NHS
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INTEGRATING ACCESS TO URGENT & EMERGENCY CARE
Building a world-class ambulance service for a world-class city
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Maximising the contribution of Advanced Paramedic Practitioners (APP)

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Outline

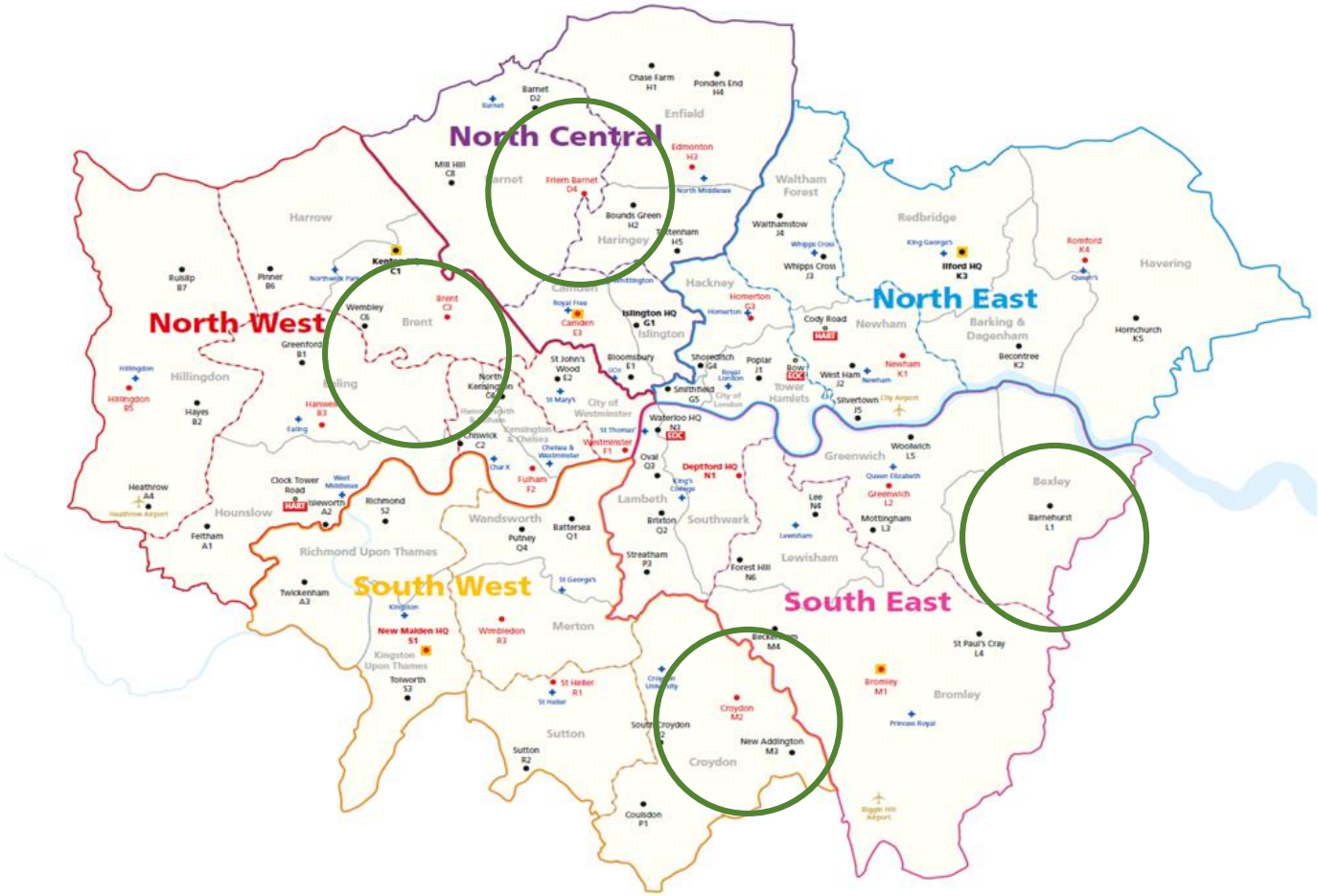
- Advanced Paramedic Practitioner Role
- Methodology
- Results
- Conclusion
- Future

Advanced Paramedic Practitioner

- Eligibility criteria
  - Five years paramedic experience (pro-rata)
  - Clinically relevant BSc
- Selection process
  - Clinical interview
  - OSCE assessment centre
- Education & development
  - MSc Advanced Practice
  - Rotational placements with GP and urgent care centre providers

Operational deployment

- Solo responders
- All categories of call
- 4 x operational sites
  - Brent
  - Croydon
  - Friern Barnet
  - Barnehurst



