

Title: **Modernising inpatient referral systems:
switching from ‘On-Call’ to ‘On-Line’**

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We would like to commend Rahman *et al* for their work highlighting the reasons for delays in inpatient consultations.¹ The authors found that miscommunication between referring and receiving teams was responsible for 34% of all delays each with an average delay of 1.6 days in length of stay (combining communication and power dynamic categories).

Miscommunication is avoidable and modifiable and should become a priority target for quality improvement projects.

At University College London Hospital, in Neurology we have switched from a mobile phone service to an email referral system in November 2018. We quantitatively evaluated both the phone call-log in October 2018 and the new referral email inbox in January 2019 (Table 1). With our phone system, 63% of incoming calls were missed and 44% of outgoing calls were not answered. Incoming calls were erratic with 33% of all calls being received on Fridays and almost half of calls coming between the hours of 09:00 – 10:00 (25%) or 16:00 – 17:00 (22%).

Conversely, with our email system all emails (both incoming and outgoing) were acknowledged (none were missed) within 24 hours of being sent. Incoming email referrals had a more even distribution through both the time of day and day of the week. A post-hoc survey of users revealed that e-Referrals were associated with far-reaching benefits including: (i) more secure method of receiving referrals, (ii) easier referral prioritisation, (iii) minimises disruption to ongoing consultations, mitigating errors caused by interruptions,² (iv) documentation provides an audit trail enabling retrospective interrogation of case management, (v) instant automatic replies acknowledges referral receipt and provides key contact details e.g. specialist nurse emails, and answers to frequently asked questions. There was an overall consensus that referrals became faster and patients were reviewed quicker helping to reduce length of hospital stay, consistent with other e-Referral systems.³

However the survey also revealed that e-Referrals prevent real-time communication that is available via the phone. Indeed verbal discussion about the patient with the referring team often leads to insights that are not readily accessible through the referral email alone. There was also concern that e-Referrals may lead to an increase workload on an already stretched workforce, and although this effect has been suggested previously⁴ we and others found no evidence of this.⁵ Additionally some neurological issues are urgent (e.g. stroke, status epilepticus, and neuromuscular weakness) which often necessitates emergent verbal

discussion with the specialist. We therefore suggest that an optimal referral system involves a hybrid of e-Referrals combined with a mobile phone for hyper-acute emergencies.

In this era of rapid development in electronic medical record technology, we no longer have an excuse for miscommunication to remain the primary factor causing delays to patient care. In support of this *The Topol Review* recently outlined how to prepare the *NHS* to deliver the digital future. This was followed by the Health Secretary, Matt Hancock MP, introducing a requirement to phase out pagers and fax machines by the end of 2021, and replace them with electronic messaging system Apps, such as *Medic Bleep*, which should save £6.6 million annually. Based on the results from Rahman *et al*, centres should switch towards up to date electronic systems that optimise communication between different medical teams.¹

References

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Table 1: Comparison of Phone and Email referral systems

	Phone	Email
<i>Incoming messages</i>		
Total	99	100
Unique referrals	50 (51%)	65 (65%)
Messages missed	62 (63%)	0 (0%)
<i>Outgoing messages</i>		
Total	54	23
Messages missed	20 (44%)	0 (0%)
<i>Busiest Period</i>		
Week-day	Friday	Thursday
Hour slot	09:00 - 10:00	12:00 - 13:00

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Details of contributors:

OJZ designed the study concept, contributed to data extraction and drafting of the manuscript. ER performed data extraction and drafting of the manuscript. OJZ and ER contributed equally to this paper. CT contributed to the study concept and critical revision of the manuscript. AC led the study group, contributed to the study concept and drafting of the manuscript.

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Transparency declaration:

The lead author (AC) affirms that the manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned have been explained.