrial switch
Mustard



1944
Blalock Thomas Taussig
Shunt



1975
Arterial
switch
Jatene

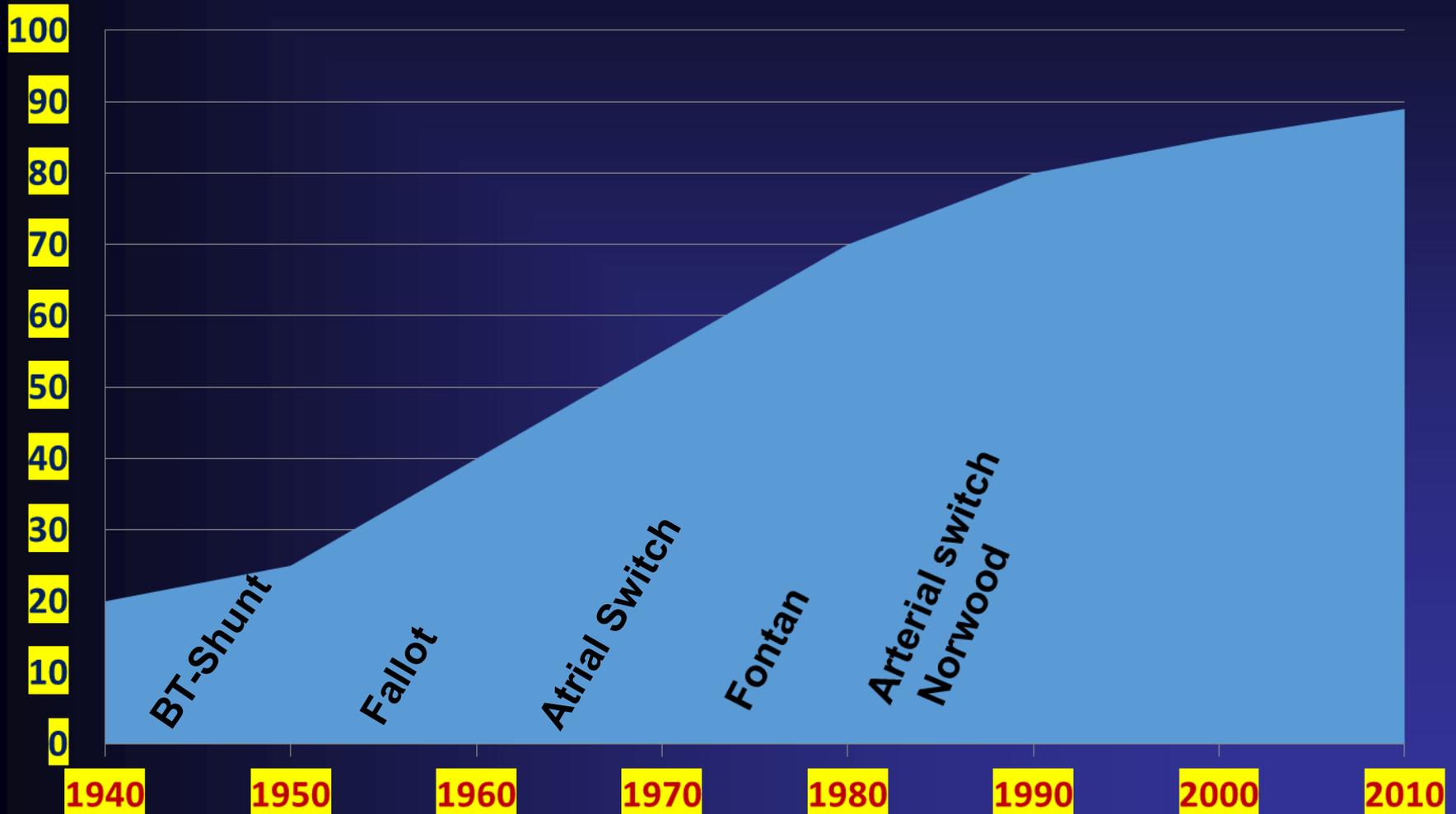


If that baby is born today, likely a:

- Fetal diagnosis
- Delivery in tertiary center and prostaglandins
- Be
- Ea
- Re
- Early steps and developmental intervention
- Recognition of need for life long follow up
- Coronary imaging