Methodology

- Ongoing review of clinical records and re-contacts
- Statistical modelling including regression analysis and case matching
- Aim: to develop a data model that allows us to better define marginal gains and value added by APP-UC versus BAU

Matching criteria

incidentid__app	20180225004438
month__app	Feb-18
flag_weekend__app	1
flag_ninetofive__app	0
age_group__app	20
dohcategory__app	C3
ccgcluster__app	South East
min__illnesstype__app	Abdominal pains
max__illnesstype__app	Other medical conditions
conv_ed__app	1
conv_other__app	0
conv_none__app	0
onscene_conv__app	79.333333
onscene_noconv__app	NULL
jobcycle__app	93.533333
mar__app	2
incidentid__bau	20180211004305
month__bau	Feb-18
flag_weekend__bau	1
flag_ninetofive__bau	0
age_group__bau	20
dohcategory__bau	C3
ccgcluster__bau	South East
min__illnesstype__bau	Abdominal pains
max__illnesstype__bau	Other medical conditions
conv_ed__bau	1
conv_other__bau	0
conv_none__bau	0
onscene_conv__bau	23.3
onscene_noconv__bau	NULL
jobcycle__bau	68.683333
mar__bau	1
match_num	1

APP-UC

BAU

- Age (0-19, 20-39, 40-59, 60-79, 80-90)
- Time of day (0900-1659, 1700-0859)
- Time of week (weekday, weekend)
- Incident location
- Triage acuity (Cat 1-5)
- Presenting illness or injury

Performance metrics

Re-contact rate 2.5% @ 24 hours

	APP-UC		BAU			MATCHED		
	n = 1,578	95% CI	n = 835,604	95% CI	Sig	n = 1,277	95% CI	Sig
See and convey to ED	25%	(22%, 28%)	64%	(60%, 68%)	*	61%	(55%, 67%)	*
See and treat or refer	73%	(69%, 76%)	27%	(24%, 30%)	*	28%	(23%, 33%)	*
See and convey to other	2.50%	(1.5%, 4%)	9%	(6%, 15%)	*	11%	(7%, 18%)	*
On-scene time (Non-conveyance)	81	(78, 84)	61	(58, 64)	*	66	(60, 72)	*
On-scene time (Conveyance)	83	(81, 85)	37	(35, 40)	*	35	(32, 38)	*
Job cycle time	96	(93, 98)	92	(90, 95)	*	91	(88, 95)	*
Multiple attendance ratio	1.32	(1.28, 1.36)	1.21	(1.18, 1.25)	*	1.1	(1.05, 1.16)	*

ED conveyance by condition

	APP-UC			BAU				MATCHED			
		n	95% CI		n	95% CI	Sig		n	95% CI	Sig
Abdominal pains	34%	232	(26%, 44%)	78%	60,395	(78%, 79%)	*	69%	202	(59%, 78%)	*
Pain - Other	37%	177	(27%, 49%)	69%	71,084	(69%, 70%)	*	63%	144	(51%, 75%)	*
Other medical conditions	39%	166	(28%, 50%)	70%	70,416	(70%, 71%)	*	70%	136	(57%, 81%)	*
Pain - Back	24%	160	(15%, 36%)	68%	27,873	(68%, 70%)	*	70%	137	(58%, 81%)	*
Vomiting	34%	124	(22%, 47%)	72%	35,258	(72%, 74%)	*	64%	66	(45%, 80%)	*
Dizzy/near faint/loss of coordination	23%	75	(11%, 39%)	71%	27,090	(71%, 72%)	*	64%	53	(43%, 82%)	*
Urological	26%	65	(12%, 44%)	79%	13,236	(79%, 81%)	*	72%	36	(47%, 90%)	*
Head Injury – Minor	31%	64	(16%, 50%)	77%	31,135	(77%, 78%)	*	69%	51	(48%, 85%)	*
Generally unwell	56%	59	(37%, 74%)	74%	36,876	(74%, 76%)	*	65%	37	(40%, 85%)	n.s.
Minor cuts & bruising	10%	59	(2%, 26%)	54%	18,219	(54%, 56%)	*	40%	48	(20%, 61%)	*
Sepsis	96%	25	(NA)	98%	24,311	(98%, 98%)	-	100%	12	(NA)	-

Conclusions

- Significantly lower non-conveyance with APP-UC versus BAU
- Conveyance difference varies according to illness or injury
  - Need to establish optimal marginal gains with APP-UC
- Job cycle time comparable
- Lower re-contact rates than BAU
- Lower staff and vehicle costs than ambulance response
- Provides career development aiding retention and satisfaction

Future

- Further develop regression analysis and matching
- Incorporate further variables (e.g. NEWS2)
- Better understand marginal gains with APP-UC
- Health economic analysis
- Expansion of programme