

The SWPHO 'Benign Checker'

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Background

Why?



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SWCIS Current Pathology Extract Requirements:

- SNOMED morphology begins with M8 or M9 or M74008 or M74009

BUT

- 2 Trusts do not include SNOMED Codes
- 35% of tumours recorded with a SNOMED M Code (33,731 in 2008) do not have a morphology that falls in the above criteria



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Solution

- All **histopathology** and **cytopathology** reports that have a word with "...oma..." contained within it.
- Do not include all "stomach" reports, which also have "...oma..." contained within it.
- Also include those reports that have the words "cancer", "neoplasm", "tumour", "malignant", "malignancy", "secondary" & "metastatic".

Result = benign or non-registerable reports (of which some are required by the Registry e.g. node clearance)



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Preliminary Findings

- Diagnosis year 2007 c.50,000 out of 165,000 pathology reports received were 'benign'
- Data 'marked up' to be processed by Registry electronically
- Each report has to be read through by a Registration Officer
- 50,000 would take the Registry c.16 weeks to process



Identifying Registerable Reports

- Before using the manual aspect of the 'Benign Checker'
- SNOMED Codes
- Registerable Terms e.g. 'poorly differentiated', 'CIN3'

These are automatically flagged as 'Registerable' during our 'Mark up'.

Filtering out those records we know we want to look at



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Identifying the 'Benign' reports

- The 'Manual' bit!
- SNOMED Codes (pick up errors in coding or local codes)
- Text search with weightage applied to certain words to display in results
- Words to ignore e.g. 'Stomach'



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What does it look like?

Benign Checker Results

Benign Details:
 Patient Forename: Word Found: MYOBLASTOMAS
 Patient Surname: Location of Word: MICROSCOPY
 Patient DOB: Legend
 Patient NHS Number: Not Processed Benign Registrable

Filter: All Benigns (Snomed Only and All Criteria)

Number of Records 9957 / 9957

Benign	T Code	M Code	Word Found	Location of Word
<input type="checkbox"/>	T63000.T62000	M95400	MYOBLASTOMAS	MICROSCOPY
<input type="checkbox"/>	T67000.T67000	M42000	GRANULOMATA	MICROSCOPY
<input type="checkbox"/>	T67000.T67000	M82100	TUBULAR ADENOMA	MICROSCOPY
<input type="checkbox"/>	T84000.T84000	M00120	LEIOMYOMA	MICROSCOPY
<input type="checkbox"/>	T28000.T28000	M00100		
<input type="checkbox"/>	T83000.T83000	M09000	PAPILLOMA	MICROSCOPY
<input type="checkbox"/>	T84000.T84000	M79320		
<input type="checkbox"/>	T67000.T67000	M00100.M72040		
<input type="checkbox"/>	T67000.T67000	M09450	GRANULOMATA	MICROSCOPY
<input type="checkbox"/>	T67000.T67000	M82100	ADENOMA	MICROSCOPY
<input type="checkbox"/>	T68000.T68000	M40000	ADENOMATOUS	MICROSCOPY
<input type="checkbox"/>	T67000.T67000	M82100		
<input type="checkbox"/>	T67000.T67000	M41000		
<input type="checkbox"/>	T51000.T51000	M80500	PAPILLOMA	MICROSCOPY
<input type="checkbox"/>	T04040.T04040	M54110		
<input type="checkbox"/>	T67000.T67000		GRANULOMATOUS	MICROSCOPY
<input type="checkbox"/>	T93000.T93000	M00120	PAPILLOMA	MICROSCOPY
<input type="checkbox"/>	T77100.T77100	M72460		
<input type="checkbox"/>	T80000.T80000	M74000		
<input type="checkbox"/>	T63000.T63000	M00100		
<input type="checkbox"/>	T93000.T93000	M80770		
<input type="checkbox"/>	T67000.T67000	M82110	ADENOMA	MICROSCOPY
<input type="checkbox"/>	T93000.T93000	M80770		
<input type="checkbox"/>	T68000.T68000	M09450		
<input type="checkbox"/>	T68000.T68000	M76800		
<input type="checkbox"/>	T67000.T67000	M82100	ADENOMA	MICROSCOPY
<input type="checkbox"/>	T77100.T77100	M40000		
<input type="checkbox"/>	T67000.T67000		NOGRANULOMAS	MICROSCOPY
<input type="checkbox"/>	T67000.T67000		GRANULOMAS	MICROSCOPY
<input type="checkbox"/>	T01000.T01000	M72750		
<input type="checkbox"/>	T01000.T01000	M43000	CARCINOMA	WEIGHTING APPLIED
<input type="checkbox"/>	T84000.T84000	M76800		
<input type="checkbox"/>	T84000.T84000	M76810		