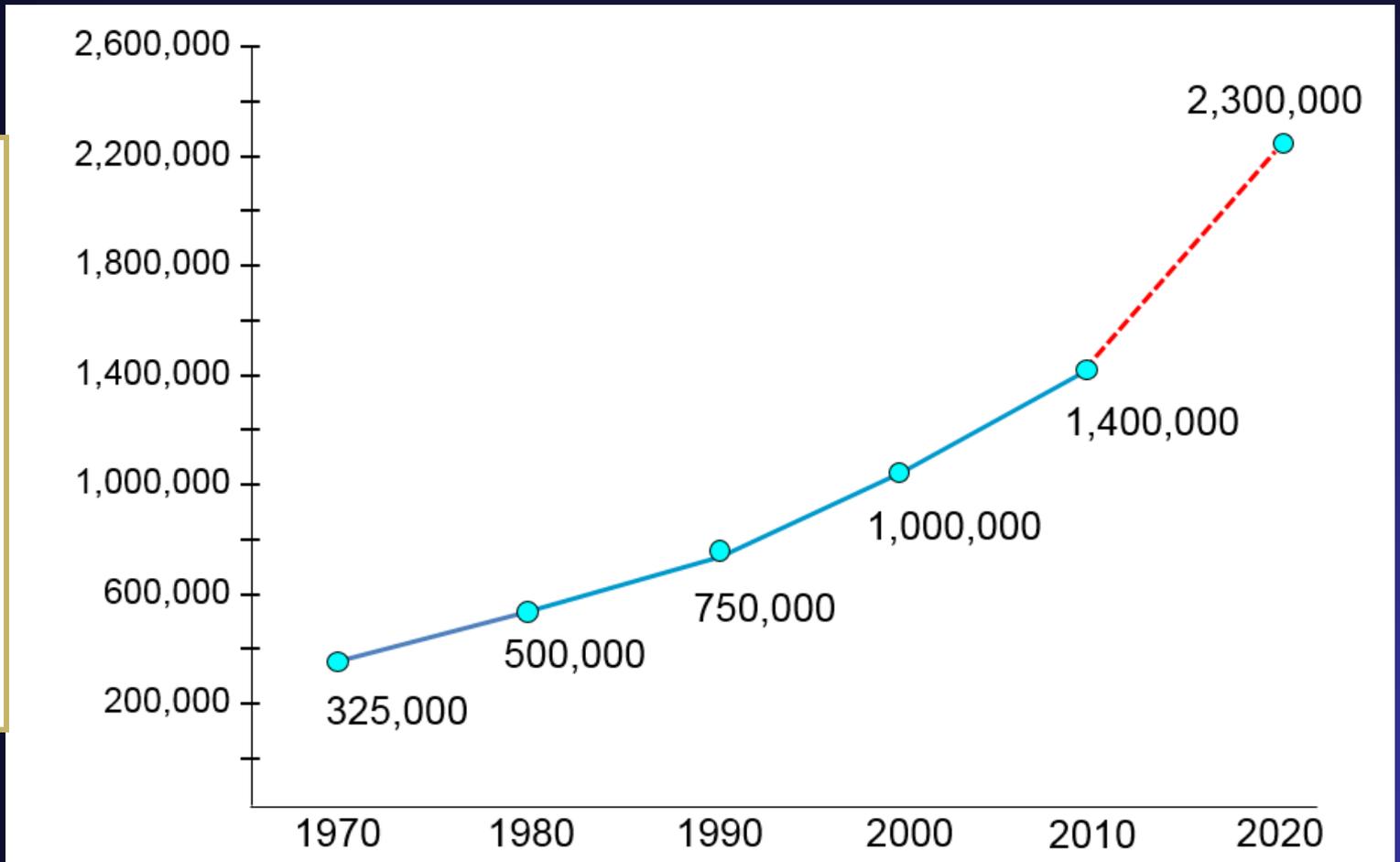
**And similar advances apply to all
congenital cardiac conditions**

Survival and surgical milestones in CHD



US ADULT CHD PATIENTS

US Adult CHD PATIENTS



What is the patient population?

- **Fewer new patients with Eisenmenger Syndrome and atrial switches**
- **Similar number of patients born with transposition of the great arteries and tetralogy of Fallot but a different clinical course**
- **More patients with single ventricles and complex defects**

