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Scottish Clinical Imaging Network Quality Improvement Group

Report: DNA and Urgency Codes within Imaging in Scotland

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Contents

Executive Summary

Lack of standardisation of processes across the Imaging Community in Scotland is a major barrier to ensuring equity and comparison of service. This effects benchmarking activity.
The SCIN Quality Group set up a subgroup in 2016 to investigate DNA processes and use of Urgency Codes across Scotland with a view to understanding the variation and making recommendations to standardise processes and improve benchmarking of services

Report A	Outpatient Did Not Attend (DNA) status
Report B	Urgency Codes

The aim of these reports is to improve services by positively impacting data quality measures across Scotland to enable a more equitable and comparable imaging service.

Report A recommends that a cohesive approach to recording DNA's be adopted across Scotland to support a measurable approach to equality of access.

- Boards should categorise patients as 'Did not Attend' (DNA) when the hospital is not notified in advance of the patient's unavailability to attend their appointment
- Boards should record a DNA for each slot lost.
- Collate this data in an accessible format across Scotland
- Boards should record a new attendance on RIS if the patient is subsequently re-referred or re-appointed following retrospective contact from the patient,.
- Boards should have a letter system for alerting patient and referrer to DNA.
- Boards should have a confirmation system for high cost tests
- Boards should understand their DNA data
- Boards should have a plan to optimise the DNA rate

Report B. Urgency codes work well locally but a consistent approach in recording and utilisation of codes is recommended which will ensure equality of access to imaging and support cross boundary reporting of imaging.

- RIS user group forums, such as RIS Managers groups and Good Practice forums should share best practice of RIS functionality of flagging urgency for booking priority and reporting and also liaise with administration staff regarding manual processes that could be managed automatically via RIS
- Examination urgency should be upgraded if considered clinically relevant at vetting
- Boards should agree on Patient Type (urgent, routine etc) priority for booking and reporting
- Boards should participate in the monthly audit of breaches of urgency targets.

Report A

Did not attend- DNA status

Aims of the subgroup:

To investigate how Outpatient DNA's are recorded across Scotland.

1. To understand the outpatient DNA processes in Scotland
2. To agree how to categorise an outpatient DNA
3. To agree guidance of how subsequent re-appointments are recorded

- A short questionnaire (Appendix 1) was sent to all Boards
- Statistics were requested from Boards in terms of spread of DNAs across days of the week and times of the day.
- Five Boards responded to the questionnaire
- Three boards responded with statistics

Results of questionnaire (full table in Appendix 2) These questions are aimed at the major diagnostic Imaging procedures (ie CT/MR/US/Nuclear Medicine/PET CT) which are time consuming, high demand examinations.

1. Question **What is the impact of DNA exams on modalities activity eg are you able to recycle appointments to Inpatients?**

2 Boards were able to recycle ultrasound appointments for In patients
4 Boards were able to recycle CT appointments for in-patients
1 Board was able to recycle MR appointments for in-patients

Other Boards/ modalities were unable to recycle DNA appointment slots due to technical/ logistical reasons therefore this capacity was lost

2. **What measures does your service utilise to reduce DNA rates?**

3 Boards use phone confirmation of appointments for MR
4 Boards use Patient Focussed booking for particular modalities
3 Boards send a letter to patient and referrer following a non attendance
1 Board is moving towards Netcall

3. **Do you monitor DNA rates?**

All responding Boards monitor DNA rate in modalities where there is a waiting times issue and where DNA causes a loss of capacity

Results of Requested Statistics (Appendix 3)

The group requested that Boards look at DNA rates for days of week and times of day to identify any commonality.

The data was not obtained in the same format from the three Boards but shows certain local trends that are understood by the Boards such as logistics of transport

Discussion by the Subgroup

1. The outcome showed many inconsistencies of process across Scotland

2. There was data from only 2 boards on the trend across the day and week, and from 1 board on their monthly trend. This is likely to reflect the difficulty in extracting this data from Radiology Information Systems.

