FACULTY OF PATHOLOGY
ROYAL COLLEGE OF PHYSICIANS OF IRELAND

Histopathology National Quality Improvement Programme Data Report 2015 Edition 3 – created July 2016

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Feidhmeannacht na Seirbhíse Sláinte
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Contents

Introduction

The Quality Improvement Programme has continued to set targets as the data matures. The Round 1 targets published in February 2014 and reviewed during Round 2 include:

1 Intradepartmental consultation (Histology and Cytology)
    1.1 Round 2 : Cytology refined for Cytology Exfoliative and Cytology FNA
2 Turnaround Time by case type
3 Frozen Section Correlation Concordance

Round 2 target setting published in February 2015 are:

4 Frozen Section Turnaround Time
5 Frozen Section Correlation Deferral rate
6 Adult Autopsy Intradepartmental consultation

As previously proposed and agreed, following consultation with all participating laboratories and the Faculty of Pathology, the following methodology is used when proposing benchmarks for the programme.

Review and investigate the National Quality Reports from NQAIS-Histopathology

- A number of annual quality reports will be generated and reviewed by the working group. The data is collated from all hospitals live i.e. uploading on NQAIS for reporting and target setting.

Review international benchmarks relating to each Quality Activity

- For each activity, the result from the national Quality report(s) is compared against international benchmarks, where available. It is important to take existing international benchmarks into account whilst recognising that international standards may not always be directly applicable within the Irish context.

Define the achievable and minimum targets for each quality activity based on clinical impact, where applicable

- The Working Group and Steering Committee define the targets for each quality activity taking into consideration the clinical impact and patient outcome.
    - *Achievable targets* i.e. the benchmarks are calculated using the results of the best performing laboratories
    - *Minimum targets*: although setting standards at the top end of distributions can be appealing, in practice many services will view them as unattainable and more modest levels are selected.

Data included in report

- The working group rely on active uploads, and the correct and complete coding of data for target setting. Issues have arisen with the data included in target setting. Hence this data report has restricted its focus to the period from Jan 2013 to October 2014. As uploads continue, it is expected that the data coding and quality will increase.
- This year's data includes cancer centre and non cancer centre averages as well as the national average. Participants can use this information as part of their quality improvement actions.

Throughout this process, the Quality Programme has tried to meet the following objectives when using the data to set national benchmarks.

- Keep it simple
- Compare to international standards
- Avoid setting unachievable targets but also ensure targets set are credible
- Use the national data gathered
- Tailor each one to clinical practice in Ireland

Quality areas and targets

1. Intradepartmental consultation (Q006)

Intradepartmental consultation is where a consultant pathologist seeks a second opinion from another consultant pathologist within his/her department or within his/her regional network on a particular case.

The following targets have been set or updated in Round 2

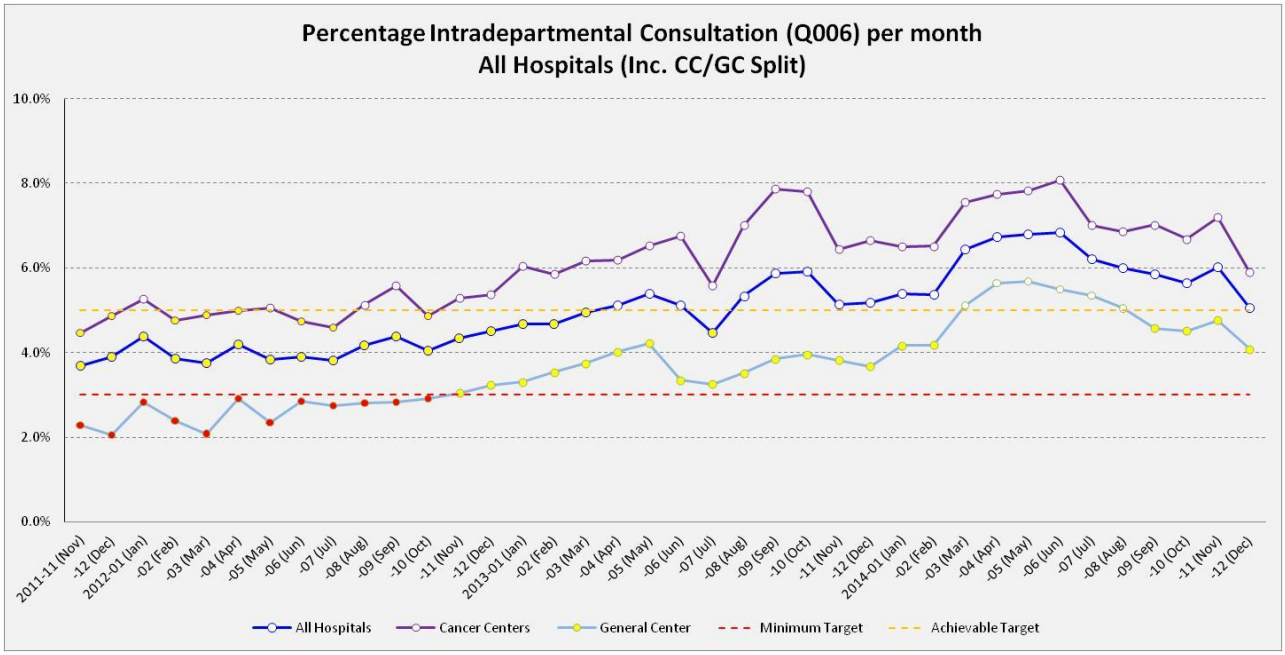
	Histopathology cases (no change from Round 1)	**Cytopathology - Exfoliative** (updated Round 2)	**Cytopathology – Fine Needle Aspiration (FNA)** (updated Round 2)
Minimum	3%	3%	7%
Achievable	5%	5%	9%

Commentary:

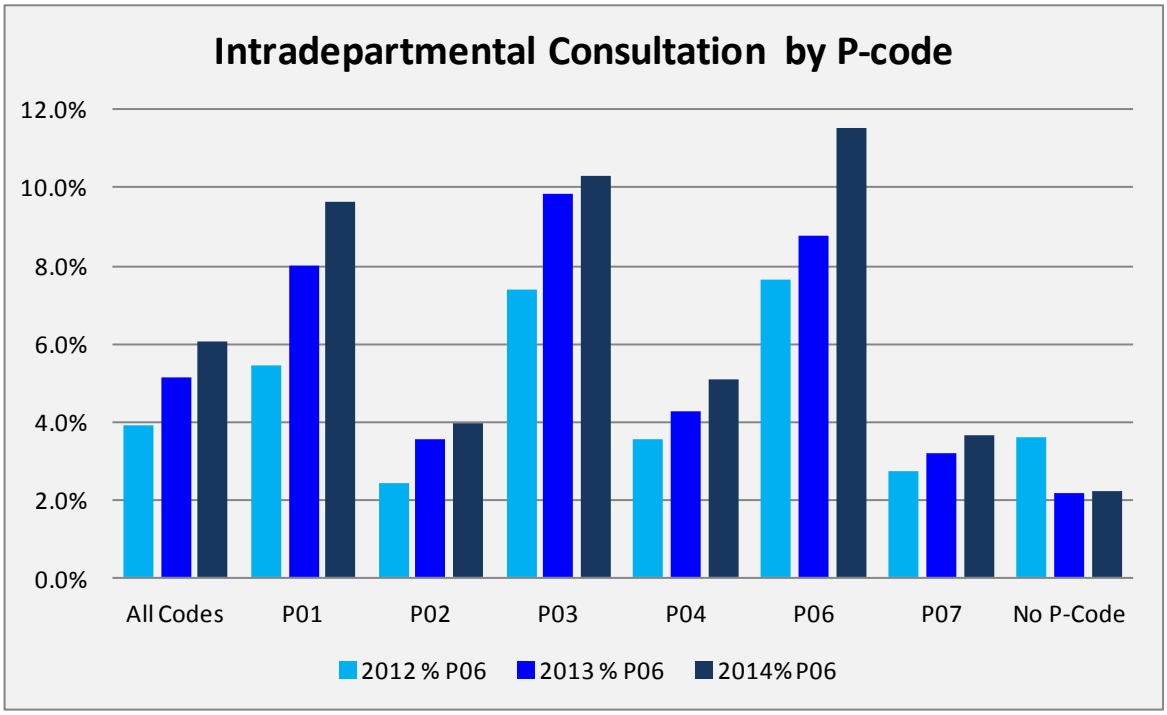
Reviewing the data to date indicated a need to set separate Histopathology and Cytopathology targets. The Working Group welcome the overall increase in intradepartmental consultation indicated by the national average below.