Increasing Longevity

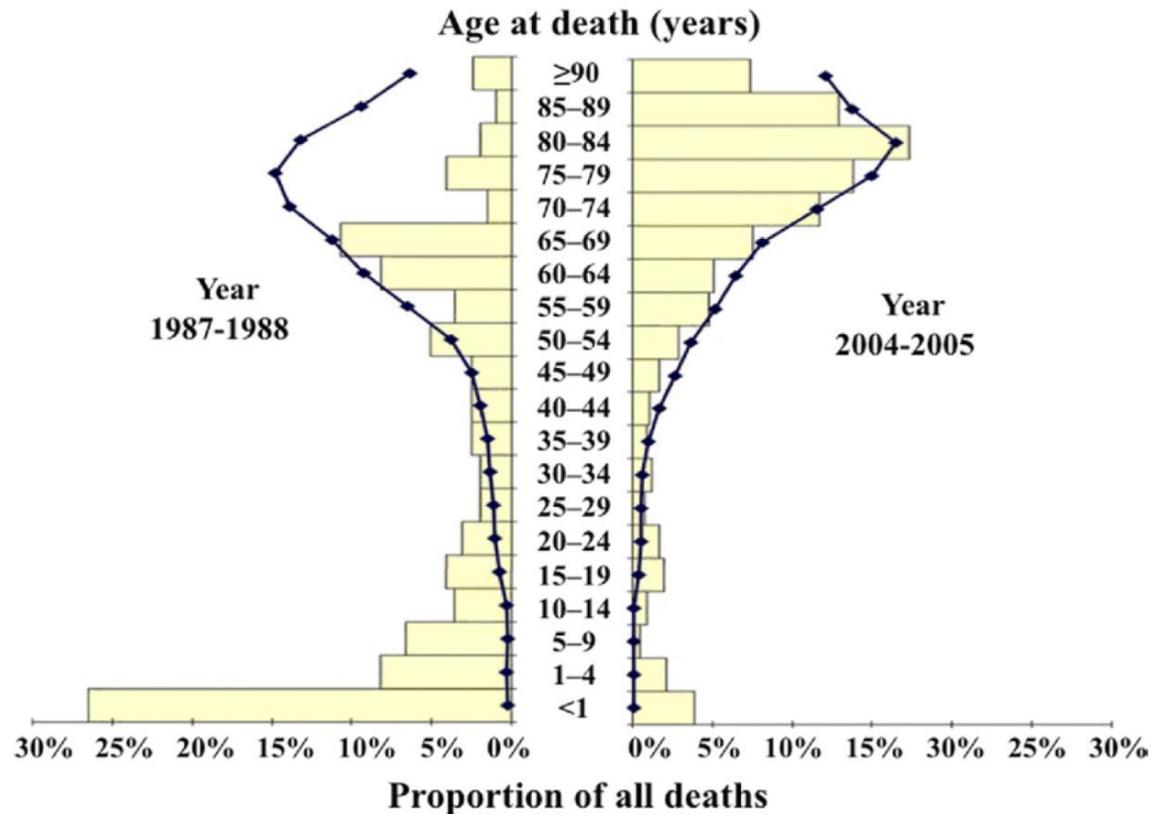
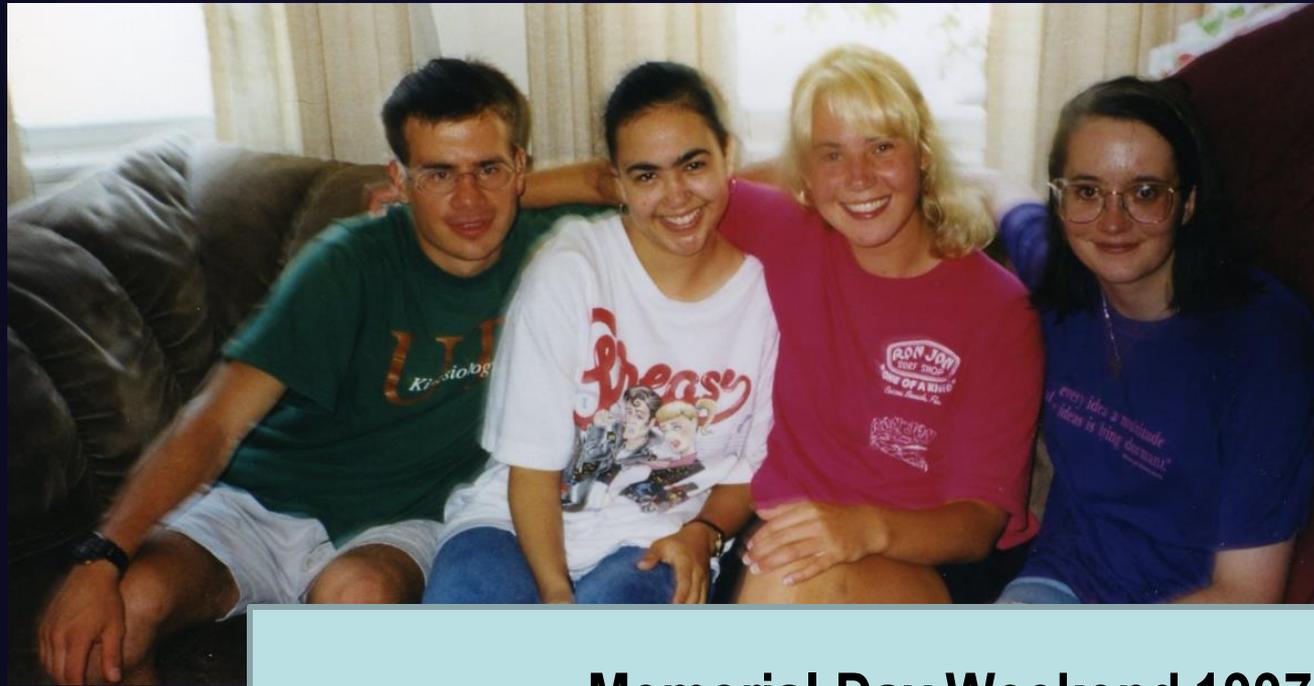