3. The Subgroup meetings discussed the various methods of defining a DNA and whether the original referral should be used for any subsequent re book appointment. Discussion about reasonable offers of appointment and re-utilisation of DNA slots also featured.

4. Perceived urgency and waiting times and the impact on DNA were discussed.
    a. Some Boards reported that modalities with longer waiting times had a higher DNA rate. It was discussed that patients may have been referred with an acute condition but may have improved by the time of the appointment, therefore did not attend.
    b. This perception of lack of urgency was also noted in other Boards, with a high DNA rate for follow up procedures.

5. It was noted that Boards who operate a Patient Focussed Booking system have a lower DNA rate than other boards.

6. The subject of utilisation of DNA slots was also discussed. This highlights inconsistencies of utilisation due to geographical and logistical reasons. One board calculated the revenue lost from DNA's but this may be skewed due to this Board also recycling some of the lost slots to accommodate in-patient activity

7. The Information Management Service (IMS) offered to help analyse some Boards DNA data to help them understand the DNA rate to allow optimisation.

8. A report has been compiled on DNA as part of a University project. "DNA Rates in Scotland's Imaging Services- (M Cairns – 2017). Several of the recommendations from this report have been adopted below

DNA Policy - Recommendations for Scottish Boards

- Boards should categorise patients as ‘Did not Attend’ (DNA) when the hospital is not notified in advance of the patient's unavailability to attend their appointment
    - This would include patients who did not receive the appointment due to short notice or wrong demographics

- Boards should record a DNA for each slot lost whether or not this is re-filled with in-patient activity.

- Collate this data in an accessible format across Scotland
    - Seek help from RIS Good Practice group for advice on this format
    - Produce a SOP for this data extraction

- Boards should record a new attendance on RIS if the patient is subsequently re-referred or re-appointed following retrospective contact from the patient,

- Boards should have a letter system for alerting patient and referrer to DNA. An example of this in Appendix 4.

- Boards should have a confirmation system for high cost tests

- Boards should understand their DNA data
    - Rate
    - Modality
    - Time of day/day of week
    - Category of procedure (perceived urgency)
    - Impact on utilisation
    - Why people DNA

- Boards should have a plan to optimise the DNA rate such as
    - Implement automated reminders
    - Systems in place to ensure updated contact details

Report B

Urgency code use

Aim of the Subgroup

Investigate how Imaging Urgency Codes are utilised across Scotland.

1. To understand the urgency coding processes in Scotland
2. To establish how urgency codes in Imaging are recorded.
3. To identify methods of flagging urgency in booking
4. To identify methods of flagging urgency in reporting
5. To assess local effectiveness.
6. To agree guidance on the use of Urgency codes

- A questionnaire was sent to all Boards (Appendix 5)
- 7 Boards replied

Results of the Questionnaire (Full table in Appendix 6)

1. **Question How do you identify which patients need to be booked/examined urgently?**

2 Health Boards add a numerical code at vetting
6 Health Boards set a Patient Type flag on RIS
7 Health Boards add an instruction (either hard copy of on RIS info box)

2. **Question How do you identify examinations for urgent report (unexpected or expected)**

4 Health Boards “tick a box”
4 Health Boards report by Patient type (in addition to above)
6 Heath Boards send a message to a Radiologist

3. **Question Is this system (workflow process) Board wide?**

Pan Scotland, whatever system is in place this is applicable at all sites across the Board

4. **Question Does the system (workflow process) work well for Booking/examination?**

All participating boards report that the system applied in their Board, works well

5. **Question Does the system (workflow process) work well for urgent reporting?**
   Again, as above, all participating boards report that the system in place in their Board, works well

6. **Question Is the process entirely dependent on human processes (reading an instruction or ticking a box)?**

4 Boards report that there is a dependency on human process.
2 further Boards report: partially dependent for reporting.
1 Board suggests that booking is more dependent on patient type, though some vetting escalates the urgency"

7. **Question What does your RIS not provide that you require?**

No responses – the aim here was to look at what manual processes could be beneficially automated via RIS

8. **Question Do you use the Unique Care Pathway Number "UCPN" number against RIS exam bookings? – If so explain how this is used**

2 Boards indicate that they use UCPN
"It is transferred via TrakCare and RIS interface but has no specific use within Imaging"
"for some exams, on agreed pathways -eg fast track lung cancer"

Discussion by Subgroup

- Discussion within the meeting identified a great variation in the method of using Urgency codes.

