OVERVIEW

- Novick Cardiac Alliance
- Ukraine
  - Kharkiv Experience
  - Kyiv Experience
- The PWOB Experience
- Acknowledgments
Novick Cardiac Alliance

- In 1993, Dr. William Novick created a foundation to care for children with heart disease in the developing world.
- His teams have worked in 46 cities in 32 countries, provided 7411 children with operations and medical care between 1993-2013.
- Most countries receive 2 to 4 visits per year for at least 3 years, with 90% of such programs now performing independent pediatric cardiac surgery.
- Core Principles: Collaborate, Educate, Innovate, Sustain.
Novick Cardiac Alliance

• Destination sites are already functioning cardiac units, Cardiac Alliance works alongside local clinicians to improve clinical results and enable and teach the local team to expand their practice

• Demands a totally different skillset from clinicians
• Population: 42.5 million people
• Languages spoken are Russian and Ukrainian
• Capital is Kyiv
• Independent state since the dissolution of the Soviet Union in 1991

• Currently territorial dispute over Crimean Peninsula

• Ongoing military conflict in Donbass region along Russian border

• Massive displacement occurred after 2014
• Dr. Novick working in Ukraine since 1995, partly due to aftermath of Chernobyl disaster in 1986 and increased incidence of birth defects

• The heart is one of the organs most vulnerable to the effects of radiation, genetic heart diseases and defects are increased in Ukraine

• Cardiac Alliance trips in Ukraine are partially funded by Chernobyl Children International
Traveled to Kharkiv March 11-17
Second biggest city in Ukraine, former capital of USSR
Population 1.5 million
20 miles from border of Russia
Common relocation destination for people displaced by war
Institute of General & Emergency Surgery has been working with Cardiac Alliance since 2008.

In the beginning Cardiac Alliance came with full team of surgeons, scrub nurses, anesthesiologists, cardiologists, intensivists, perfusionists, and ICU nurses (30 or so staff and volunteers).

Did majority of surgeries and 24 hr ICU care.

After 10 years of collaboration, the local cardiac team now does cases independently.

Cardiac Alliance trained surgeons have more and more confidence to take on cases independently, and pass on their training to more local staff.
Cardiac Alliance still makes regular trips to Kharkiv with a minimal team. They collaborate on difficult cases, lend a hand when needed, and look for opportunities to educate and improve outcomes as they come up.
PERFUSION:

- A local intensivist from Donbass region, Olga Tkach, began filling the role of perfusionist in Kharkiv a few months ago, despite minimal training and unpredictable equipment and supplies, she’s able to successfully pump all the pediatric cases.

- The Cardiac Alliance perfusionist, Brian Forsberg, was able to give her some advice and encouragement while we were there.
KHARKIV: Examples of Challenges, Innovation

- No TEE
- Limited pressure channels/transducers
- Cardioplegia
KHARKIV: Examples of Challenges, Innovation

- Reuse of supplies
Patient family support
t• Syringes, drugs
• Blood
Surgeries provided free of charge, some patients waiting for several months for surgery

Artem was 13 mo barely 5kg

Special needs with Down Syndrome, parents difficulty caring for him currently living in an orphanage

Waiting several months for surgery for large VSD

Hoping he will now begin to gain some weight and grow stronger!
• Traveled to Kyiv March 17-24
• Capital and largest city in Ukraine
• Population 2.8 million
KYIV: Amosov Institute

- Dr. Novick has worked with Amosov Institute since 1995.
- Now regularly perform 700 pediatric cardiac cases a year independently.
- Cardiac Alliance still makes trips to collaborate on the most complicated cases.
KYIV: Amosov Institute

- Many of the cases that week were difficult cases from all over Ukraine
- Interrupted aortic arch repair, Glenn shunt, modified BT shunt, adult reop VSD repair
- First successful hybrid bilateral PA banding procedure
KYIV: Amosov Institute

PERFUSION:
- Local perfusionists were fully independent (did not speak English)
KYIV: Amosov Institute

• Shadowed Cardiac Alliance staff anesthesiologist from Belarus, Dzmitry Furmanchuk
• Shadowed the 24hr ICU care of post-op patients by cardiologists, intensivists, and nurses from both the local team and Cardiac Alliance.
• Felt part of cardiac team, better appreciation for what happens beyond the pump and 12 hrs down the line in the ICU
• Spent time with ICU nurses, intensivists, cardiologists, anesthesiologists from all over the world; always welcoming, willing to answer my questions…felt like a member of a global community of cardiac care
KYIV: Examples of Challenges, Innovation

- No Ultrasound
- Limited pressure transducers
KYIV: Examples of Challenges, Innovation

- Cardioplegia delivery
KYIV: Examples of Challenges, Innovation

- Sterilization, Outdated equipment
KYIV: Examples of Challenges, Innovation

- Oxygen during transport
PWOB Experience

• An AMAZING experience!!
• Inspiring to see how far programs have come in a short amount of time, strong relationships built between the teams over years of working together
• Appreciating the challenges of collaboration/education:
  – Success of what they do is based not just on the 20 kids they operate on during that mission but the next 20 the local team will operate on after they leave based on what they have learned from the experience
  – Requires tact, patience, adaptability, communication skills, people skills
  – If the local team is not convinced that what Cardiac Alliance shows them is a good idea it will not be accepted—unlikely to continue after they leave
  – Cardiac Alliance members were always encouraging and inspired confidence in the local team
PWOB Experience

- Other challenges were always related to resources/cost
- Acceptance that you are NOT replicating your same practice at home, instead creating ways to get the same outcomes for around $2000-$5000 per child
- Practice will look a lot different when negotiating and strategizing how to do a safe case with limited resources
• Overall was really exciting to see how I could use my perfusion education in a new way
• Clearly a role for a perfusionist as an educator, collaborator, and in development of cardiac programs all over the world
• Felt a strong sense of the role of a perfusionist as a member of a team, sometimes lost in a big hospital in the corner behind the pump
PWOB Experience

• Requires patience, adaptability, communication skills, relationship building
• Inspired to continue learning about cardiac care and finding ways to expand the role of perfusion in the cardiac team
• Look at the way you do things in your hospital in a new way
Acknowledgements: THANK YOU!!

• Dr. Novick and Cardiac Alliance:
  – Amazing organization that allows students to participate in trips
  – All the hardworking, impressive Cardiac Alliance staff and volunteers from all over the world who were great role models and teachers

• All the staff at Institute of General & Emergency Surgery in Kharkiv and Amosov Institute in Kiev
  – Incredibly generous hosts

• AmSECT Perfusion Without Borders
  – Support student involvement in missions with the student scholarship
  – Creating and continuing this scholarship is such a great addition to a perfusion education experience
  – Perfusion is an absolutely necessary skill in cardiac care all over the world

• Richard Chan, CCP-E, Director of NSUH School of Cardiovascular Perfusion
  – Thank you for encouraging me on this endeavor!
Volunteer!

An amazing educational experience (…but also really really fun)

- **Novick Cardiac Alliance**:  
  - Always needs pediatric perfusionists to volunteer!!  
  - https://cardiac-alliance.org

- **AmSECT Perfusion Without Borders**:  
  - Find all kinds of perfusion mission opportunities, both adults and peds  
  - www.amsect.org/page/perfusion-without-boarders