- The difference between the total average for cancer centre (purple) and general centre (light blue) is in line with expectations.

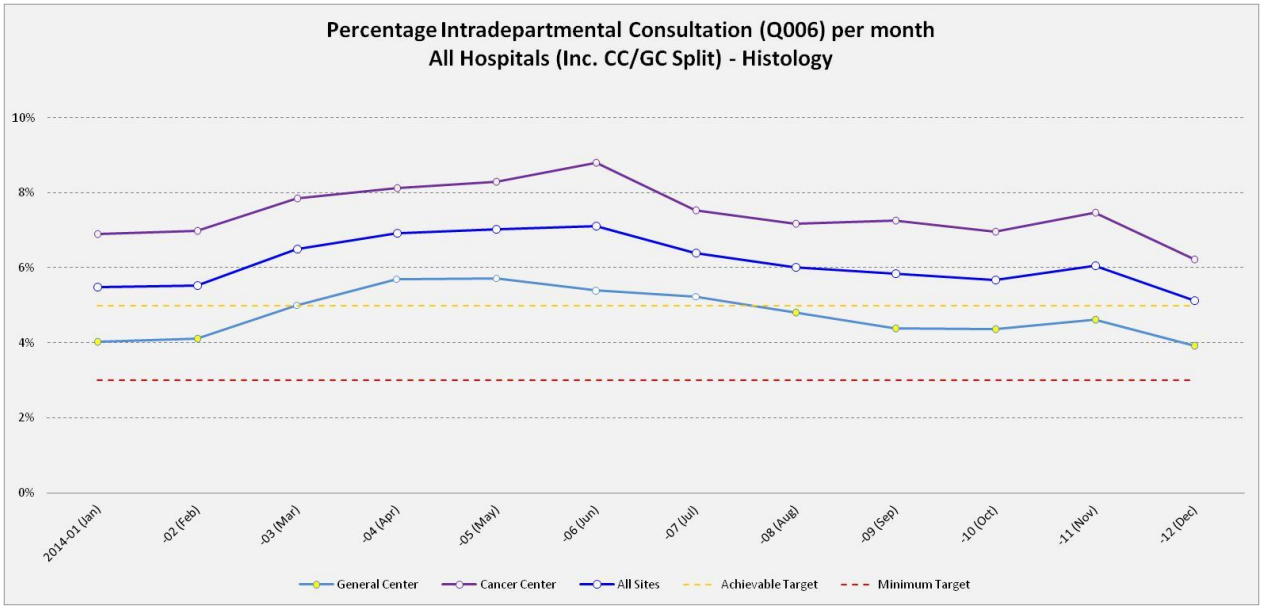
Graph 1 Intradepartmental Consultation – All Hospitals (created July 2016)



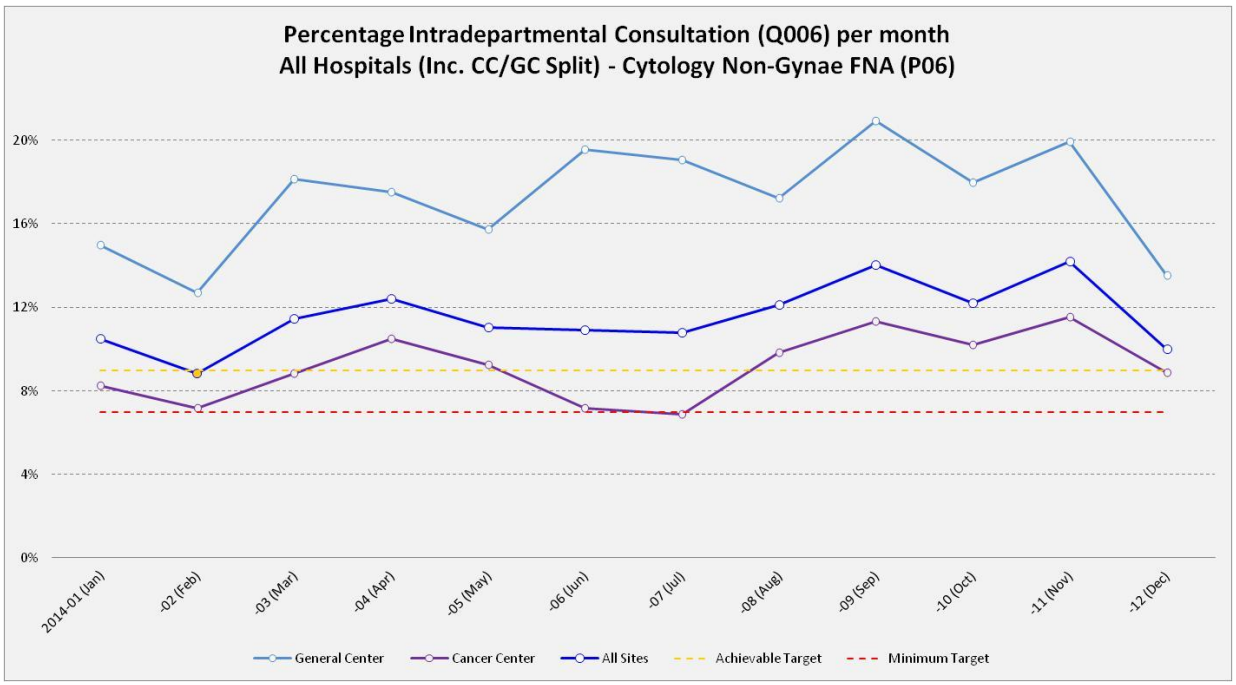
Graph 2 Year on year (created July 2016)