- It was apparent that there were two streams for utilisation of Urgency codes
    1. Use of Urgency codes to book patients for imaging procedures
    2. Use of Urgency codes for reporting of the examinations after acquisition.

- The variation across Boards was evident in both these streams.

- Across several Boards some of the processes are at least partially dependent on human process rather than electronic processes. This person dependency is difficult to measure and to apply consistently.

- All Boards are content that the local processes that are in place work and may therefore be resistant to change.

Urgency Codes – Recommendations for Scottish Boards

- RIS Good Practice Groups should share best practice of RIS functionality in order to agree the optimum method for a Scotland wide method of flagging Urgency for booking priority and for reporting
    - SCIN should enlist the support of the RIS/ Good Practice groups

- Examination urgency should be upgraded if considered clinically relevant at vetting

- RIS system administrators should liaise with administration staff regarding manual processes that could be managed automatically via RIS
    - SCIN should enlist the support of the RIS Good Practice Groups

- There should be national agreement on Patient Type priority for booking and reporting
    - SCIN should enlist the support of the RIS Good Practice Groups

- Local boards should participate in monthly audit of breaches of urgency targets.
    - Collaboration with local waiting times management (local templates)

Appendices

Appendix 1

Question
1. What is the impact of DNA exams on modalities activity? eg are you able to recycle appointments to Inpatients?
2. What measures does your service utilise to reduce DNA rates? • SMS reminders • Phone patients proactively for confirmation of intention to attend? • Patient Focussed Booking • Follow up letters of appointment • Overbooking on purpose • Other – please explain
3. Do you monitor DNA rates? If so, how frequently

Appendix 2

4. What is the impact of DNA exams on modalities activity eg are you able to recycle appointments to Inpatients?					
Modality	**Action**	**No of Boards**	**Action**	**Number of Boards**	**Comments**
PET CT			unable to recycle due to no notice.	1	The cost of the pharmaceutical is also a considerable factor
Nuclear medicine	.		unable to recycle due to no notice	2	The cost of the pharmaceutical is also a considerable factor
Ultrasound	possible to recycle for IP	2	not possible as OP and IP ultrasound activity at different sites Not possible as insufficient in-patient population	2 1	
CT	possible to recycle for IP	4	not possible due to time required for Preparation and transport of in-patients to CT	1	
MR	possible to recycle for IP	1	not possible due to time required for preparation and transportation to MR	4	

5. What measures does your service utilise to reduce DNA rates?			
ACTION		**Number of Boards**	**COMMENTS**
SMS reminders		0	
Phone patients proactively for confirmation of intention to attend?	For MR appointments	3	
Patient Focussed Booking	Use patient Focussed Booking for all outpatient appointments and noted DNA rate reduced as a result. Patient Focussed Booking for ultrasound, non contrast CT and DEXA PFB For PET CT Patient Focussed Booking for ultrasound	1 1 1 1	
Follow up letters of appointment	Follow up letters of appointment	3	Patient and referrer are sent a letter to advise non attendance
Overbooking on purpose		0	
Other – please explain	Moving towards Netcall	1	

