
Safety and Wellbeing Plan:

Technical Appendix

Impact of Emergency Medical Response

Introduction

Kent Fire and Rescue Service (KFRS) have been responding to medical emergencies to assist South East Coast Ambulance Service (SECAMB) for a considerable number of years. Our long standing co-responding arrangement has been in place since 2003 and has consisted of seven on call stations having qualified firefighters responding in a KFRS provided car to medical emergencies where SECAMB identify them as the nearest resource. Traditional co-responders have responded to both Red 1 and Red 2 calls from SECAMB. A Red 1 call is a life threatening emergency that is now or could result in cardiac arrest which requires immediate response. A Red 2 call is a life threatening emergency that requires urgent response.

During 2015, in collaboration with SECAMB, KFRS decided to respond to medical emergencies with wholetime fire engines and officers in response cars. Under this arrangement, fire service personnel are sent to a medical incident as the quickest resource and will always be backed up by SECAMB. There is no charge for this work to our partners and we are not attending instead of SECAMB, simply trying to reach the patient in the fastest possible time. The intention of working with the ambulance service in this way is simply to save lives. The Arrhythmia Alliance charity estimates that 100,000 people die from sudden cardiac arrest in the UK every year. Early CPR alongside the use of a defibrillator will increase the survival rate from 9% to 50%. For every minute a person is in cardiac arrest, without receiving basic life support, their survival chances reduce by 10%. This approach went live in October 2015 with resources being made available for emergency medical response to Red 1 calls only.

Since going live, the Service has undertaken a phased roll-out across both the wholetime fleet and among officers. A phased approach has been used because of the resource and time requirements imposed by the following; obtaining and distributing the equipment required for medical emergencies, carrying out the enhanced staff security checks and vaccinating staff. At the time of writing this document, all 26 wholetime appliances and nine officers are equipped and trained to attend medical emergencies. It is also important to note however that undertaking this work is not currently a core activity for KFRS staff and therefore not all resources will be available to be deployed at all times dependent on the availability of staff with the necessary skills and impact of other KFRS priorities.

Although there has likely been a positive impact for SECAMB in terms of response times to their incidents, the purpose of this document is to assess the impacts of responding to medical emergencies on KFRS's core business activities. The data used in this report covers the period October 2015 to August 2017.

Caveats

There are a number of things to note when considering the contents of this document:

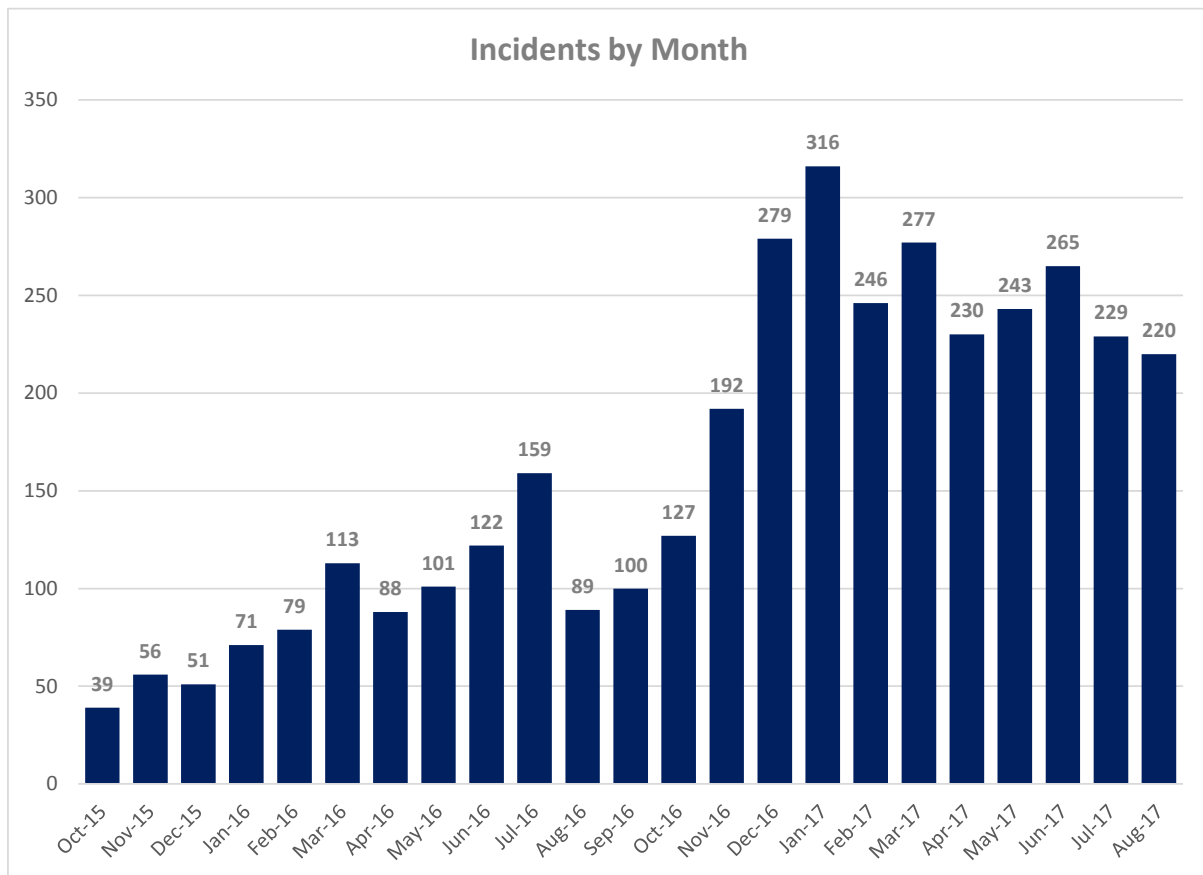
- Initially resources were mobilised directly by SECAMB and then our Fire and Rescue Control Centre (FRCC) was informed so the timings we have are not as accurate as we would like. Mobilising is now carried out directly by FRCC after receiving a call from Ambulance Control but this is a new change and came about as a result of learning from the project.