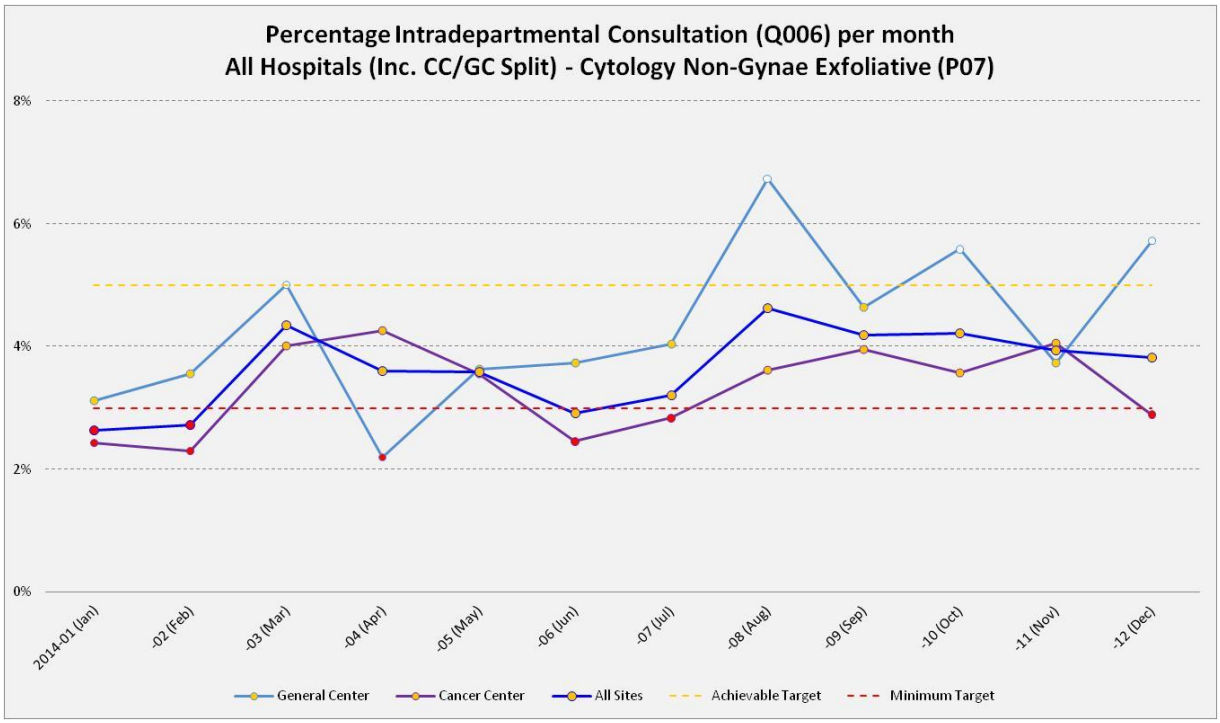
Graph 3 – Histology (created July 2016)



Graph 4 – Cytology FNA (created July 2016)



Graph 5 – Cytology Exfoliative (created July 2016)



2. Turnaround Time

Turnaround time is measured from the time the laboratory receives the specimen to the time the final report is authorised.
It is a key monitor for the overall function of the laboratory service, and is considered a critical element of quality because of the impact on clinical management of patients.

This metric is counted in working days.

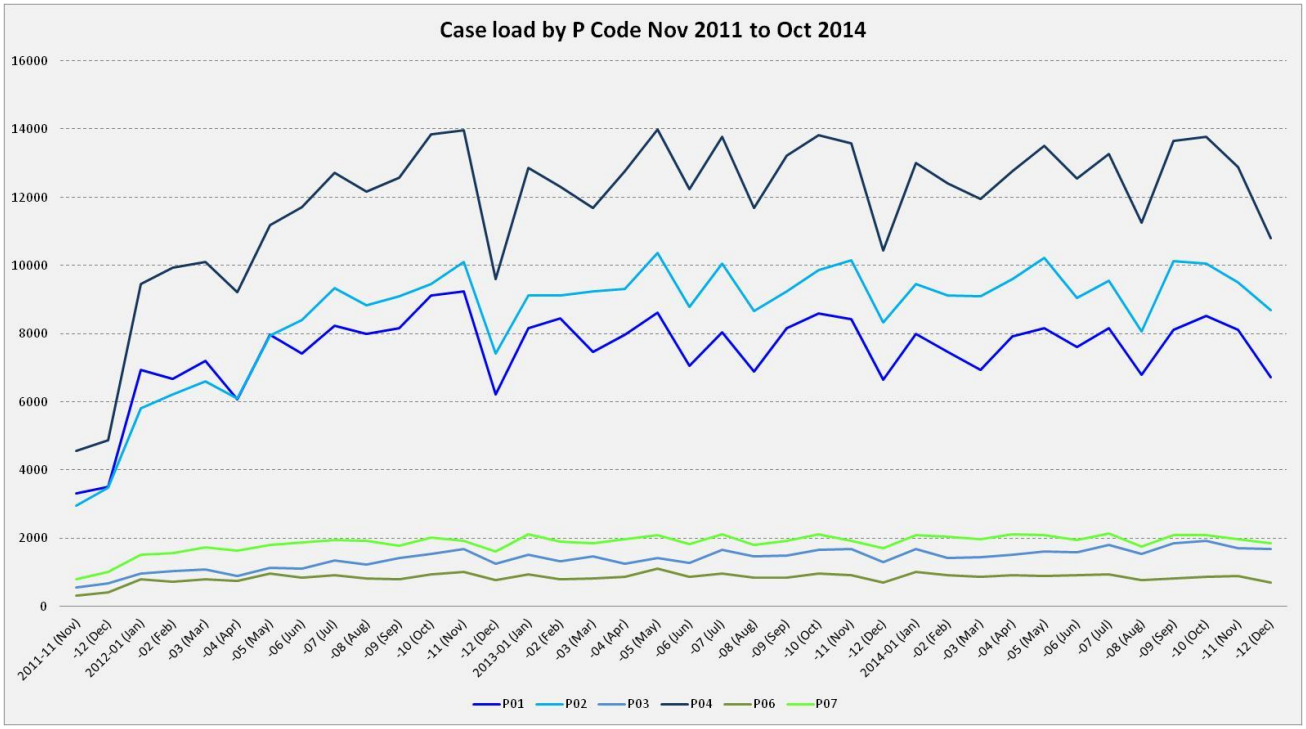
In this area, TAT targets are set for procedural codes used by the laboratories.
The procedural codes used are listed below.

Code	Expansion
P01	Small Biopsy
P02	GI Endoscopic Biopsy
P03	Non Biopsy – Cancer Resection
P04	Non Biopsy – Other
P06	Non Gynaecological cytology – FNA
P07	Non Gynaecological cytology – Exfoliative

Commentary:
Reviewing the data to date indicated no need to change the targets set in Round 1.
The Working Group welcomes the overall improvement indicated by the decrease in the national average TAT for P01, P06 and P07. The difference between the total average for cancer centre (purple) and general centre (light blue) is in line with expectations. However they note that:

- Data varies with P02 – P04 codes indicating rates increasing, approaching steady state and decreasing.
- Several issues can cause these changes. General issues outside of the participating laboratories control can include equipment failure, staff changes, lack of resources, etc.
- Within the control of participants is coding of data. It is noted, that there are a proportion of cases either not P coded or miscoded.
- There is significant variability in the volume of samples processed under each P code. P01, P02 and P04 represent the largest volumes (between 6,000 and 14,000 per month) with P03, P06 and P07 up to 2,000 cases per month.

Graph 6 Number of cases by P-Code (created July 2016)