6. **Do you monitor DNA rates?**		
ACTION	**Frequency**	**No of BOARDS**
Monitor DNA	Frequency – ad hoc – CT, MR & US Frequency Monthly, CT, MR + US Frequency – Weekly Frequency Monthly, All sites MR only – Frequency Quarterly.	1 2 1 1
Do Not monitor		3
Comments	• We don't routinely monitor DNA's but we investigate and clarify if we think there is a problem in a particular modality • We are planning to introduce a REMIND text service • Currently if a patient DNA's we send another letter to the patient explaining if they do not contact us within 1 week their referral will be removed from the waiting list and returned to referrer • Interesting to know if numbers would change significantly if technology were used such as text messages. This has been tried for OP appts but not Radiology • Unless patients contact the dept. it is difficult to assess reasons behind DNA's. • Is the economic effort (cost) to contact patients by phone / 2nd letter balanced against the benefit of missed appointments? Plus would it reduce DNAs • By introducing phone confirmation for MRI outpatient appointments the DNA rate has reduced from 8% to 4.5%	

Appendix 3- DNA statistics

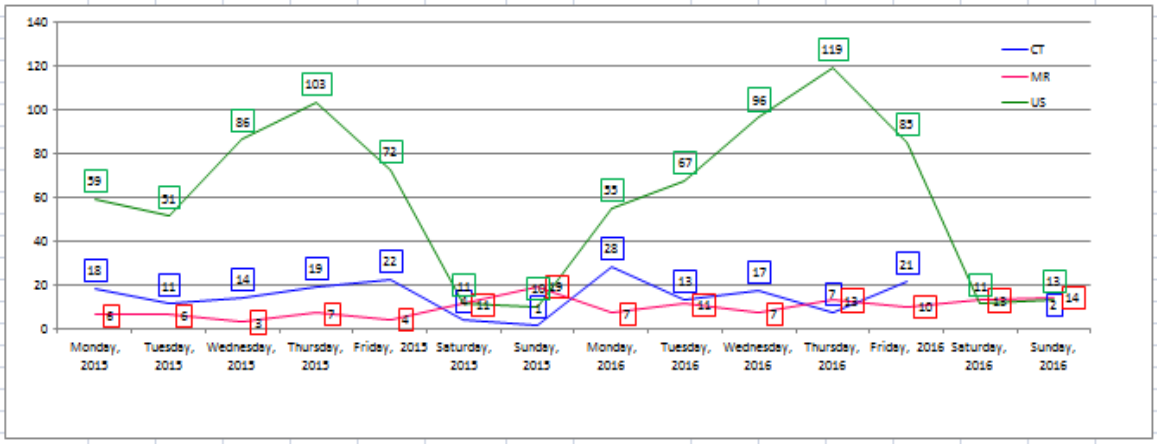
Board A

Day of week

DNA STATS [redacted]: Modalities CT, MR & Gen U/Sound: period 1/9/2015 to 31/3/2016

Counting on PID, so not counting exams.

Modality	Monday, 2015	Tuesday, 2015	Wednesday, 2015	Thursday, 2015	Friday, 2015	Saturday, 2015	Sunday, 2015	Monday, 2016	Tuesday, 2016	Wednesday, 2016	Thursday, 2016	Friday, 2016	Saturday, 2016	Sunday, 2016	Grand Total
CT	18	11	14	19	22	4	1	28	13	17	7	21		2	177
MR	6	6	3	7	4	11	19	7	11	7	13	10	13	14	131
US	59	51	86	103	72	11	10	55	67	96	119	85	11	13	838
Grand Total	83	68	103	129	98	26	30	90	91	120	139	116	24	29	1146