- Not all appliances and officers started responding at the same time so a change in demand patterns over the months could be an indication of more resources becoming available.

Impact of Emergency Medical Response on KFRS

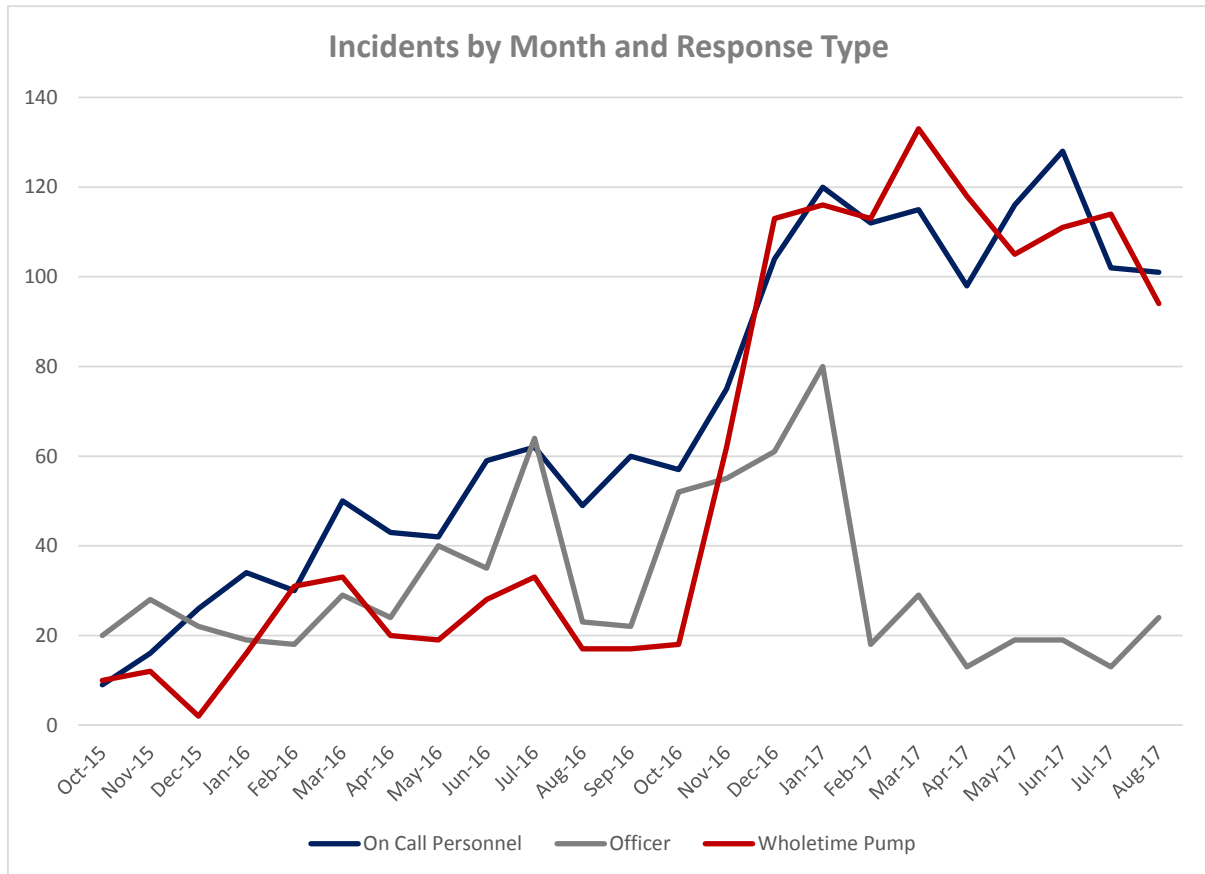
Inevitably there has been an increase in mobilisations of our fire engines and officers since this approach began. During this review period, the number of emergency medical incidents accounts for 12.2% of the total incident demand for KFRS. Over the months however, the proportion of incidents emergency medical response has accounted for has fluctuated up to a maximum of 24%.

