Conclusions Significant cost savings can be made, and endoscopy capacity generated, by discontinuing colonoscopy surveillance for LRAs. In the increasingly financially constrained NHS environment this approach should be explored, particularly in patients who are eligible for participation in the BCSP.

PTU-105 AUTOMATED, ALGORITHM BASED EXTRACTION OF BARRETT'S SURVEILLANCE METRICS FROM NATURAL LANGUAGE TEXT IS RELIABLE

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Introduction Patients with Barrett's oesophagus (BE) undergo regular endoscopic surveillance with a view to earlier oesophageal adenocarcinoma detection. Quality monitoring of this programme relies on manual extraction of elements from pathology and endoscopic semi-structured free text reports. Manual extraction is laborious and a significant hindrance to robust, large scale and reproducible quality monitoring.

EndoMineR, a package written in R, (a free, open source computational language) has been developed specifically to automate the extraction of data from endoscopic and associated pathology reports¹. It contains functions to clean, format and extract elements from free text and perform quality metrics for a range of conditions including in BE.

Aim We assessed the accuracy of the BE extraction algorithms for both endoscopic and pathological elements for BE on pathology data only as it is the 'worst case scenario' input data, using the EndoMineR package. The functions being assessed were: 1. The extraction of a Prague score, 2. The extraction of the worst pathology grade, 3. The site of biopsied tissue, 4. The site and type of any therapy in the upper GI tract.

Methods Ethics was approved (IRAS number). 60 patient episodes between 14 January 2016 and 30 March 2016 with full text pathology data only were acquired from 8 departments in central London as a training set. Validation was performed on a further 100 pathology reports. The therapy algorithm was performed on a further 100 reports.

Abstract PTU-105 Table 1 Sensitivity, specificity, positive and negative predictive values of each of the functions being assessed

Abstract PTU-105 Table 1

	Sensitivities	Specificities	PPV	NPV
MStage	97.67	78.57	0.97	0.85
CStage	94.23	97.92	0.98	0.94
Worst	97.83	62.5	0.97	0.71
Pathology				
PathologySite	88	100	1	0.89
TherapySite	95.92	82.35	0.84	0.95

Results Reports were written by 11 different pathologists. The readability index of all the text, using the Fleisch-Kincaid readability index was 11.7 (sd:1.22) indicating an average grammatical complexity. Sensitivity was excellent for all

algorithms especially given the difficult input text (Table 1). A reduction in specificity in the detection of worst pathology occurred because of dual reporting of colonoscopy and gastroscopy tissue which also affected the sensitivity of the Pathology Site detection. A variability in how intestinalisation was reported also affected the specificity.

Conclusion

- Reproducible extraction can be done from semi-structured text.
- Further improvements using parts of speech tagging and term mapping will improve the results.
- Such data extraction will allow for upstream automation of quality monitoring, governance and novel metrics.

REFERENCES

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PTU-106 BARRETT'S OESOPHAGUS – ARE WE FOLLOWING THE GUIDELINES?

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Introduction Barrett's oesophagus (BO) affects 1–5% of reflux patients and has a premalignant potential. Several guidelines^{1,2,3} to optimise surveillance are tailored towards discovering dysplasia and hence allow treatment and prevention of cancer.

Aim and Methods We aim to evaluate compliance of BO surveillance with the current published guidelines in our centre between June 1st 2017 to May 31st 2018.

Retrospective database search was done using the built-in audit tool of Infoflex v.5 reporting system. Surveillance details were added to an excel spreadsheet against criteria extracted from both the British Society of Gastroenterology and the European Society guidelines. Histology and advice on proposed future surveillance were also reviewed.

Results 164 BO reports were found during the study period. 78/164 (48%) patients were undergoing surveillance and 86/164 (52%) were newly diagnosed.

In the surveillance group: 54/78 (69%) were males, mean age 67(4–0) and 24/78 (31%) females, mean age 60 (range 5–6). Prague classification (PC) was correctly used in 70/78 (89%). Seattle protocol for biopsy was followed in 55/78 (70%). Chromoendoscopy was used in 26/78 (33%). Inspection time was recorded only in 2/78 (2.5%). In two cases(2/78), visible lesions were found and described according to the clock face and its distance from incisors. Intestinal metaplasia was confirmed on histology in 72/78 (92%). Recommended surveillance frequency was consistent with the guidelines in 64/72 (88%) of BO without dysplasia but in all 3 cases with dysplasia. In the group presenting to symptomatic service where a new diagnosis of BO was found: 59/86 (68%) had PC correctly listed. Of the remaining 27/86, all but one were on a surgical list. Additionally, only 41/86 (47%) of the suspected new BO were biopsied. Reasons for not taking biopsies were listed in 10 cases only.

Conclusions There is significant variability in the execution and surveillance of BO. The correct use of Seattle protocol, chromoendoscopy and recording the time spent inspecting the BO are all important service improvements that could be