P01 – Small Biopsy

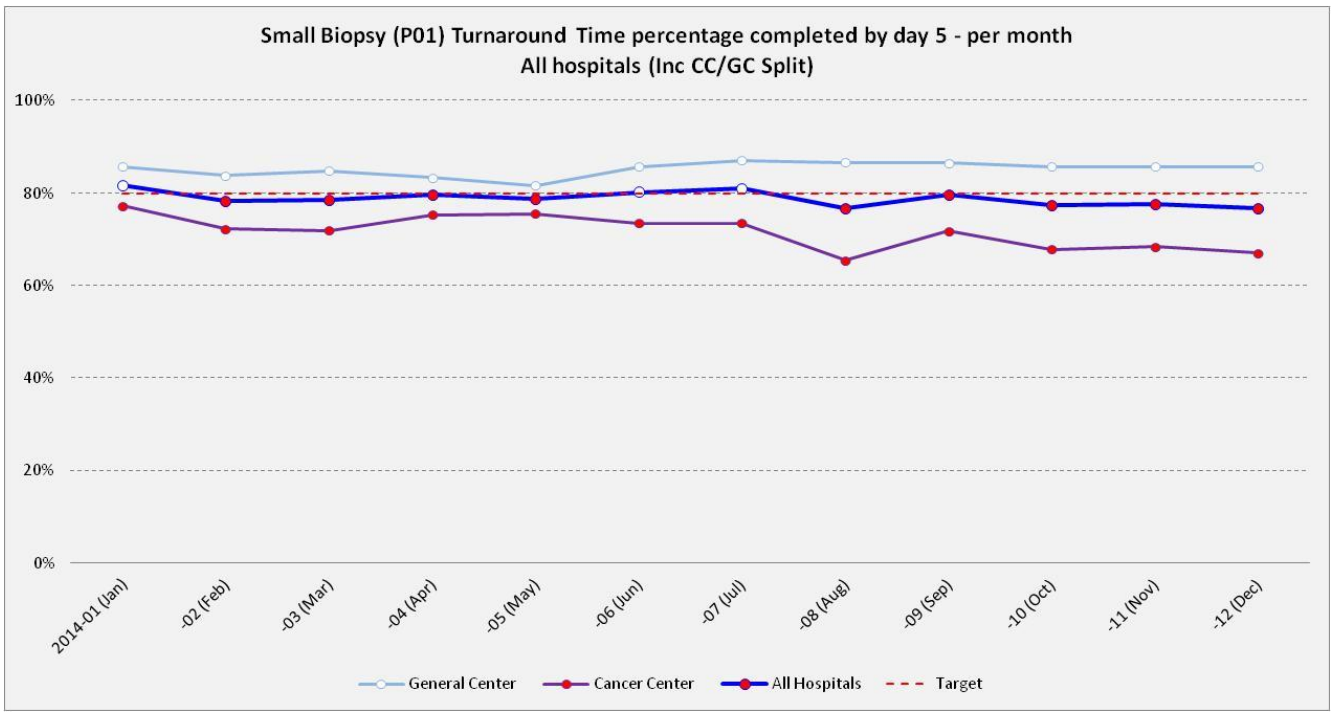
A biopsy is a small procedure performed to remove tissue from an area of concern in the body.
The processing time for the tissue sample generally takes 2 days. The slide is then ready to be interpreted by the pathologist.
Following on from this, some cases may require additional studies, a second opinion from another consultant or further discussion with the referring clinician.

- Target of 80% of cases completed by day 5

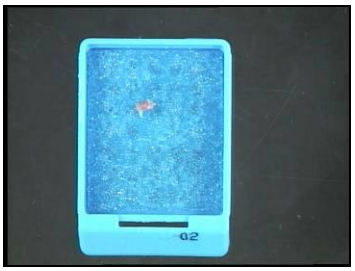
Commentary:

- Non cancer centres average is above 80% and approaching 90% completion by day 5.
- Cancer centres average is consistently below target, although there is an improvement in the trends since January 2014 which is to be encouraged. Outliers can affect the average significantly.

Graph 7 (created July 2016)



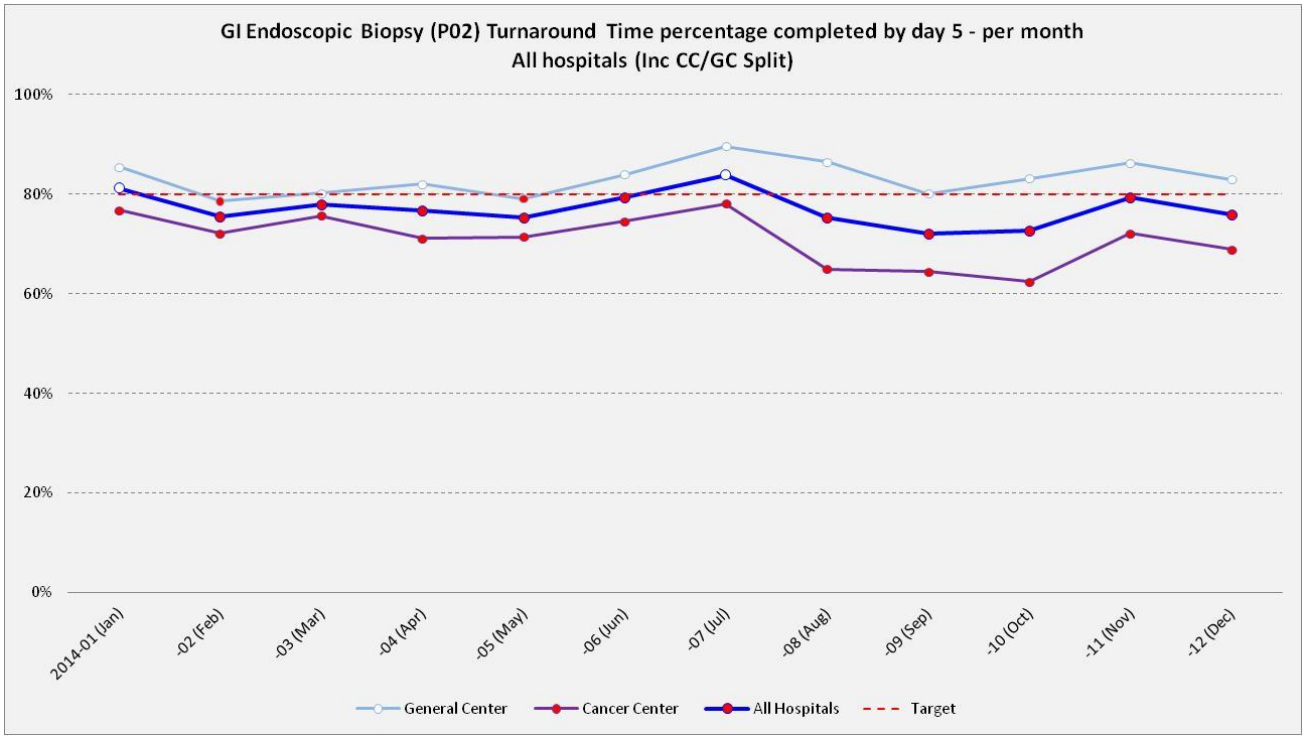
P02 – GI Endoscopic Biopsy



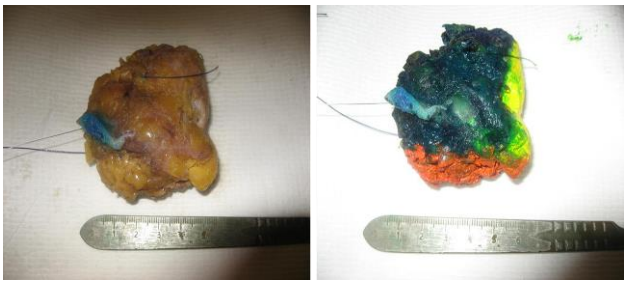
A GI Endoscopic biopsy is taken during an endoscopic procedure by the gastroenterologist clinician. The processing time for the tissue sample generally takes 2 days. The slide is then ready to be interpreted by the pathologist.
Following on from this, some cases may require additional studies, a second opinion from another consultant or further discussion with the referring clinician.

