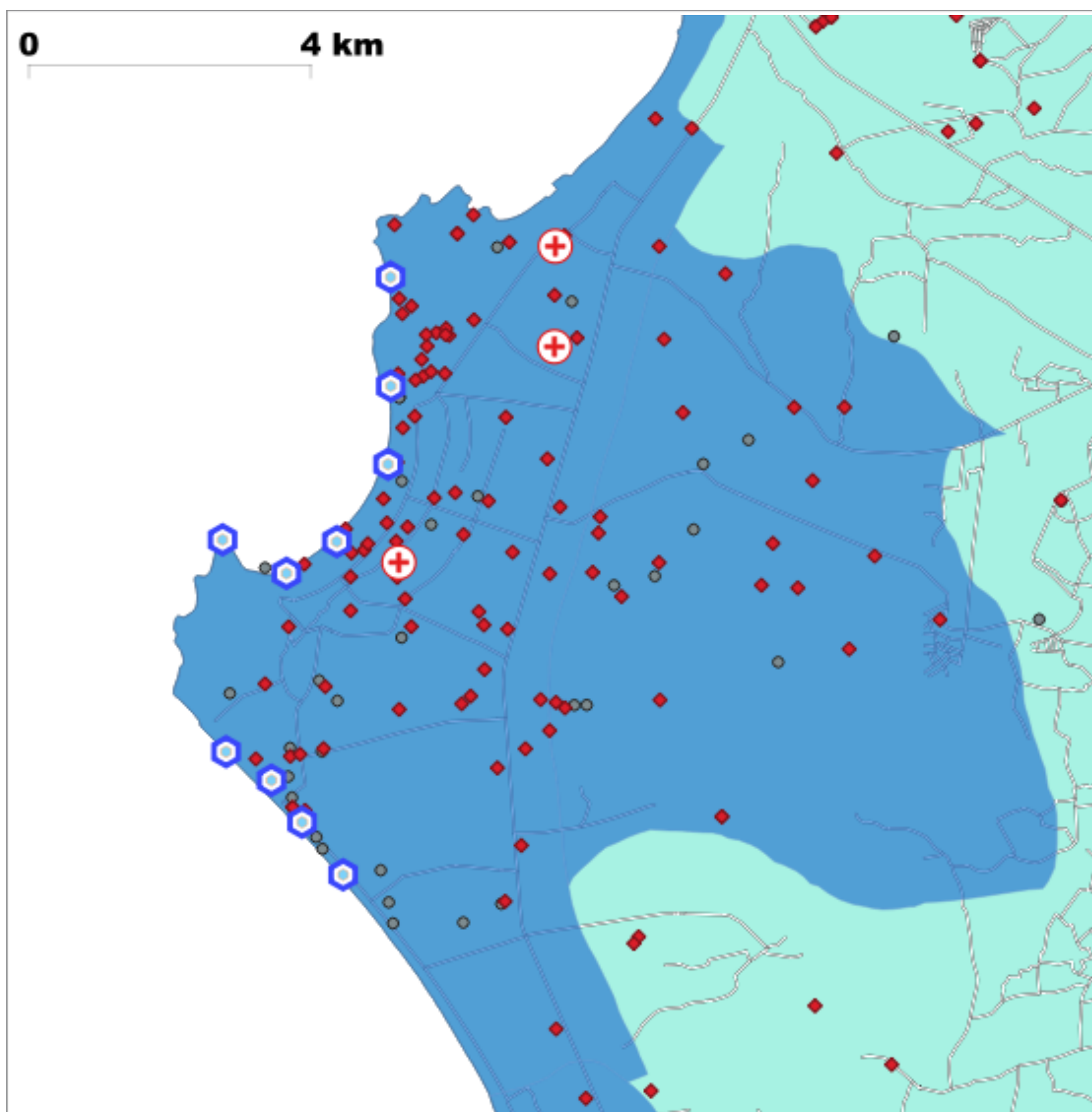


Drone AED Project - Phase III : Feasibility study of implement Drone AED to OHCA situation

