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**To whom it may concern:**

Report on fellowship at Birmingham Children's Hospital

I was accepted for a 6 month clinical observer ship at the Department of Paediatric Cardiology at Birmingham Children's Hospital starting 1<sup>st</sup> August 2017 under the UK sponsorship of Dr Oliver Stumper.

I am extremely grateful for the funding received by the Scottish Sponsorship Scheme for Overseas Cardiologists and Cardiac Surgeons, which made my stay affordable and allowed me to attend several meetings including the BCCA meeting in London in November 2017.

I was very welcome by the whole team at BCH from the day I arrived, and could observe all aspects and activities of this large service. Initially I focused on seeing the ward work, clinical discussion meetings and the cathlab activity. The range of lesions treated here are at times very complex and a lot of the cases are postoperative cases or patients undergoing staged repairs. I learned a lot about new equipment and some different catheter techniques, which I will take back home, to establish in my hospital. At all times was I invited to attend and share my experience, in particular in cases of ductal stenting or catheter VSD closure.

The department has a very sophisticated database system, which allows to retrieve the details of any patient, or particular lesion. At the same time it is possible to review all the imaging data and op notes etc. This allowed me to review very many cases of pathology, which are uncommon in Vietnam such as Truncus with interrupted aortic arch, Scimitar syndrome or the variants of hypoplastic left heart syndrome.

My hospital is the first unit in Vietnam, which has a MRI scanner to be used for congenital heart disease. Thus, I attended the MRI lists 2 days a week. Dr Chikermane taught me the principles of MRI, MRI machine manipulation and MRI image analysis. I am now confident to do some simple MRI protocols for almost all heart disease: TGA, TOF, CoA HLHS after Glenn or Fontan operation. Having started complex cardiac surgery in Vietnam some 10 years ago, there are a rapidly growing number of children who will benefit from this technique in their follow-up.

I closely observed the ECMO service at BCH, following through on average 2 cases a month, and attended most of the detailed twice daily discussions including weekends. I attended the ECLS course at BCH in October and January, being invited by Mr Tim Jones and Sister Margret Farley. ECMO has recently become available in our hospital in Vietnam, and I hope to start this technique with the precious experience gained at

BCH. The plan will be to start with VV ECLS for respiratory failure in older children, before embarking on VA ECLS in neonates after cardiac surgery.

During my stay at BCH, I have learned a lot in the electrophysiology lab under the leadership of Dr Vinay Bhole. The full range of radiofrequency and Cryo ablation is performed for all kinds of arrhythmia in children: AVNRT, paraHisian pathway, right sided, left sided accessory pathway. I also observed one ICD implantation and quite a lot of permanent pacemaker implantation. The current strategy of arrhythmia diagnosis and management is clear and very impressive with all the instruments available : treadmill stress test, Reveal implantation, Ajmaline challenge in Brugada syndrome, ICD implantation. All of these are new to my hospital and I hope to develop them in my country, as we have the first EP lab in children in Vietnam.

Finally, I could obtain some insights into the impressive antenatal ultrasound and counseling service at Birmingham Women's Hospital, which will help me to establish and improve the screening system in my hospital in the future.

In summary, I had a great and very productive time at BCH. I felt a warm welcome from the very beginning and was exposed and trained in many aspects of modern paediatric cardiology. This experience will be invaluable in me returning back to Vietnam and setting up the service in my new hospital! I hope that City Children's Hospital in Ho Chi Minh City and Birmingham Children's Hospital will develop an ongoing cooperation and exchange. Again, I would like to express my gratitude to the Scottish Sponsorship scheme, which made my stay at BCH possible.

Yours sincerely



Tran Cong Bao Phung