Methods A prospective database of consecutive patients who underwent EUS-TTNB from March 2020 to August 2022 was retrospectively analysed.
Results Thirty-four patients (22 female) were identified. Technical success was achieved in all cases. Adequate specimens for histological diagnosis were obtained in 25 (74%) cases. Overall, EUS-TTNB led to a change in management in 24 (71%) cases. Sixteen (47%) patients were downstaged, with 5 (15%) discharged from surveillance. Eight (24%) were upstaged, with 5 (15%) referred for surgical resection. In the 10 (29%) cases without change in management, 7 (21%) had confirmation of diagnosis with no change in surveillance, and 3 (9%) had insufficient biopsies on EUS-TTNB. Two (6%) patients developed post-procedural pancreatitis, and 1 (3%) developed periprocedural intracystic bleeding with no subsequent clinical sequelae.
Conclusions EUS-TTNB permits histological confirmation of the nature of PCL, which can alter management outcomes. Care should be taken in patient selection and appropriately consented due to the adverse event rate.

P193 THE NATIONAL ENDOSCOPY DATABASE AUTOMATED PERFORMANCE REPORTS TO IMPROVE QUALITY OUTCOMES TRIAL (NED-APRIQOT): MULTI-CENTRE RANDOMISED TRIAL OF POLYP DETECTION FEEDBACK

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Introduction Post-colonoscopy colorectal cancer incidence and mortality rates are higher for endoscopists with low polyp detection rates. Using the UK's National Endoscopy Database (NED), which automatically captures data real-time, we assessed if providing feedback of case-mix-adjusted Mean Number of Polyps (aMNP), a key performance indicator (KPI), in a theory-informed and evidence-based behaviour change intervention improved endoscopists' performance.
Methods The multicentre, prospective NED Automated Performance Reports to Improve Quality Outcomes Trial (NED-APRIQOT) randomised NHS endoscopy centres to intervention or control arms. Intervention-arm endoscopists were emailed personalised and tailored monthly reports automatically generated within NED, informed by qualitative interviews and behaviour change theory. The primary outcome was endoscopists' aMNP during the 9-month intervention.
Results During November 2020-July 2021, 541 endoscopists across 36 centres (19 intervention; 17 control) performed 54,770 procedures during the intervention period, and 15,960 procedures during the 3-months post-intervention. Comparing intervention-arm to control-arm endoscopists during the intervention period: aMNP was 7% higher although not statistically significance (95% confidence interval (CI) -1% to 14%; p=0·08). Unadjusted MNP (10%, 95%CI 1–20%, p=0.04) and polyp detection rate (PDR) (10%, 95%CI 4–16%, p=0.002) were significantly higher. Differences were not maintained in the post-intervention period. The intervention effect on aMNP was modified by centre workload (estimated marginal mean aMNP between arms for low-workload centres: intervention 108.85 vs. control 92.75; high-workload centres: intervention 100.48 vs. control 102.5; p for interaction=0.01).

Within the intervention-arm, endoscopists accessing NED-APRIQOT webpages had higher aMNP than those who did not (118 vs 102 aMNP, p=0.03). Intervention arm endoscopists prescribed hyoscine butylbromide in a larger proportion compared to the control group in both intervention and post-intervention periods (p<0.001). There was no difference in withdrawal time between the intervention and control group.
Conclusion Our automated feedback intervention significantly improved MNP and PDR during the intervention period; aMNP was also higher, but non-significantly so. Differences were not maintained post-intervention, suggesting feedback should be ongoing. The intervention effect was greater in lower workload centres, possibly reflecting the increased effectiveness of feedback on lower baseline performance. Engaged endoscopists benefited most indicating future work should address engagement in performance feedback.