- Target of 80% of cases completed by day 5

Graph 8 (created July 2016)



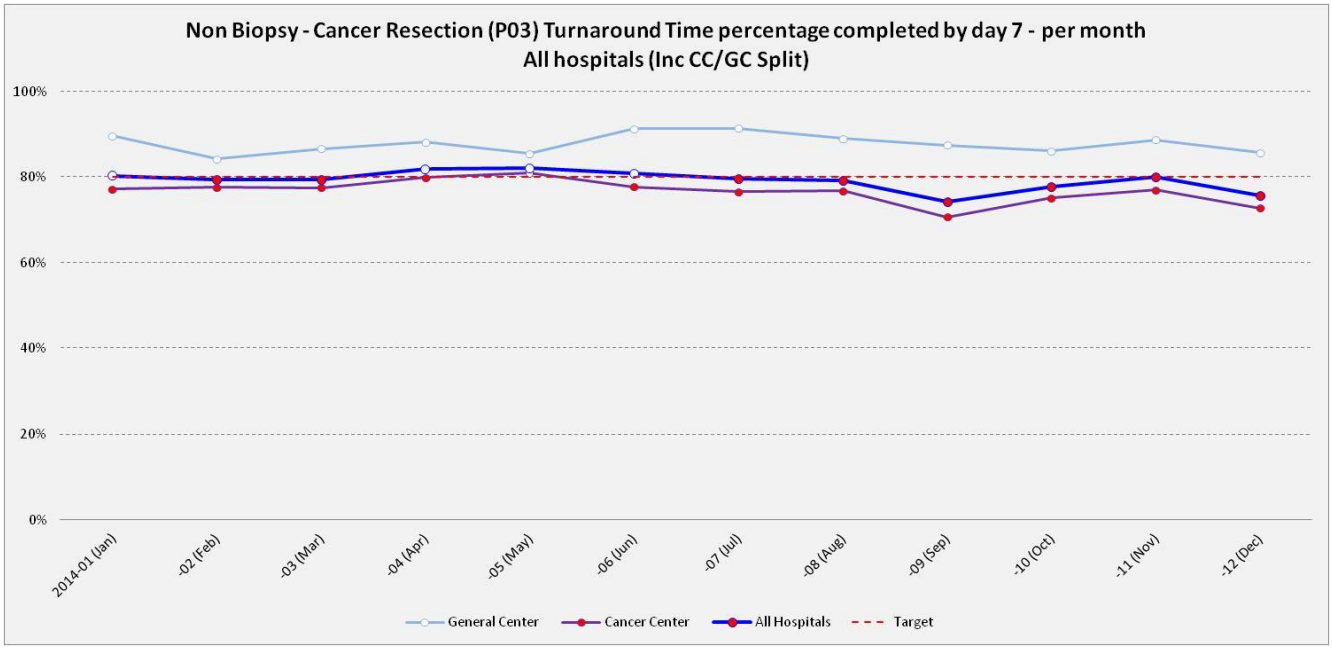
P03 Non Biopsy - Cancer Resection



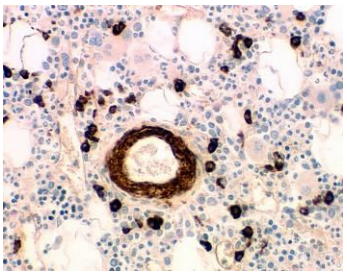
These tend to be larger samples including partial resections of organs.
The processing time for this tissue sample can take longer, generally 2-3 days. The slide is then ready to be interpreted by the pathologist.
Following on from this, some cases may require additional studies, a second opinion from another consultant or further discussion with the referring clinician.

- Target of 80% of cases completed by day 7

Graph 9 (created July 2016)



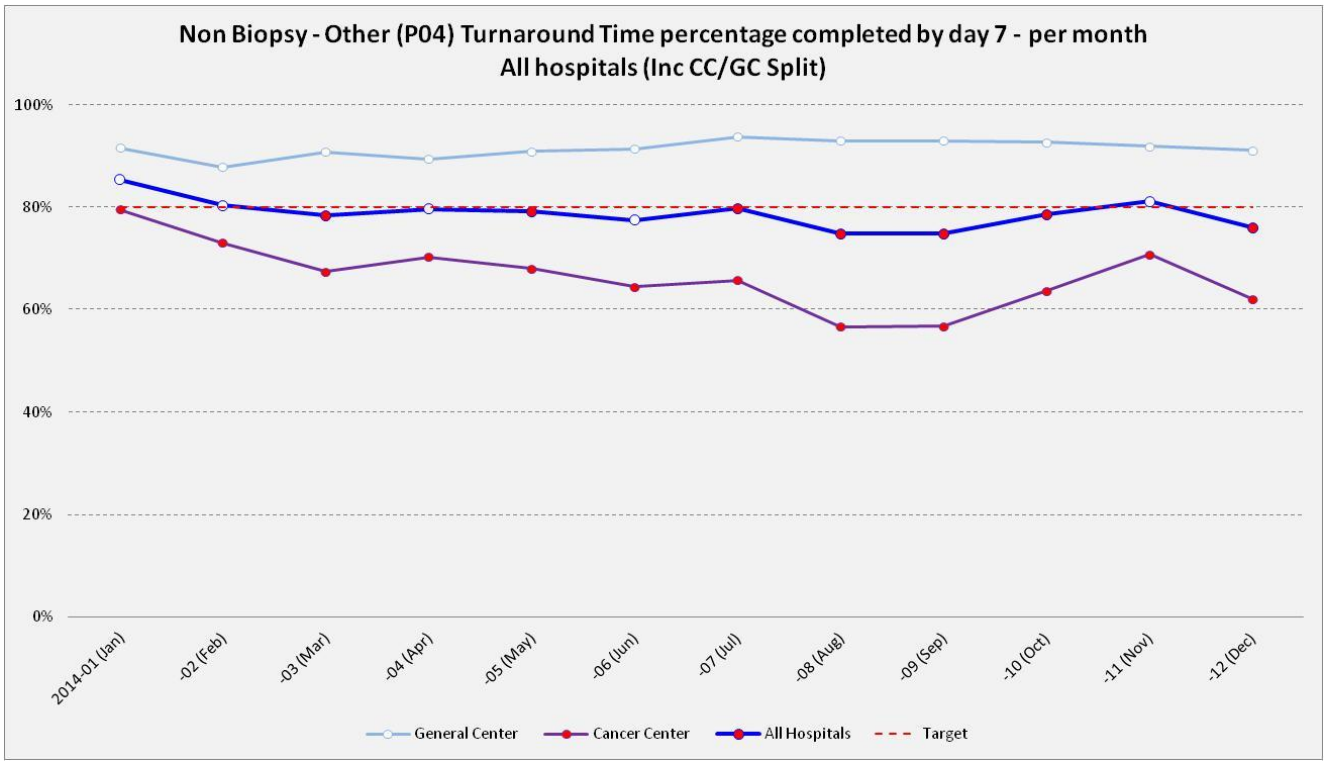
P04 Non Biopsy – Other



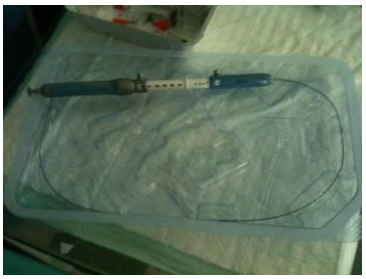
This category encompasses a wide variety of sample types including but not limited to skin lesion excisions, placentas, lymph node biopsies and bone marrow biopsies. The variety of specimens will also vary with laboratories and is not as good an indicator of quality as TAT analysis of the other specimen categories.
The processing time can vary between sample types.