The level of demand appears to indicate a spike from December 2016, which although this is consistent with a greater demand for the NHS in general it is also likely related to the point where more KFRS resources were available for use in this way. As previously mentioned, resource availability for this type of call has happened gradually over the period. The resource committed to these incidents has not changed over the last six months and the level of activity has remained largely static with an average of 244 incidents per month.

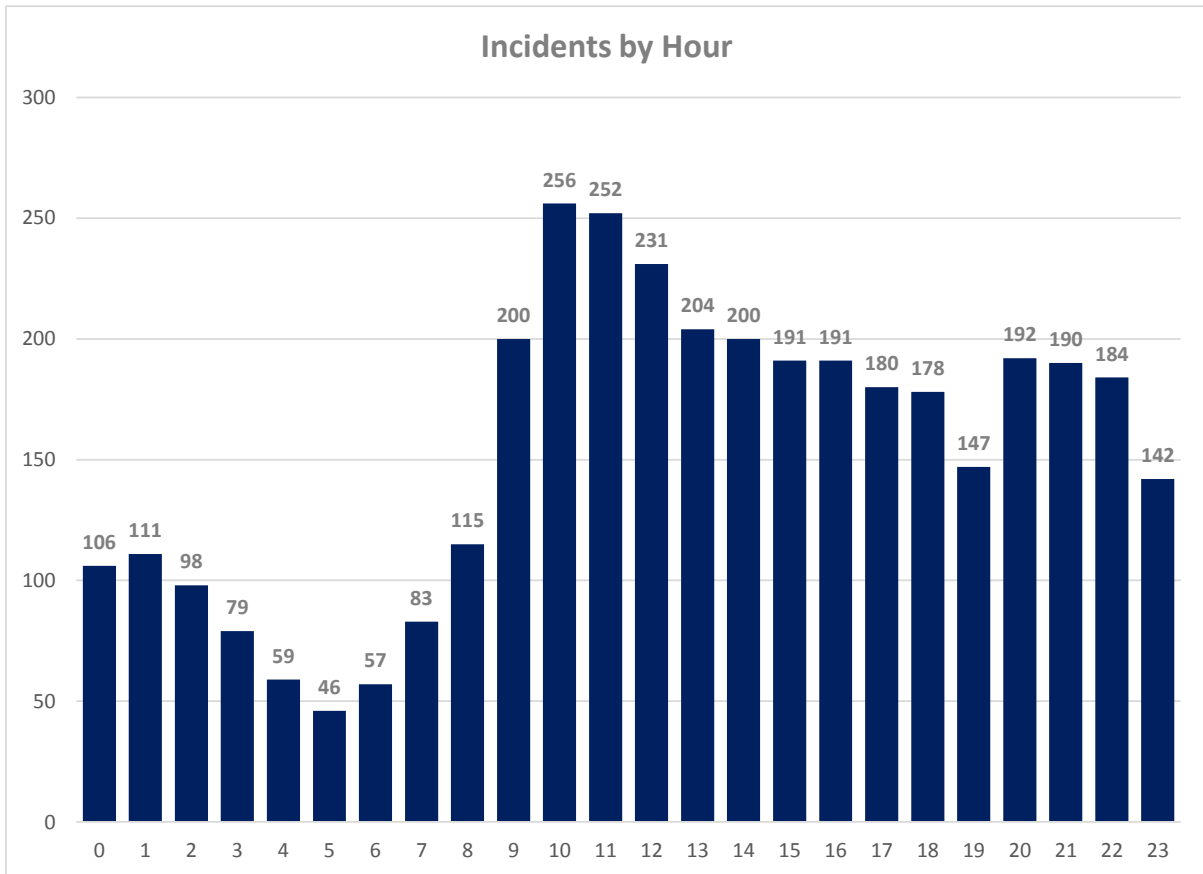


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When the breakdown of incidents by month is also broken down to detail the type of resource used it is evident that the majority of the demand is being met by the wholetime fire engines and the co-responding vehicles. The number of times officers in response cars are used is considerably lower although this is to be expected given the number of resources in question. There is an obvious decline in the number of officer medical response incidents from February 2017. This can, in the most part, be attributed to a change in officer availability to attend these types of calls.

