NHSMAIL: A SYSTEM FOR INTEGRATED OPHTHALMOLOGY HANDOVER, REFERRALS, AND EMERGENCY EYE CLINIC BOOKINGS

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BACKGROUND AND RATIONALE

- The Royal London Hospital (Barts Health NHS Trust) ophthalmology department operates a busy round-the-clock on-call service, provided by ophthalmology trainees and fellows:
  - Between 9am and 5pm (in-hours), phone calls are received by the ophthalmologist covering the emergency clinic.
  - After 5pm until 9am, calls are received by the non-resident-on-call (NROC) ophthalmologist.
  - NROC is when the doctor is required by the employer to be available to return to work or to give advice by telephone, but are not normally expected to be working on site for the whole period. This is the typical working pattern for an NHS ophthalmologist providing the out-of-hours on-call service.
- Frequently there are calls for trivial, non-urgent matters during these periods:
  - **In-hours,** this **displaces time spent during consultations with patients**, and can **interrupt examinations** or diagnostic or therapeutic procedures that require concentration or sterility.
  - **Out-of-hours,** the NROC doctor is often **disturbed from sleep** for matters that can be referred non-urgently.
  - Many departments, including ours, **do not provide a zero-hour day following the NROC**, and are rostered to be clinic or theatre lists the following day.
  - Not surprisingly, this has resulted in **sleep deprivation and suboptimal energy level for clinical and surgical duties, risking patient safety.**



- Importantly, it has led to the **breach of the Terms and Conditions of the Junior Doctors Contract 2016** on multiple occasions, which **stipulates that NROC doctors must have a minimum of 5 hours of continuous rest between 10pm and 7am**.



- To combat these issues and to reduce the burden of calls on our on-call doctors, we developed a **quality improvement project (QIP),** which adapted the existing **NHSmail service for the implementation of a new integrated handover, referrals, and emergency clinic bookings system**.

METHODS

The old system

- An email containing a list of patients referred to the on-call ophthalmologist in chronological order of upcoming emergency clinic appointments
- Included: patients details, date and time of their appointment, SBAR format handover
- Email edited at the end of each on-call session:
  - Patients seen and discharged were removed
  - Patients seen and for further review were updated
- Once edited, email is sent out to all trainees and consultants, i.e. thrice daily email
- **Issues:**
  - Consistently suffered from formatting problems as the email is edited on different devices/apps/browser, which remove formatting
  - Double-booking often occurred if the email was sent out late, so the next on-call ophthalmologist did not an have up-to-date list of upcoming appointments at the start of their session
  - Requires a lot of time to edit

Our solution



- NHSmail is the secure email service approved by the Department of Health and Social Care for sharing patient identifiable and sensitive information.
- It recently underwent a significant upgrade in Autumn/Winter 2020, whereby the service migrated to the Microsoft Outlook Online platform.

How it works

Our new system employs the **email and calendar functions of NHSmail.**

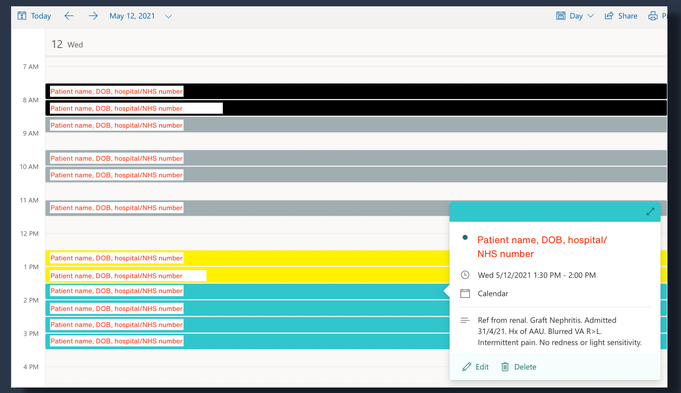
Dedicated nhs.net email created by IT department, access given to ophthalmologists and admin staff

Referring clinician calls or emails on-call ophthalmologist

Photos can be requested and sent to the email address

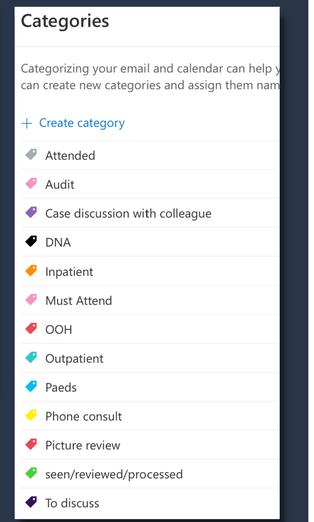
Ophthalmologist opens online calendar on computer browser or via phone app

New appointment created in spare slot with patient details as the heading and referral information in SBAR format



Type of patient can be categorised in a variety of ways (colour-coded)

Patients for further review can be duplicated or the date/time changed



RESULTS

- To evaluate our intervention, we audited our on-call sessions, pre- and post-implentation of the new system.
- Data were collected during 42 consecutive on-call sessions (equating to two weeks) covered in October-November 2019 using our old email-only based handover system and 42 consecutive on-call sessions using the new system.
- On average, the **old system added 35 minutes to each on-call session (range 15-92 minutes).**
- Upon implementation of our new system, we achieved a mean **reduction in added time to on-call sessions of 30 minutes.**
- The seven (FY2, ST1, ST2, ST4, three clinical fellows) who covered this period of data collection were surveyed:
  - **100% preferred the new system,** citing reasons discussed in the next section.

DISCUSSION

The drastic reduction in added time to on-call sessions has stemmed from **shorter call length time (referring clinician can be directed to the email address), reduced incidence of clinic overbooking, smarter triaging,** and **better satisfaction during on-calls.**

Our solution can be evaluated according to the common requirements that all software applications must satisfy to be successful:

- **User experience:** using an existing platform which is familiar to all NHS employees, easy-to-learn, saves clinician time whilst taking referrals
- **Availability:** The online booking system can be accessed at any time and on any type of device
- **Performance**: no downtime experienced thus far, 24/7 support from NHS IT
- **Scalability:** it can be deployed anywhere within the NHS
- **Adaptability:** patient categories can be created to suit local needs
- **Security:** adheres to secure email standard (DCB1596) so that everyone can be sure that sensitive and confidential information is kept secure.
- **Economy:** it is a *100% free solution*

Weaknesses:

- Doctors sometimes forget to add patients to calendar
- Referring clinicians may not be aware of the email and will still call for non-urgent matters

CONCLUSION

- Our quality improvement project has shown that **simple utilisation of an existing infrastructure available to all NHS organisations can improve efficiency and staff satisfaction**, while improving **compliance with the Junior Doctors Contract 2016.**
- We therefore **strongly recommend** its use to our ophthalmology colleagues nationwide, who run a similar on call service in their geographical region.