P194 GREEN ENDOSCOPY MR64 SHARPS-BIN PILOT: PREFERRED, GREENER AND CHEAPER

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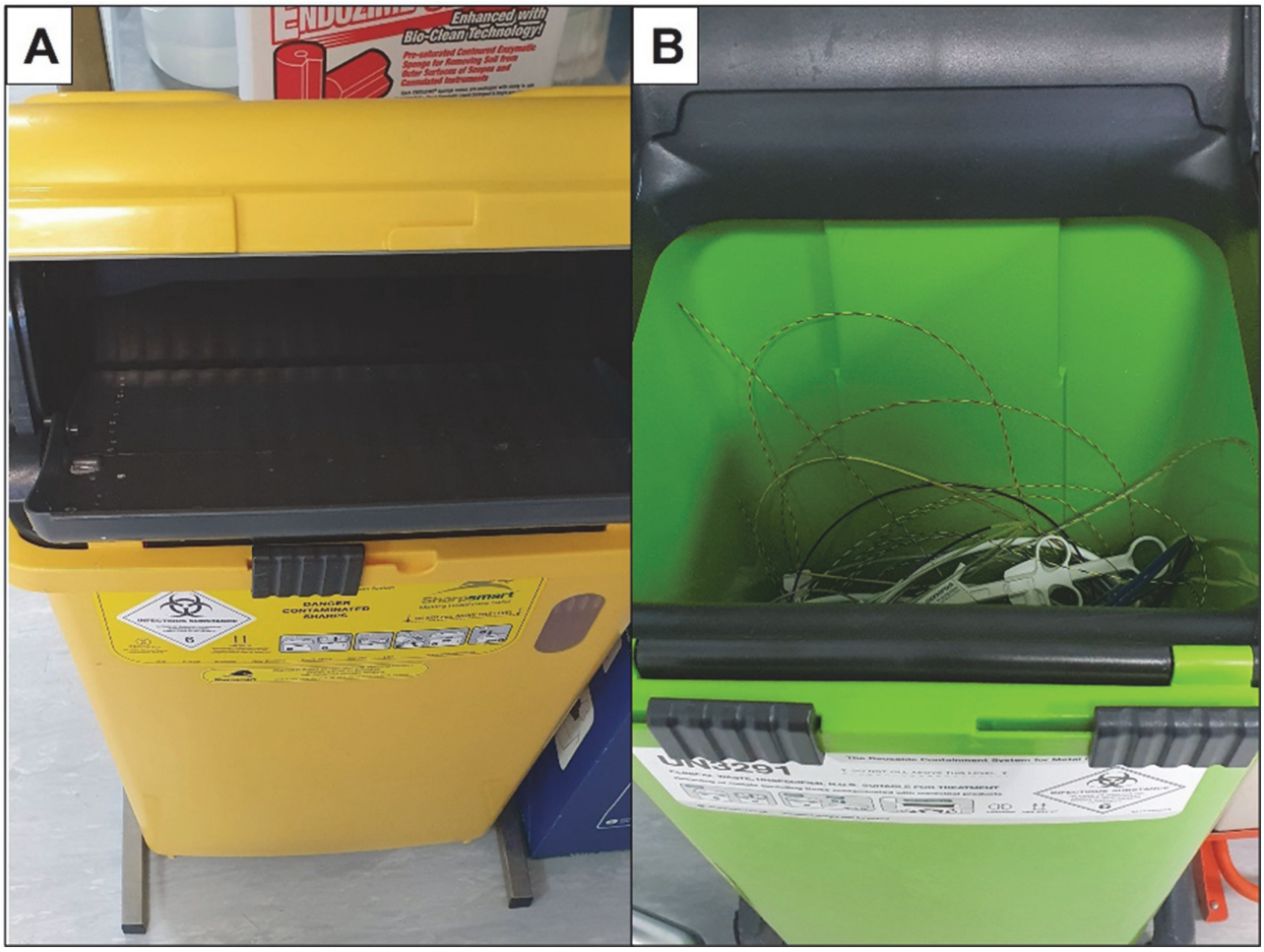
Introduction The NHS has committed to achieve 'net zero' carbon emissions by 2040. Nationally endoscopy is the third highest carbon emitting hospital department; driven in part by high single-use instrument turnover currently incinerated in S32 sharps bins. Sharpsmart MR64 Clinismart sharps bins (figure 1) have lower carbon emissions than traditional S32 bins as they are sterilised, recycled and reused. Our green endoscopy working-group (GEW) aimed to reduce endoscopy's carbon emissions through piloting MR64-bins' and assessing their impact on staff practices and cost compared to S32-bins. Newcastle Hospital's Freeman Endoscopy Unit is a three-room endoscopy unit including advanced hepato-pancreato-biliary (HPB) therapeutics.
Method We monitored sharps bin usage, hiring costs and disposal costs over a baseline 4-week period using traditional S32 bins and a pilot 4-week period with MR64-bins within our unit. We assessed staff practice through focus group discussion a questionnaire to endoscopy nursing and decontamination staff with Likert scale on acceptability of arising comments and free-text responses. The quality improvement pilot was registered with the local audit department.
Results During baseline (3rd–31st October 2022), 21 S32-bins were used. Hire costs were £258.93 and incineration costs £89.88. During the pilot (1st-30th November 2022), 3 MR64-bins were used. Hire costs were £50.13, recycling and disposal costs £8.40. Over 4 weeks this reduced costs by £290.28; we therefore estimate a saving of £3774 over a year.