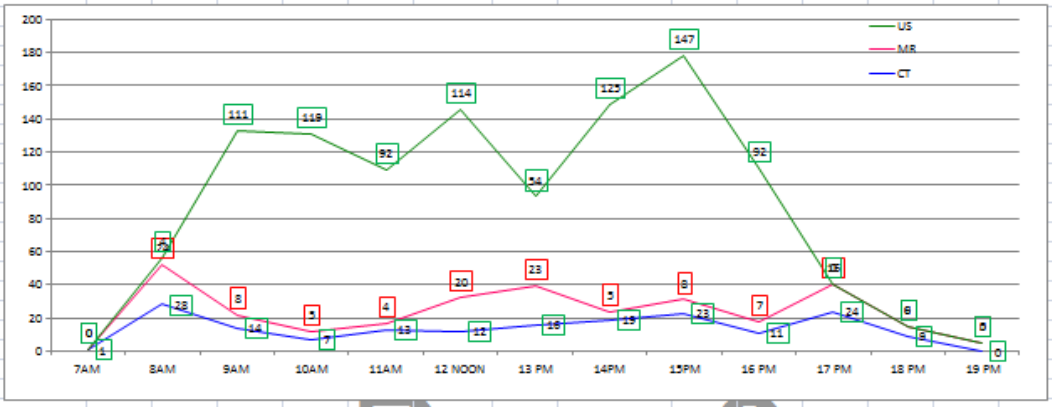


Time per exam (mins)	time (Hours)	As days	Day length (hours	Unit Cost	Total Cost
20	59	6.55	9	2 x mid pt Band 6 Radrs + 1.5 HCA mid pt band 2	£2,328.50
30	65.5	5.45	12	£2K per day van hire	£10,900.00
20	279	39.9	7	Mid pt Band7 + 1 x HCA Mid pt Bd 2	£7,820.40
					£21,048.90

Extrapolates to annual cost - £42,077.80

Time of day

	HOUR OF APPOINTMENT													
	7AM	8AM	9AM	10AM	11AM	12 NOOI	13 PM	14PM	15PM	16 PM	17 PM	18 PM	19 PM	Grand Total
CT	1	28	14	7	13	12	16	19	23	11	24	9		177
MR		24	8	5	4	20	23	5	8	7	16	6	5	131
US		4	111	119	92	114	54	125	147	92				838
Grand Total	1	56	133	131	109	146	93	149	158	110	40	15	5	1146