Figure 1

Distribution of Age at Death in Patients With Congenital Heart Disease in 1987 to 1988 and 2004 to 2005



Memorial Day Weekend 1997

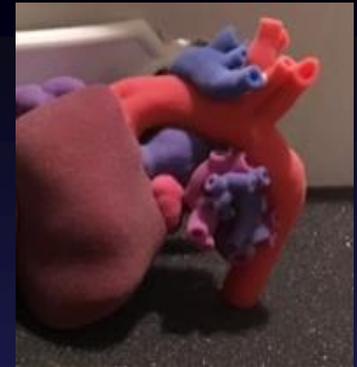
ACHA Co-Founders

**Anthony Cordaro, Jr, Tanya DeHerrera,
Bonnie Paulsen, Karen Klein McNulty**

How can we continue to improve?



Improved imaging techniques



- **3 D imaging for quantifying volume & function**
- **3 D printing**
- **Multimodality imaging**
- **MR imaging and flow dynamics**



New cath lab procedures



- Percutaneous valve replacement
- Device closures
- Home monitoring of pulmonary artery pressure in heart failure (CardioMEMS)



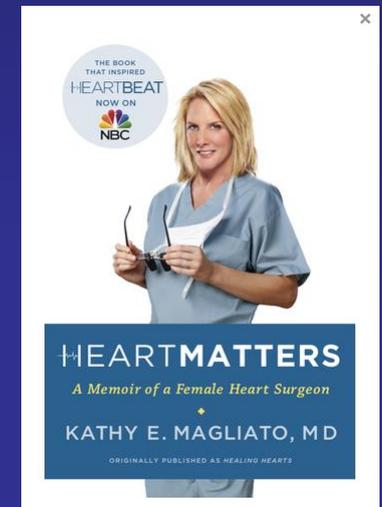
What about electrophysiology?

- **Leadless pacemakers**
- **Subcutaneous ICD**
- **Implantable event monitors**
- **High resolution EP mapping**



Advances in surgery

- Hybrid procedures
- Earlier re-intervention
- Bioprosthetic valves
- Mechanical assist devices
- Neuroprotection



New medical options



- Pulmonary vasodilator therapy
- Newer anticoagulants
- Precision medicine
- Gene therapy?
- STEM cell therapy?



What else is happening?



- **Mobile health apps**
- **Telehealth to improve access to care**
- **Changes in healthcare system**
- **Increased awareness of non cardiac issues**
- **Increased awareness of acquired heart disease**
- **Complementary therapy**
- **Focus on long term health expectations**
- **Emphasis on quality of life**

How is the profession keeping up?

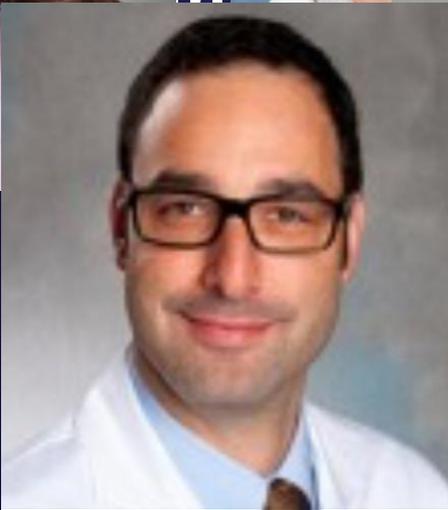
- **ACHD accredited fellowships (7)**
- **Board certification of ACHD cardiologists (195)**
- **ACHA program accreditation**
- **Ongoing research from our colleagues**