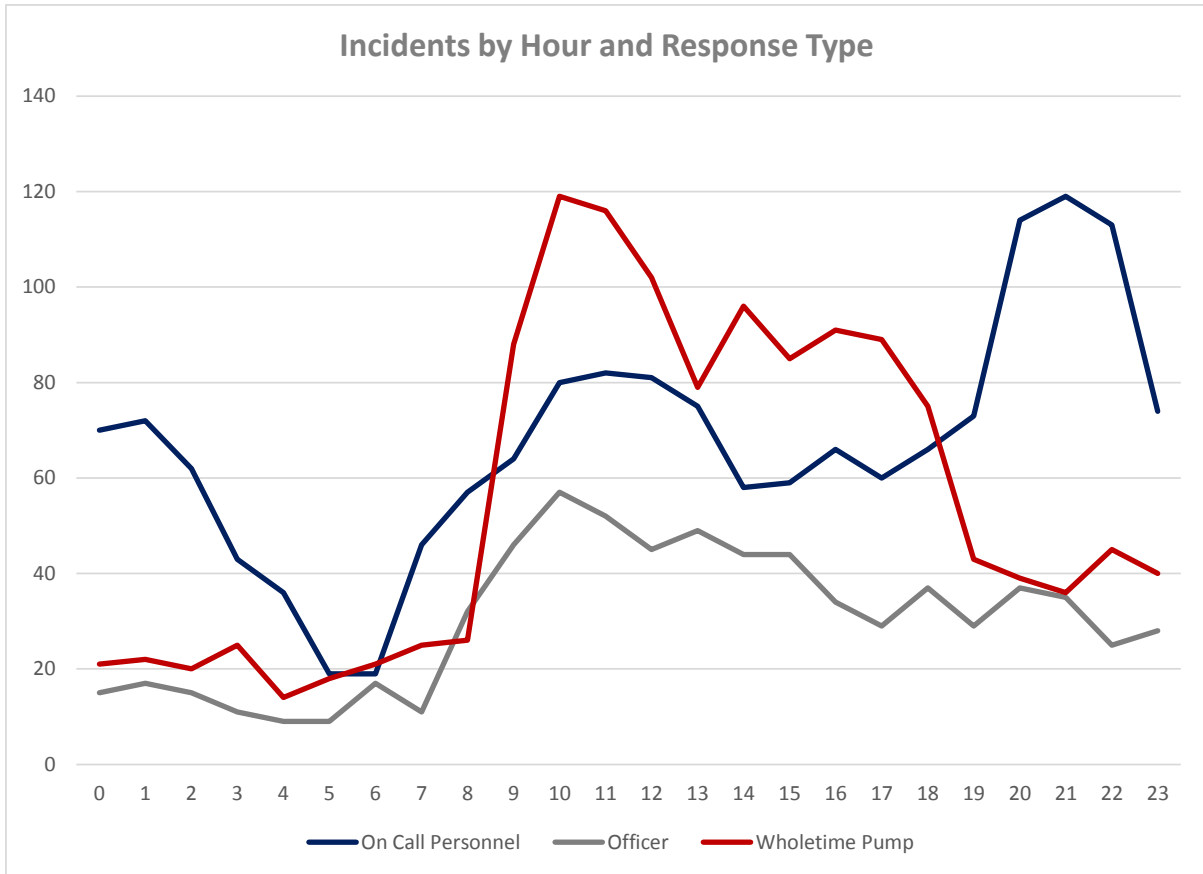


There appears to be a greater demand for attending emergency medical incidents between the hours of 10am and 1pm. The level of activity is higher during the daytime however caution should be used here as nine of the 26 wholetime fire engines only respond to these incidents between the hours of 9am and 6pm. As with all the data contained in this document, the level of activity is heavily influenced by the amount of time personnel make themselves available to respond and therefore is not necessarily an indication of the demand requirements of SECamb.



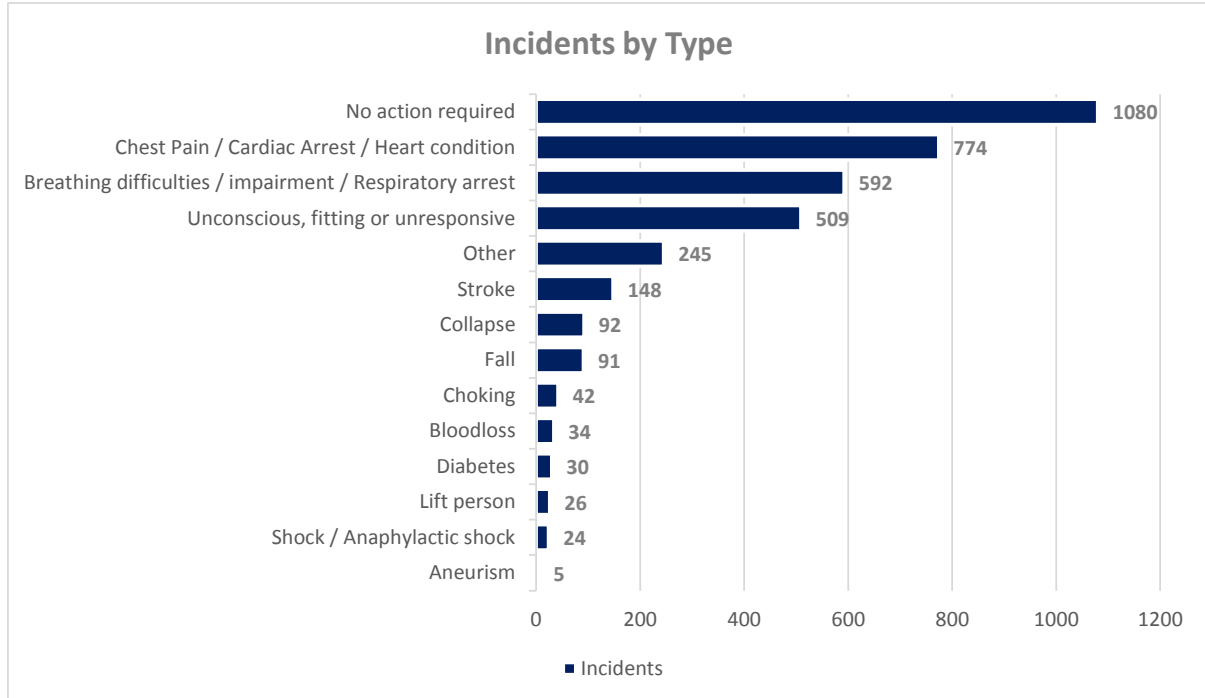
The demand profile by time of day changes significantly when each individual resource type is considered. Whilst the level of demand increases for all resources from 9am the pattern throughout the day changes. For officers the level of activity shows less fluctuation throughout the day whilst the co-responder vehicles increase over the late evening. This is most likely related to the availability of on call personnel to respond to these incidents being higher at this time of the day. For wholetime fire engines, the demand appears to drop off from 6pm. This will be impacted by those crews that work the day crewed duty system where they respond from home in the evenings. For these shift patterns, they do not respond to medical emergencies when they are off station.