Nalinas KHUNKHLAI MD¹, Natchaya TREESAKSRISAKUL MD², Michael CURRIE³, Daniel GONCALVES³, Parinya KUNAWUT MD^{1,4}, Sarayut WIBOONCHUTIKUL MD^{1,5}
1 Thai Resuscitation Council (TRC) 2 Department of Emergency medicine and Narenthorn EMS centre Rajavithi hospital, 3 Fling Urban Drone Solutions 4 Faculty of Medicine, Ramathibodi hospital, 5 Cardiology unit Vichaiyut hospital



Hexagon : Calculated possible landing site for Drone UAV. Using the nearest coordinate to OHCA geolocations. Red Cross : Hospitals in study area - Bangkok Hospital Pattaya, Banglamung hospital , Pattayacity Hospital. QGIS and python programming were used for distance calculation.

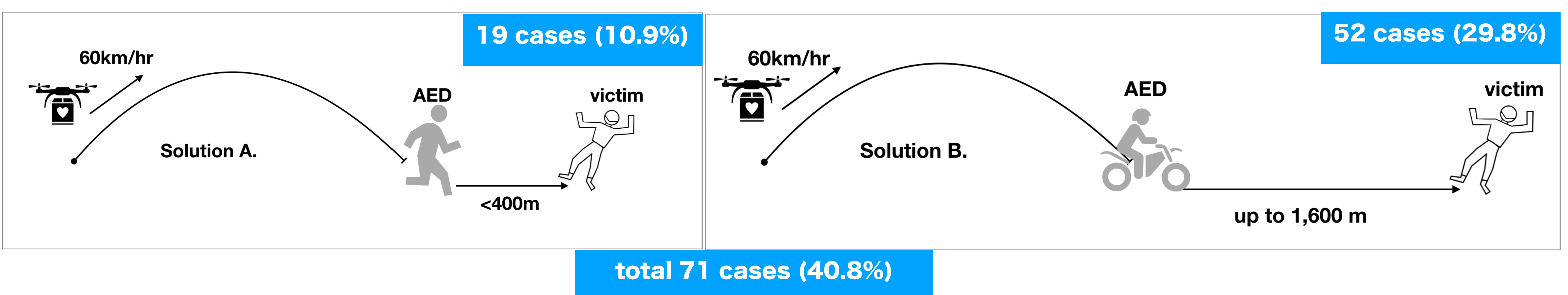
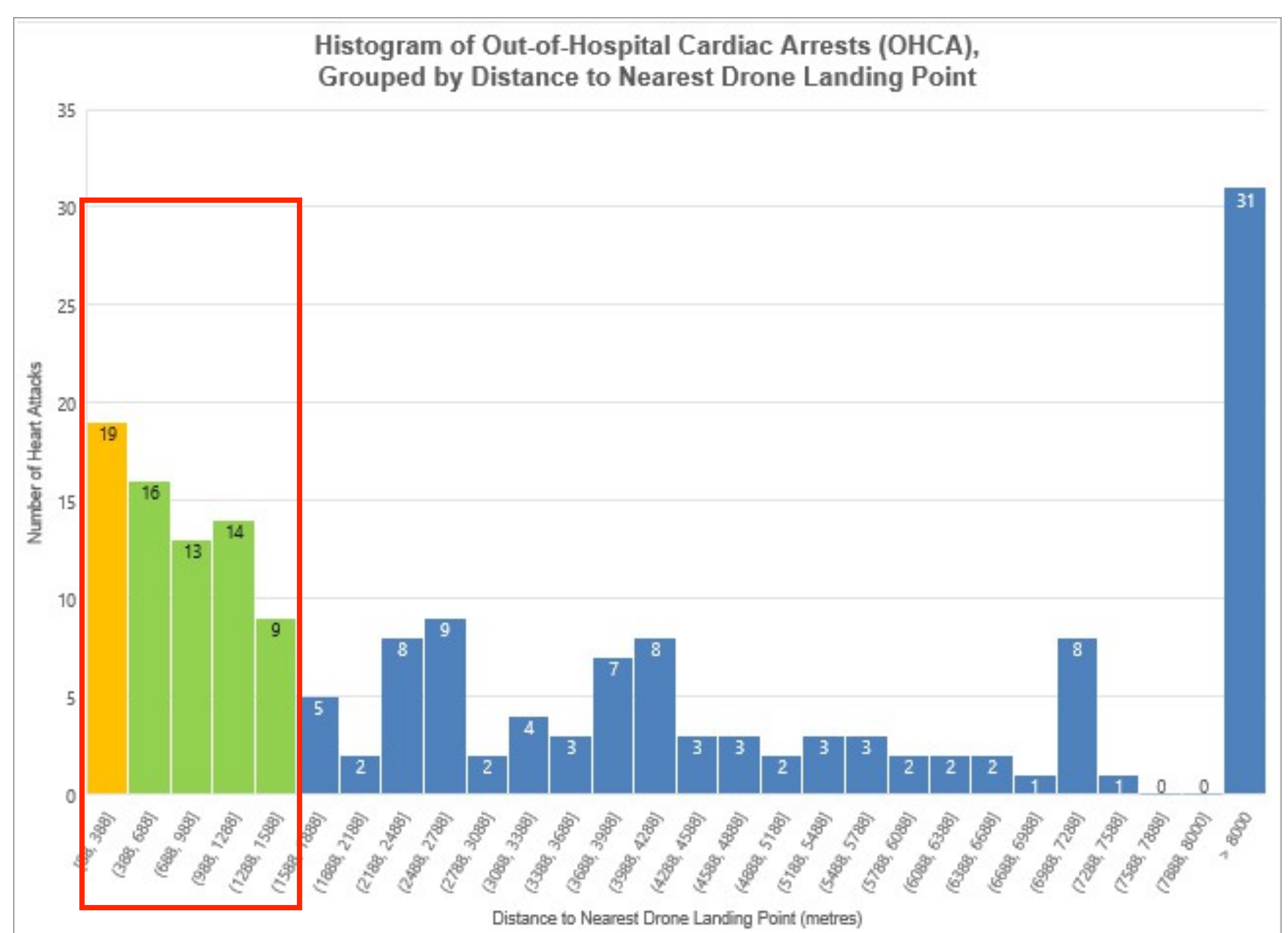
lat	long	OHCA	%coverage
12.963247	100.884516	40	22.989
12.939236	100.884002	37	44.253
12.886614	100.877736	29	60.920
12.949265	100.884444	25	75.287
12.929366	100.877221	20	86.782
12.8988	100.868451	12	93.678
12.893391	100.872415	6	97.126
12.925338	100.870616	3	98.851
12.90251	100.862544	2	100.000