- Target of 80% of cases completed by day 7

Graph 10 (created July 2016)



P06 Non Gynaecological cytology – FNA

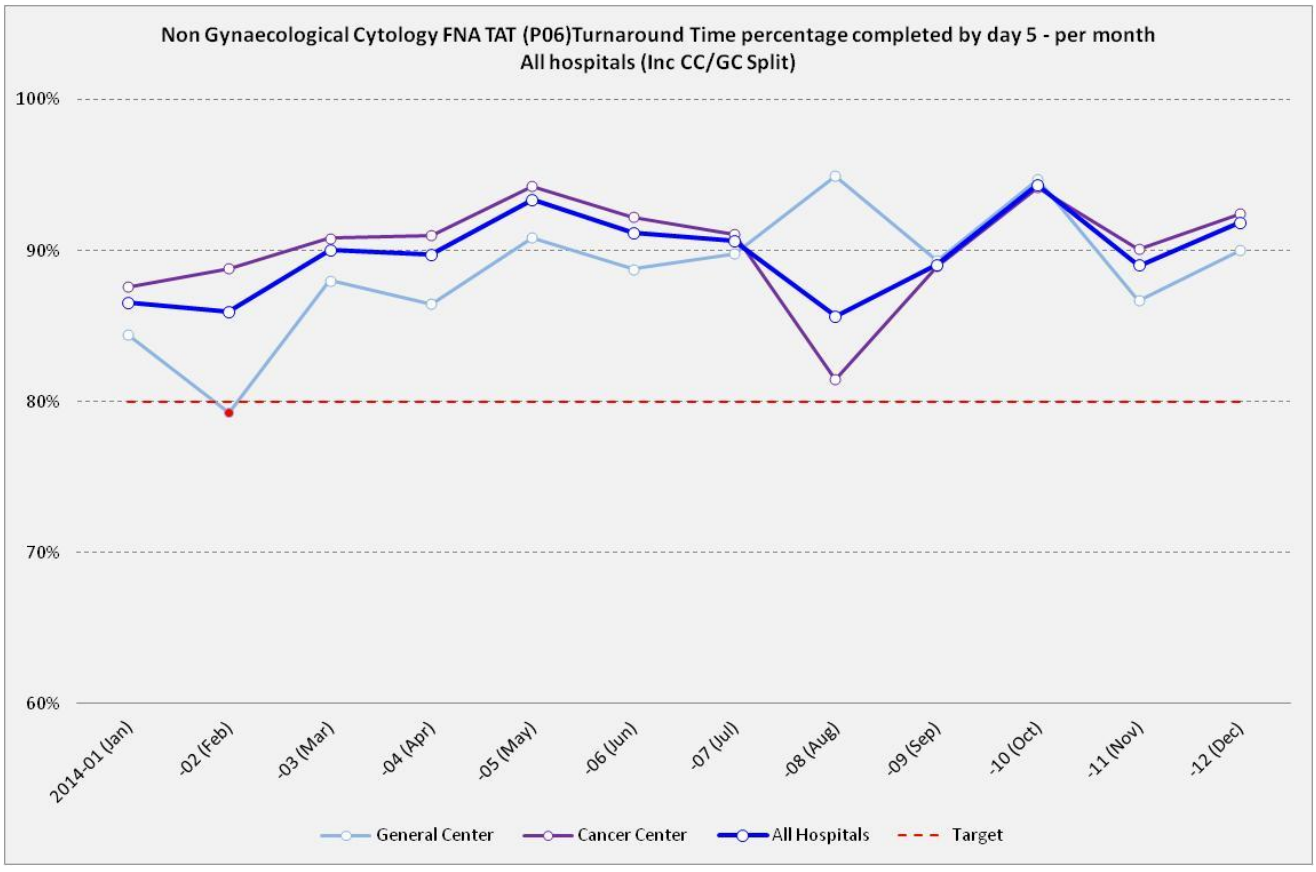


Cytopathology is a branch of pathology that studies and diagnoses diseases on a cellular level.
Fine Needle Aspiration involves a needle attached to a syringe to collect cells from lesions or masses in various body organs by micro-coring, often with the application of negative pressure (suction) to increase yield.

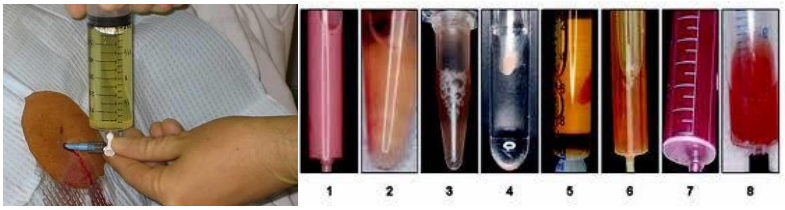
The processing time of these samples can be quicker, generally taking 1-2 days.
Following on from this, some cases may require additional studies, a second opinion from another consultant or further discussion with the referring clinician.

- Target of 80% of cases completed by day 5

Graph 11 (created July 2016)



P07 – Non Gynaecological cytology – Exfoliative

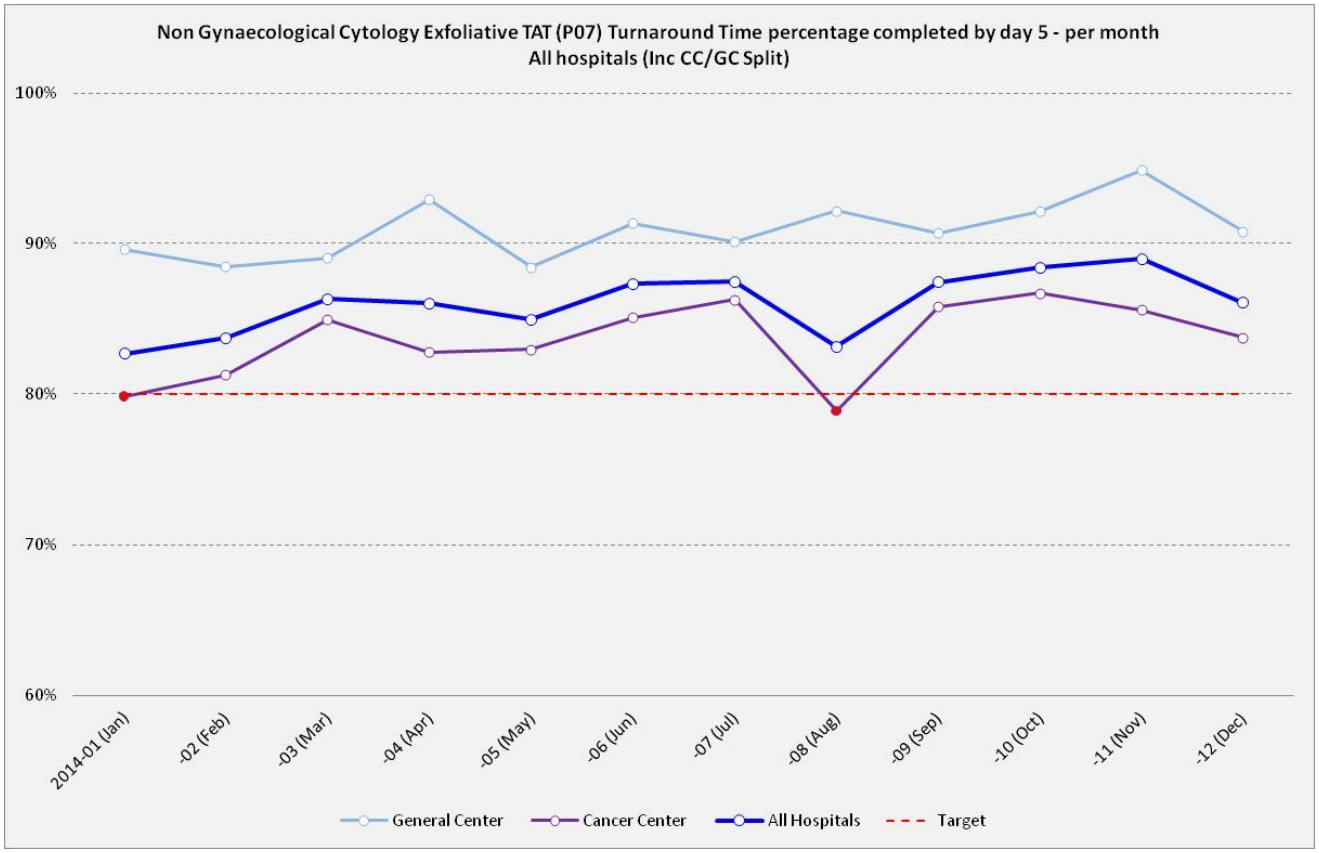


In this method, cells are collected after they have been either spontaneously shed by the body or manually scraped/brushed off of a surface in the body.