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On average KFRS resources are committed to medical emergencies for 36 minutes but this will obviously vary depending on the incident in question.

On almost 30% of occasions no action has been required by KFRS personnel at these incidents, most likely due to arriving on scene at the same time or slightly after SEC Amb. A further 50% of these incidents have been categorised as either cardiac arrest/breathing difficulties or unconscious/fitting. This is consistent with the red 1 incidents KFRS respond to.



For any incident KFRS crews complete information on what they have attended including any casualty details. It is important to note with this information that the status of the patient is recorded at the point when the crews left the scene and does not account for any outcomes for the patient after this point. There have been 2,511 casualties recorded out of the incidents attended over the period. Medical emergency incidents KFRS attends are by definition those incidents where people are less likely to survive. However, by KFRS attending quickly we can provide the best chance of survival to the patient and also provide support to family and friends who may be trying to provide basic life support at a very distressing time. Over the period KFRS have attended 312 deaths (12.4% of all casualties recorded) and a further 2,199 casualties. These outcomes vary by age bracket with a higher proportion of casualties within the higher age brackets. It is also evident that the higher number of deaths correspond with the higher age brackets; over 15% of those aged over 51 have died compared to 5% for those aged under..

	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91+
Death	7	3	6	11	20	44	55	71	67	28
Casualty	164	122	171	171	187	243	303	377	336	125
Total	171	125	177	182	207	287	358	448	403	153

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The levels of activity vary across the County but once again this will be impacted by the availability of resources not just the demand distribution for SECamb. In terms of impacts on KFRS activity is higher in the Mid Kent and North Kent groups particularly in the Strood, Sheppey, Tunbridge Wells and Maidstone clusters. There is also a higher level of activity in the Thanet cluster.

	On Call Personnel	Officer	Wholetime Pump	Stood Down En-route	Total
East Kent	22	118	550	10	700
Canterbury	6	31	60	1	98
Deal	14	27	41	0	82
Thanet	1	52	362	7	422
Whitstable	1	8	87	2	98
Mid Kent	376	513	199	5	1,093
Maidstone	209	150	53	3	415
The Weald	7	4	0	0	11
Tonbridge	133	36	28	1	198
Tunbridge Wells	27	323	118	1	469
North Kent	914	30	230	1	1,175
Medway	12	23	21	0	56
Sheppey	403	1	82	0	486
Strood	497	2	27	1	527
Swale	2	4	100	0	106
South Kent	296	24	106	5	431
Ashford	38	10	16	1	65
Dover	2	4	42	1	49
Folkestone	15	9	48	0	72
Romney Marsh	241	1	0	3	245
West Kent	0	24	238	1	263
Dartford	0	4	31	1	36
Gravesham	0	4	60	0	64
Larkfield	0	7	52	0	59
Sevenoaks	0	9	95	0	104
Outside Kent	0	18	12	0	30

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There is the potential that fire and rescue (FRS) incidents could not be attended by the nearest fire engine if they are in attendance at a medical emergency. Whilst this is in reality no different to having two FRS incidents at the same time it is appropriate to be aware of any issues this may have caused over the period. Fire cover is a complicated process and is impacted by many factors. KFRS use a geographical area around the stations, referred to as a station ground, which is determined based on the quickest resource to an output area. To assess any incidence of a simultaneous FRS and medical emergency call it has been assumed that a FRS incident has been received while the fire engine is committed to a medical emergency and that both of these have happened on the same station ground. Over the period there have been 12 occasions where this has happened. Of those 12 FRS incidents only one was determined as a life threatening incident. This was an incident involving a child locked in a car which has been determined as life threatening due to the recording of a rescue of a person. This incident was attended by the neighbouring fire engine within 12 minutes. The remaining incidents were non-life threatening incidents such as RTCs where minimal intervention was required or animal rescue incidents.