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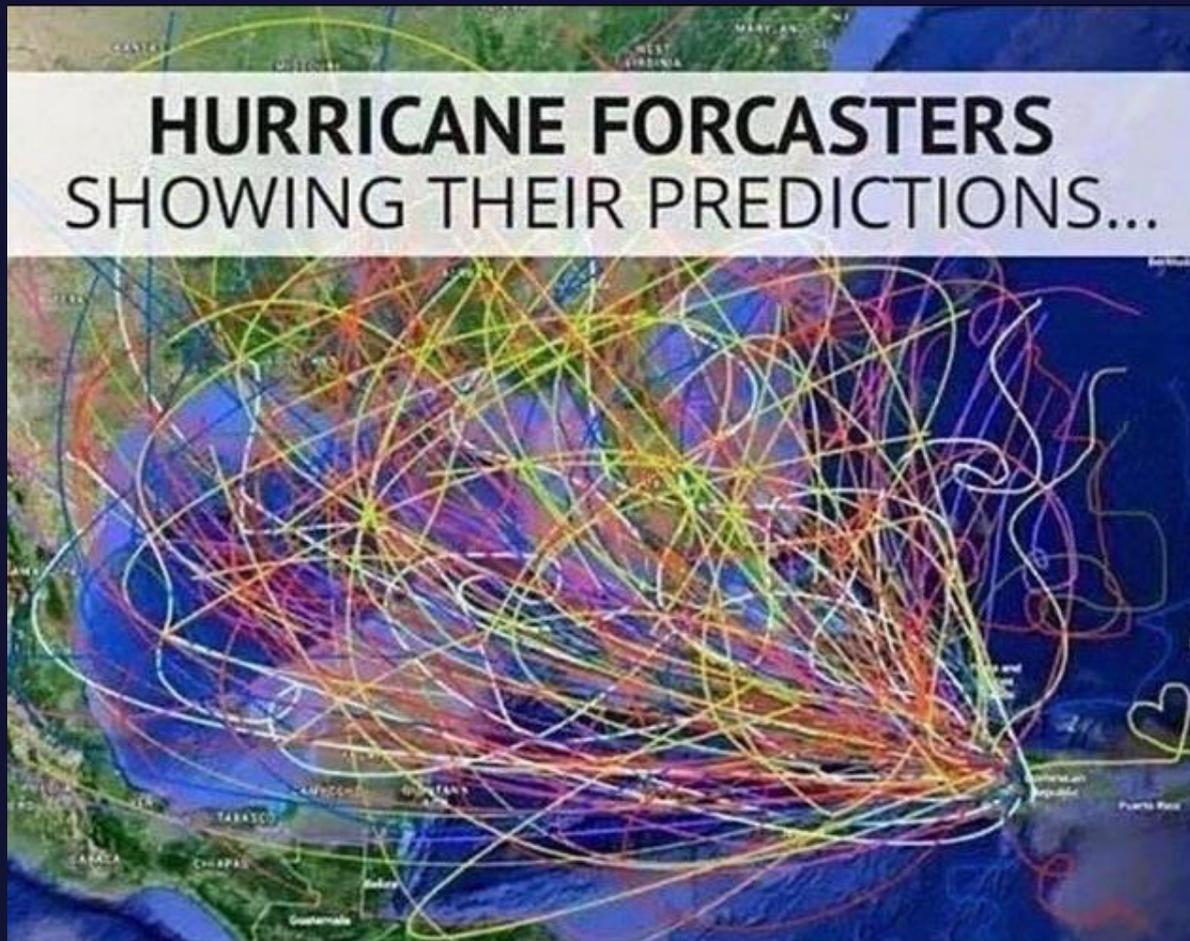


The importance of advocacy

- CHD Lobby Day
- ACHA congenital heart walks
- Media and social networking
- Increased awareness of CHD



Predicting the future!



Since October 2016!



- **New ACHA President and CEO Mark Roeder**
- **Research publications including:**
 - **Fontan predictors (Veldtman)**
 - **Use of biomarkers (Opotowsky)**
 - **Forced vital Capacity (Earing)**
 - **Pulmonary hypertension therapy (Bouma)**
 - **Contraceptive practices (Miner and Cannobio)**
 - **Anticoagulation in pregnancy (Steinberg and Stout)**
 - **Team based care (Sillman and Fernandes)**

In Summary



The mission of the Adult Congenital Heart Association is to improve and extend the lives of the millions born with heart defects through education, advocacy and promoting research.