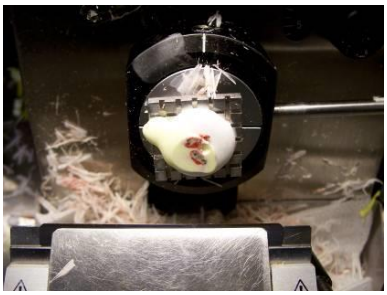
The processing time of these samples can be quicker, generally taking 1-2 days.
Following on from this, some cases may require additional studies, a second opinion from another consultant or further discussion with the referring clinician.

- Target of 80% of cases completed by day 5

Graph 12 (created July 2016)



3. Frozen Section Correlation



A frozen section is a specimen of tissue that has been quick-frozen, cut by microtome, and stained immediately for rapid diagnosis of possible malignant lesions. A specimen processed in this manner is not satisfactory for detailed study of the cells, but it is valuable because it is quick and gives the surgeon immediate information regarding the malignancy of a piece of tissue.

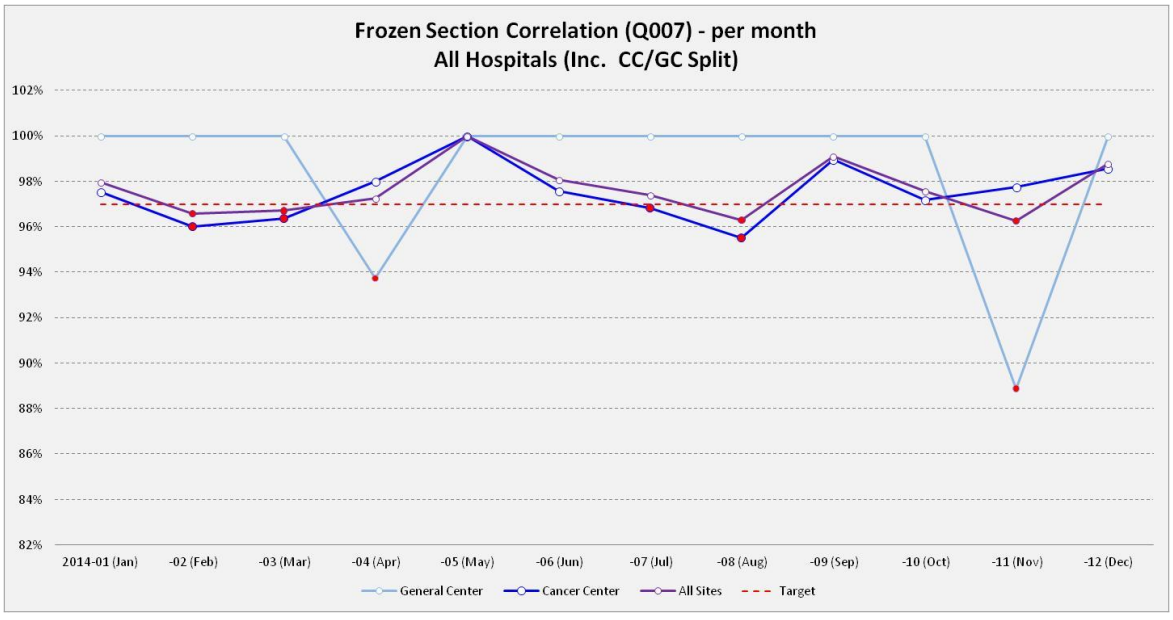
Monitoring the correlation of frozen section diagnosis and permanent section diagnosis is an integral component of a Quality Improvement programme.
It is recommended that permanent section slides should be analysed with the accompanying frozen section slides to establish if any discrepancy exists.

- Target of 97% concordance has been set in Round 1 and retained in Round 2

Commentary:
Reviewing the data to date indicated no need to change the targets set in Round 1.

- The Working Group welcome the steady state national average (blue) tracking with the target set.
- It is noted that the difference in the total average for cancer centre (purple) and non cancer centre (light blue) is in line with expectations. There is a significantly lower volume of cases processed in general centres. Discordance of 1 case in 3 can have a disproportionate effect on the correlation rate.

Graph 13 (created July 2016)



4. Frozen Section Deferral

Frozen Section Deferral

Deferral rate - This tracks the number of cases where frozen section diagnosis was deferred until final diagnosis was reached on permanent section. This can arise for various reasons, including sample quality, tissue type e.g. Sentinel lymph node, surgical margin analysis is accepted to carry more uncertainty, etc.

Round 2 Target has been set as follows

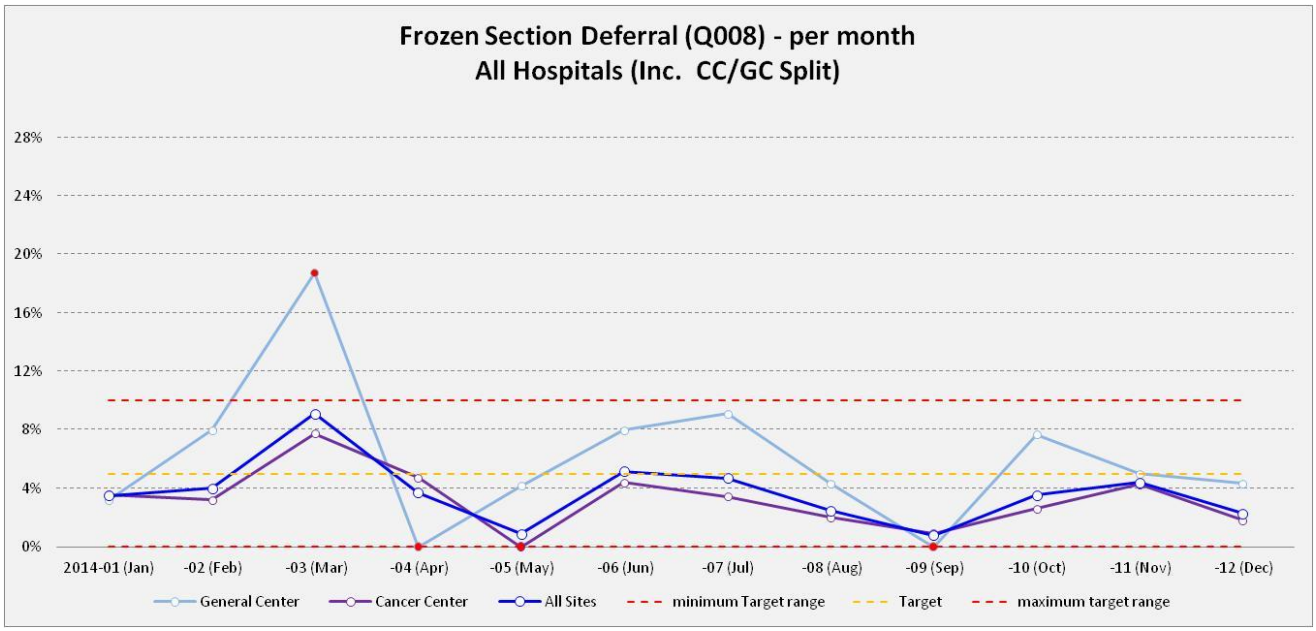
- 5 % Deferral rate. **Note**: less than 1% or greater than 10% needs review.

Commentary:

Reviewing the data to date indicates that the target set is achievable.