Coordinates of each drone landing sites.

Objective : to identify the possible drone AED landing spot using OHCA geolocation from Phase I, aimed to decrease time from collapse to AED arrival.

Methods : using the OHCA coordinate from Phase I study , calculated the nearest landing site for Drone UAV along the shore lines (following the aviation safety regulations). QGIS program and python were used to calculate the distance. The number of OHCA per each landing sites was calculated. Univariate analysis was done for Median (IQR) distance from OHCA to each landing sites.

Results : 174 OHCA coordinates were calculated and resulted in 9 possible landing sites for Drone AED. The median distance from OHCA locations to nearest Drone AED landing sites is 2,560 meters (IQR 4,029). Shortest distance is 88 metres, the longest distance is 21,517 metres. There are 4 possible landing sites that can cover 75% of all OHCA's (131 of 174 cases). Drone AED can be imply into 2 possible solutions. The first solution is for short distance (<400m) in which can be running distance from Drone landing site to patient's site. There will be 19 cases (10.91%) of cases. For intermediate distance (400m to 1,600 m), the second solution would be Drone AED with First responder on Motorcycle system pick the drone from landing site to patients site. There will be 52 cases (29.8%) within this solutions. Up to both solution system, can coverage 40.8% of cases (71 cases) in addition to current EMS services.



Possible Utilization of Drone UAV carry AED to the designate patients side.

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Correspondent authors : Nalinas KHUNKHLAI MD nkhunkhlai@thaicpr.org , info@thaicpr.org

