

# THE LINK

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## MEET THE LEAD FOR DEVELOPMENT OF TECHNOLOGY WORKGROUP, DR NG WEI MING



The TCPRLink system aims to improve the teamwork between myResponders and Singapore Civil Defense Force (SCDF) call-takers in the dispatch center. The system will

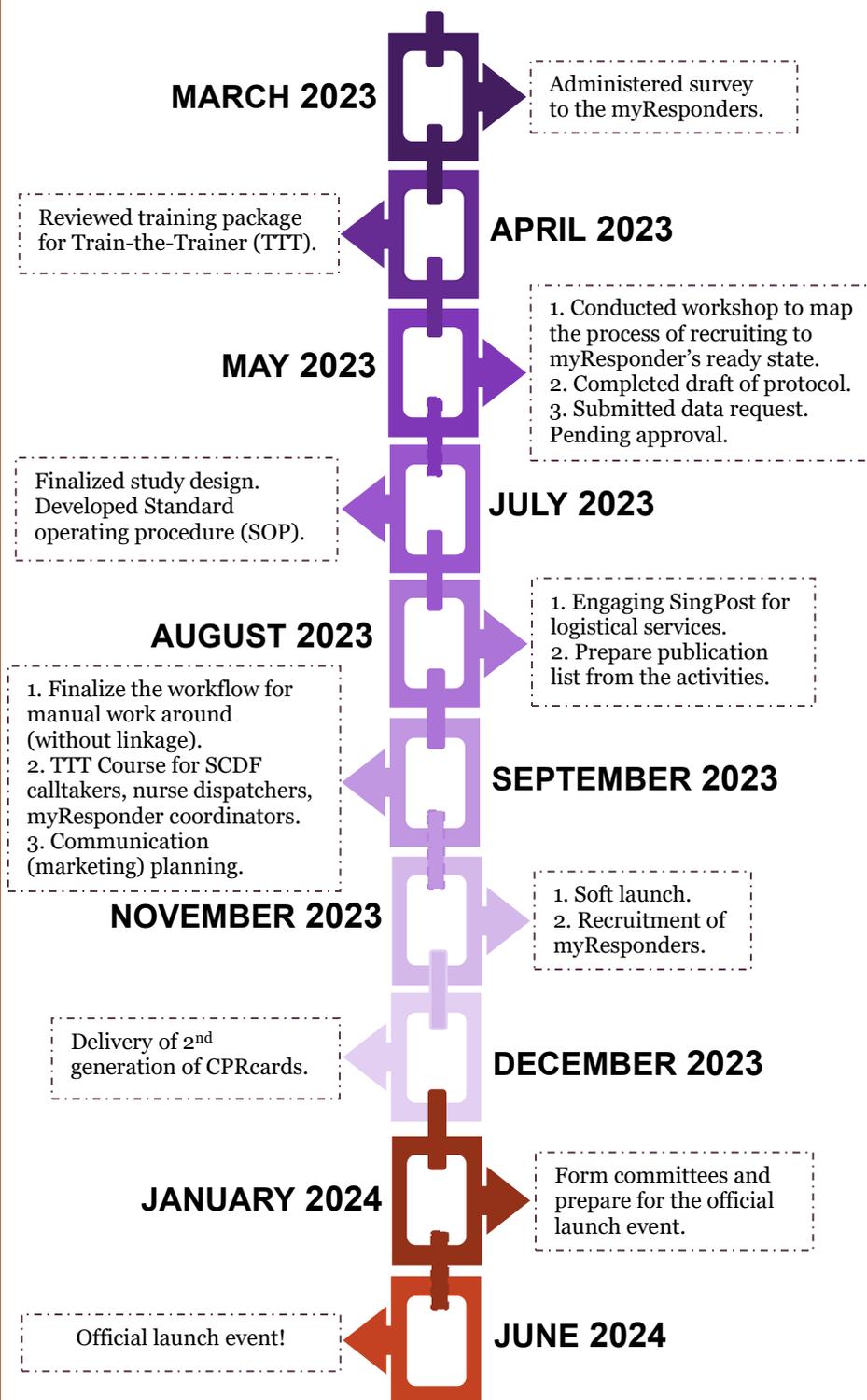
real-time feedback to the myResponders and provides the call-takers with CPR data and video in real-time during an out-of-hospital cardiac arrest (OHCA) case. This will help the call-takers provide more targeted coaching and a better understanding of the situation. The TCPRLink system consists of the second generation of CPRcard, TCPRLink app, myResponder app, and TCPRLink web. The myResponders need to download the TCPRLink Singapore app and then pair the CPRcard with the app via a Bluetooth connection.

During an OHCA case, the TCPRLink app serves two functions:

1. Provides the myResponder real-time CPR feedback, using icons and text, when the CPRcard is connected.
2. Sends live stream CPR data and video to call-taker using TCPRLink web. The call-takers can then coach myResponder to achieve high performance CPR.

Hopefully this collaboration can improve the quality of resuscitation and survival rate of OHCA victims.

## TCPRLINK TIMELINE



## IN THE EYES OF AN EMERGENCY PHYSICIAN WORKING AT 995 CALL CENTRE

Dr Benjamin Leong has been working as an emergency physician for 26 years and is now a Senior Consultant at the National University Hospital (NUH). He began his involvement at the 995 call centre in 2011. Here he shares with us about the cycle of change while working as a doctor and at the emergency call centre.

“Most of us “change if we have to”. The late Jack Welch, then Chairman and CEO of General Electric said “Change *before* you have to”. But why change if you do not have to? The process of change is not easy, often thankless, and sometimes painful. However, if that change brings about positive impact, it is effort well invested.

To me as an emergency physician, cardiac arrest is the emergency of emergencies. As a young emergency physician two decades ago, I lamented that my efforts to resuscitate a patient in the Emergency Department (ED) were often fruitless. Yet my mindset was that I could but only do my best when the patient was brought to my ED.

What I had not imagined then was making the change outside my box. When we first learned about DA-CPR, this was not change that we “had” to do. We did not “have” to do it. We could have just continued to be very professional emergency physicians performing top notch and cutting-edge resuscitation in EDs. But it would not have improved the survival of our patients at all. There would have been no *impact*.

Thus, the small group of us began the work we did at SCDF Ops centre. Change management is about managing the process of change. It also includes the process of changes within the management. From working with the leadership, to teaching the call takers to acquiring new mindset, to coaching them to performing DA-CPR, to tracking the performance of the new initiatives, we dived deep to effect the change.



Figure 1: A portrait of Dr Benjamin Leong in his early years being an ED physician.



Figure 2: Dr Leong giving a presentation on DA-CPR.

Over more than a decade, we introduced nurses into the Ops centre, implemented DA-CPR, seen bystander CPR rates dramatically rise, and numbers of survivors increase. We found new ways of identifying patients without breathing and published our findings. Community first responders were activated through our myResponder app. We set up online medical control protocols for access to physicians by the paramedics. We have participated in research for speech to text Artificial Intelligence (AI) to recognize local conversational patterns that involve a mixture of languages.

The Ops Centre is still doing more change and innovation. We are moving on video triaging using our Video Enhanced Emergency Number (VEEN). We are working to create alternative care and service pathways for our patients. We are studying the effect of gender

on DA-CPR and of course, the CPRcard and TCPRLink app for real-time CPR quality feedback. The cycle of change continues to spin and make an impact for our patients.”

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