13 endoscopy staff completed a survey, all rated the M64 sharps bins as more or much more acceptable than S32 bins. Focus group comments highlighted the '*larger volume*' of MR64-bins allowing '*equipment fit in easier*' (12/1, 92% agreed), it was '*easy to see contents*' (10/13, 77% agreed) and they perceived '*less of a risk of needle stick injury*' (7/13, 54% agreed). One comment appreciated that '*metal components can be recycled*'.



Abstract P194 Figure 1 A) Traditional S32 and B) Sharpsmart MR64 Clinismart sharps bins

Conclusion This MR64 sharps bins pilot reduced our incineration carbon footprint; their larger volume allowed more efficient storage of wire waste and are estimated to reduce costs by £3774 annually. Although a small-scale pilot, we have demonstrated the larger bins are more acceptable to our nursing and decontamination endoscopy staff and they were perceived as being safer and more efficient. Future work should calculate the formal emissions factors for incineration and recycline over a longer period to quantity impacts on endoscopy's carbon footprint.

P195 DIFFERENTIATING INTRAMUCOSAL AND SUBMUCOSALLY INVASIVE BARRETT'S NEOPLASIA USING A NOVEL DEEP CONVOLUTIONAL NEURAL NETWORK DURING ENDOSCOPY

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Introduction Barrett's intramucosal neoplasia can be endoscopically cured with minimal risk of lymph node metastasis while submucosally invasive neoplasia poses higher risk and usually requires surgery. Endoscopic optical diagnosis is often challenging to differentiate between the two. We aim to develop an artificial intelligence (AI) system using a deep neural network to stage Barrett's neoplasia into intramucosal such as low-grade dysplasia (LGD), high-grade dysplasia (HGD) or pT1a and submucosally invasive pT1b lesions.

Methods A VGG16-based deep neural network was used for the staging AI system. The model was very selectively trained with 69 images which were carefully chosen from 79,159 frame images. Histological ground truth was used. As a pre-trained model for training, the model from initial Barrett's detection and delineation system was used and this was trained on 1,090,171 images from 161 Barrett's patients. We tested staging AI on pre-recorded images and its performance was compared to two experts who regularly perform assessment and endoscopic resection of Barrett's neoplasia in a tertiary centre.

Results 68 neoplastic images including white light, enhanced imaging and/or magnification (see Image 1) were used. 43 were intramucosal (2 LGD, 31 HGD, 10 pT1a) and 25 were submucosal (6 pT1bSM1 and 19 pT1bSM2/3). The sensitivity, specificity and accuracy of AI to predict submucosally invasive neoplasia were 80%, 84% and 82% while that of experts were 74%, 78% and 76%. There is no statistical difference (p=0.507) between AI and experts' performance.

Conclusion This suggests that the staging AI system is good at differentiating submucosally invasive neoplasia and it can perform as well as experts. It has the potential to help guide clinicians to decide if endoscopic resection of Barrett's