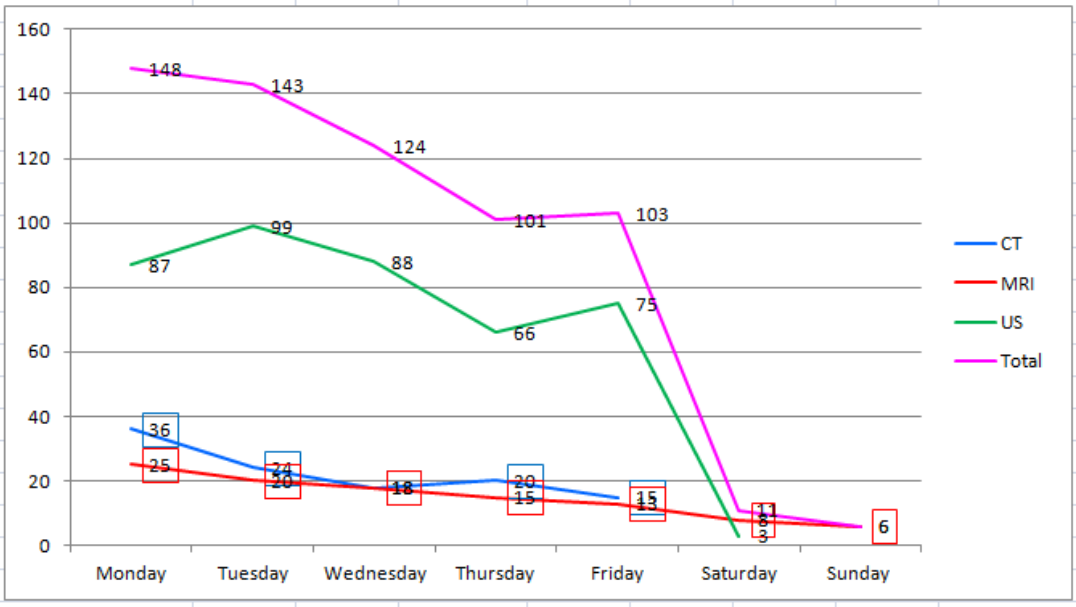


Board B

1) Day of week

DNA stats for [redacted] CT/MRI/US 01/12/2015 to 31/05/2016

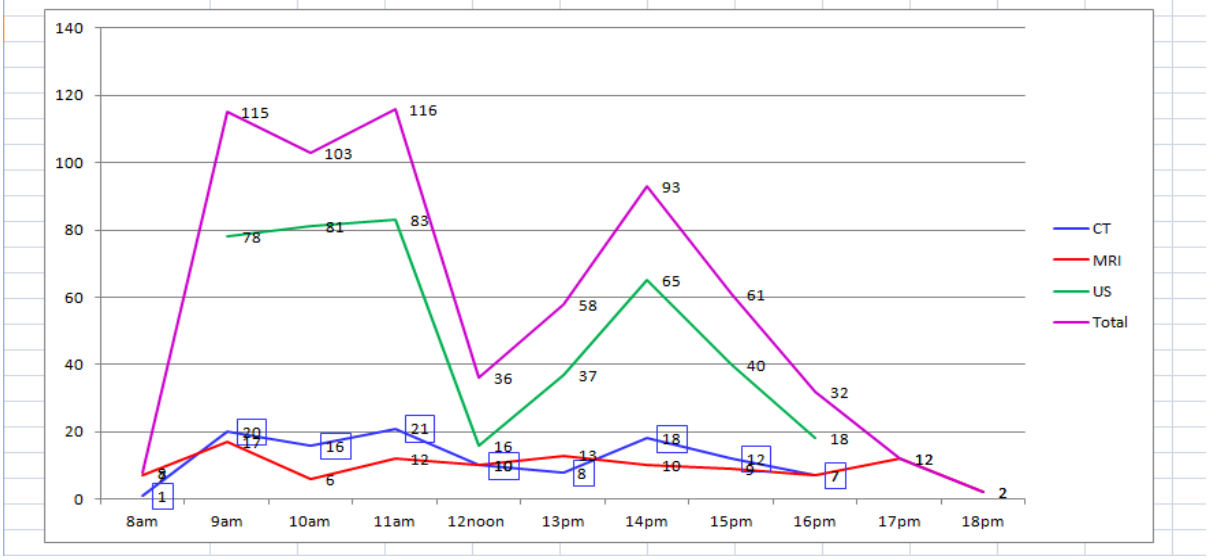
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Grand total
CT	36	24	18	20	15			113
MRI	25	20	18	15	13	8	6	105
US	87	99	88	66	75	3		418
Total	**148**	**143**	**124**	**101**	**103**	**11**	**6**	**636**



Time of Day

DNA data for [redacted] by time of day

	8am	9am	10am	11am	12noon	13pm	14pm	15pm	16pm	17pm	18pm
CT	1	20	16	21	10	8	18	12	7		
MRI	7	17	6	12	10	13	10	9	7	12	2
US		78	81	83	16	37	65	40	18		
Total	**8**	**115**	**103**	**116**	**36**	**58**	**93**	**61**	**32**	**12**	**2**