Associated Pathology Text

Event Date: # Reporting Hospital: # Unit Number: #
 Consultant Name/Code: # GP Name/Code: # Sample Receipt
 Date: # Report Date: # Lab Number: H109 # Reporting Pathologist: #
 # Location Sample Taken: #

Snomed Codes: T62000.T62000.M95400.P03000 # Specimen Type: # Specimen
 Comment: # Pathology Text: # Histology Macro Description: MACRO: Three 2mm
 tissue fragments. # Histology Report: MICRO: These biopsies show mainly
 polypoid fragments of glandular mucosa although there is a small amount of
 oesophageal-type squamous mucosa juxtaposed serving to confirm biopsies from
 the OGJ. Beneath cardiac-type mucosa in one of the biopsies, there is a spindle
 cell proliferation consisting of plump spindle cells with markedly granular cytoplasm.
 PAS stains show variable but in places pronounced positivity within the cytoplasm of
 these cells. Typical of this lesion, the tumour cells are admixed with muscularis
 fibres from the muscularis mucosae. The salient biopsy is relatively superficial but I
 would regard the histological features as highly characteristic of a granular cell
 tumour of the OGJ. These tumours, formerly known as granular cell myoblastomas,
 are recognised to be of nerve sheath origin. They are relatively common in
 the oesophagus and OGJ and are benign. There is no evidence of
 malignancy. DIAGNOSIS: OGJ BIOPSIES: GRANULAR CELL TUMOUR

Keyword (...oma)

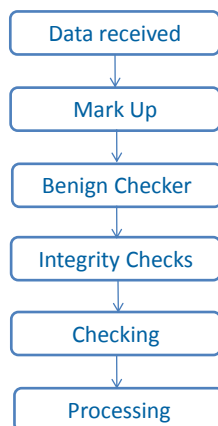
Weightage applied where 1 or more words on list found

TextBox Options:
 Font Size Fore Colour Selection Fore Colour
 Back Colour Selection Back Colour Use Defaults

Final Check

- All records flagged as 'Benign' cross checked against Cancerbase
- Any matching to a patient with a HES/PAS/CWT only record are processed manually

Flow



Results

- Went live part way through processing diagnosis year 2008 data.
- Out of 187,000 pathology reports received 61,466 were identified as benign.
- Cross checking with PAS/HES/CWT only records resulted in 226 registrations being cancelled as benign.
- Timeliness – 2009 Pathology estimated to be finished December 2010 (previous years would not have been finished until March)

How much time does it save?

- 10,000 records + 1 person = 1 – 1.5 hours
- Would take the Registry (8.8 whole time equivalents) 3-4 weeks to process
- 96-98% of records flagged for manual checking are confirmed as benign from the manual check.



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Example – 1 Trust's Pathology

Records sent:	14,688
Benign:	7,366
Auto Processing:	1,856
Manual Processing:	5,466

(SWCIS Automatically Process Basal Cell Carcinoma's, CIN3's, Prostate and In Situ Skin Cancers where they can be identified by the SNOMED Code).



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Next steps

- Feedback to trusts on completeness of SNOMED Codes via Instant Atlas
- Work with trusts to include more filters in their Registry extract before sending
- Provide technical information to other Cancer Registry's who face the same issues.
- NCIN work on RCPATH Proformas



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a demonstration!!**



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Please visit our Website:
www.swpho.nhs.uk

Contact: carlos.rocha@swpho.nhs.uk



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