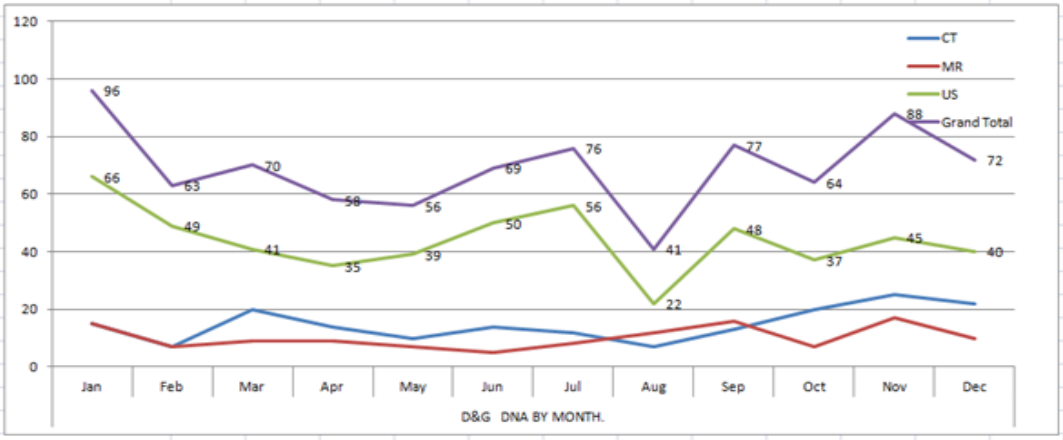


Board C

Provided a **monthly** breakdown of DNA by same 3 modalities

DNA BY MONTH.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CT	15	7	20	14	10	14	12	7	13	20	25	22
MR	15	7	9	9	7	5	8	12	16	7	17	10
US	66	49	41	35	39	50	56	22	48	37	45	40
Grand Total	96	63	70	58	56	69	76	41	77	64	88	72



Appendix 4: Example of a DNA letter

NHS Board
Department of Radiology

Health Board Address

Date

[.persname_pic_fml.]

Enquiries to: Appointments Officer

[.ADDRESS1.]
[.ADDRESS2.]
[.ADDRESS3.]
[.ADDRESS4.]
[.POSTALCODE.]

Direct Line XXXX

CHI No [.PersID.]

Dear [.persname_pic_fml.]
I understand that you did not attend for your appointment on

If you wish to proceed with this examination, please call **XXXXX** to arrange an appointment that is suitable to you.

It would be helpful if you could let us know the reason that you did not attend eg did the appointment arrive too late or was the time unsuitable. This helps us to improve our service to patients

If you do not wish to proceed with this examination, please call the same number and let us know that you do not want the test.

Please note that if we have not heard from you within a month from your original appointment date we will assume that you no longer wish to proceed with this examination and the request will be cancelled.

If you have any concerns about this examination please call the above number and we will arrange for the best person to help with your questions to speak with you.

The doctor who referred you for the test has also been advised.

Regards

Appointments Officer

Cc Referring clinician:
Cc GP:

Appendix 5

Urgency Code questionnaire

Question
1. How do you identify which patients need to be booked/examined urgently?
2. How do you identify examinations for urgent report (unexpected or expected)
3. Is this system (workflow process) Board wide?
4. Does the system (workflow process) work well for Booking/examination?
5. Does the system (workflow process) work well for urgent reporting?
6. Is the process entirely dependent on human processes (reading an instruction or ticking a box)?
7. What does your RIS not provide that you require?
8. Do you use the Unique Care Pathway Number "UCPN" number against RIS exam bookings? – If so explain how this is used

Appendix 6 Results of Urgency Code Questionnaire

1. How do you identify which patients need to be booked/examined urgently?			
A numerical code added at vetting?	Set RIS Patient type descriptor (Specified by either tick box on hard copy referral or selection on order comms which flags priority?	Vetting instruction (eg book urgently)?	Other
2 HBs	6 HBs	7 HBs	-

2. How do you identify examinations for urgent report (unexpected or expected)			
Tick a box on RIS?	Reported by patient type descriptor?	Message sent to radiologist?	Other
4 HBs	4 HBs	6 HBs	-

3. Is this system (workflow process) Board wide?
Pan Scotland, whatever the system used, the application is board wide, with one site reporting occasional minor variations to suit locality

4. Does the system (workflow process) work well for Booking/examination?
All participating boards report that the system applied in their Board, works well

5. Does the system (workflow process) work well for urgent reporting?
Again, as above, all participating boards report that the system in place in their Board, works well

6. Is the process entirely dependent on human processes (reading an instruction or ticking a box)?
4 Boards report that there is a dependency on human process.
2 further boards report: partially dependent for reporting. Booking more dependent on patient type, though some vetting escalates the urgency”

7. What does your RIS not provide that you require?
No responses – the aim here was to look at what manual processes could be beneficially automated via RIS

8. Do you use the Unique Care Pathway Number "UCPN" number against RIS exam bookings? – If so explain how this is used
2 Boards indicate that they use UCPN “It is transferred via TrakCare and RIS interface but has no specific use within Imaging” “for some exams, on agreed pathways -eg fast track lung cancer”