- The Working Group welcome the steady state national average (blue) tracking with the target set. This target will be reviewed annually with the aim of tracking to international standards.
- It is noted that deferral rates of 0- 1% or above 10% are outside best practice/ expectations and should be investigated and resolved.
- There is a significantly lower volume of cases processed in general centres (light blue). Deferral of 1 case in 3 can have a disproportionate effect on the deferral rate.

Graph 14 (created July 2016)



5. Frozen Section Turnaround time (TAT)

As for the Turnaround time targets set in Round 1 the time is measured from the time the lab receives the specimen to the time the final report is communicated to the surgeon.
It is a key monitor for the overall function of the laboratory service and is considered a critical element of quality because of the impact on clinical management of patients.

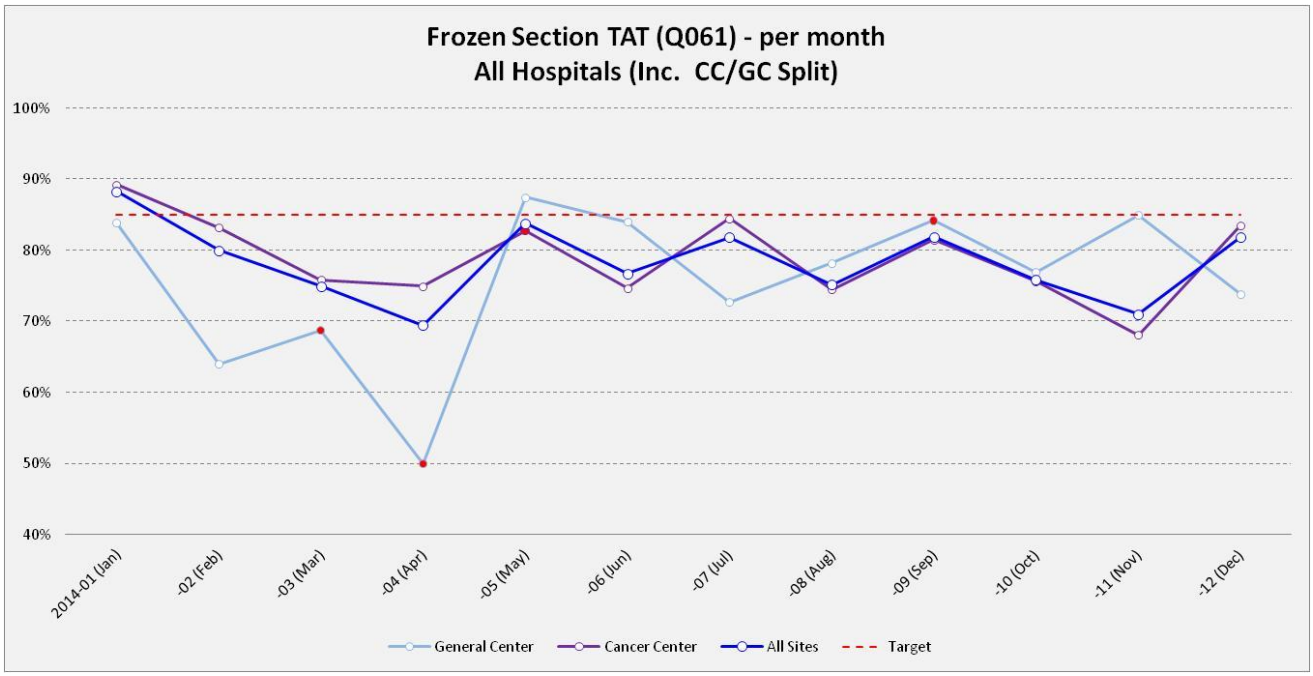
In the case of Frozen Section, carried out during surgical procedures this metric is counted in minutes, not working days.

- Target set is 85% of cases to have a TAT of less than or equal to (**≤**) 20 minutes

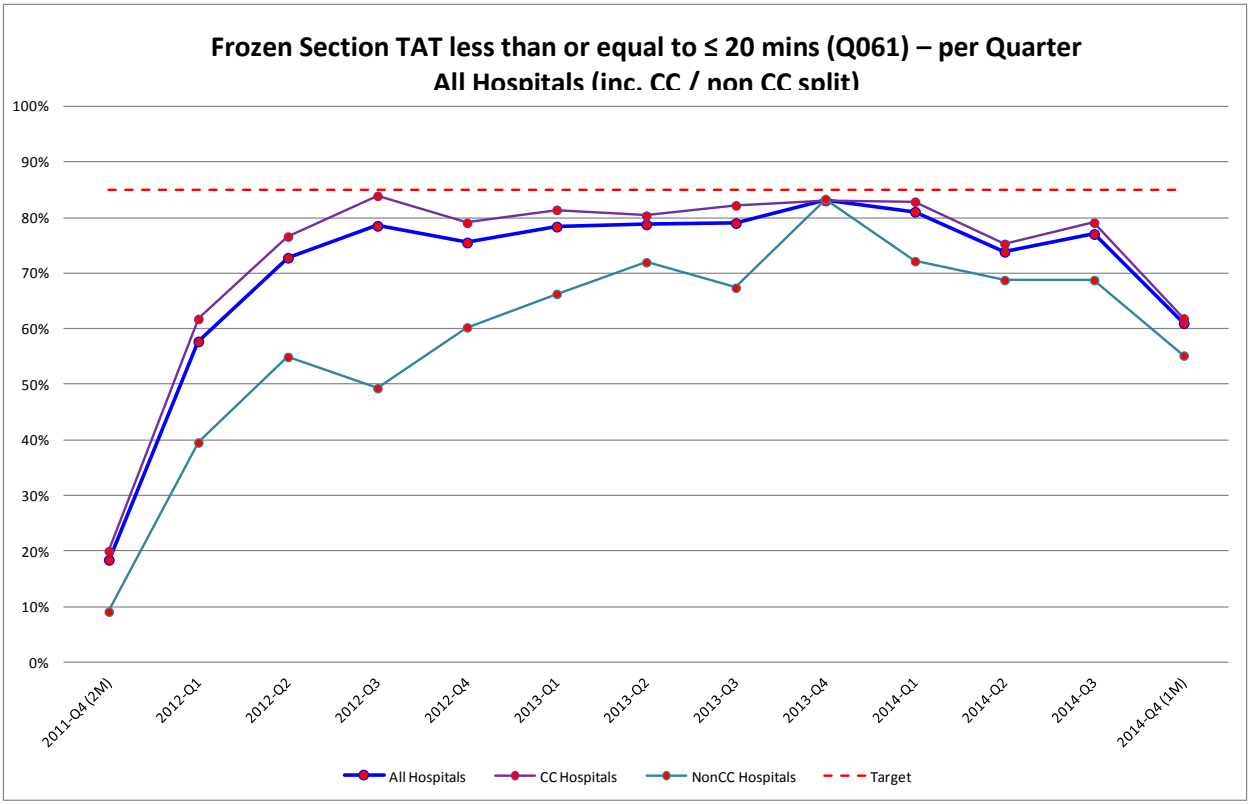
Commentary:
Reviewing the data to date indicates that the target set is ambitious but achievable.

- The Working Group welcomes the increased data available due to better coding while noting that 5-10% of cases are not coded with a FS stain. This causes the TAT to default to over 20 minutes. Action is required from participants here.
- National average is shown (blue) below tracking within 5 – 10% of target and reaching above target in several months. This trend may continue as more complete data is uploaded for the period July – October 2014. This was revisited and updated in July 2016.
- Cancer centre average (purple) follows the national average (120 – 160/ month).
- There is more variability with general centre (light blue) which is expected due to a significantly lower volume of cases (20 – 30 / month).

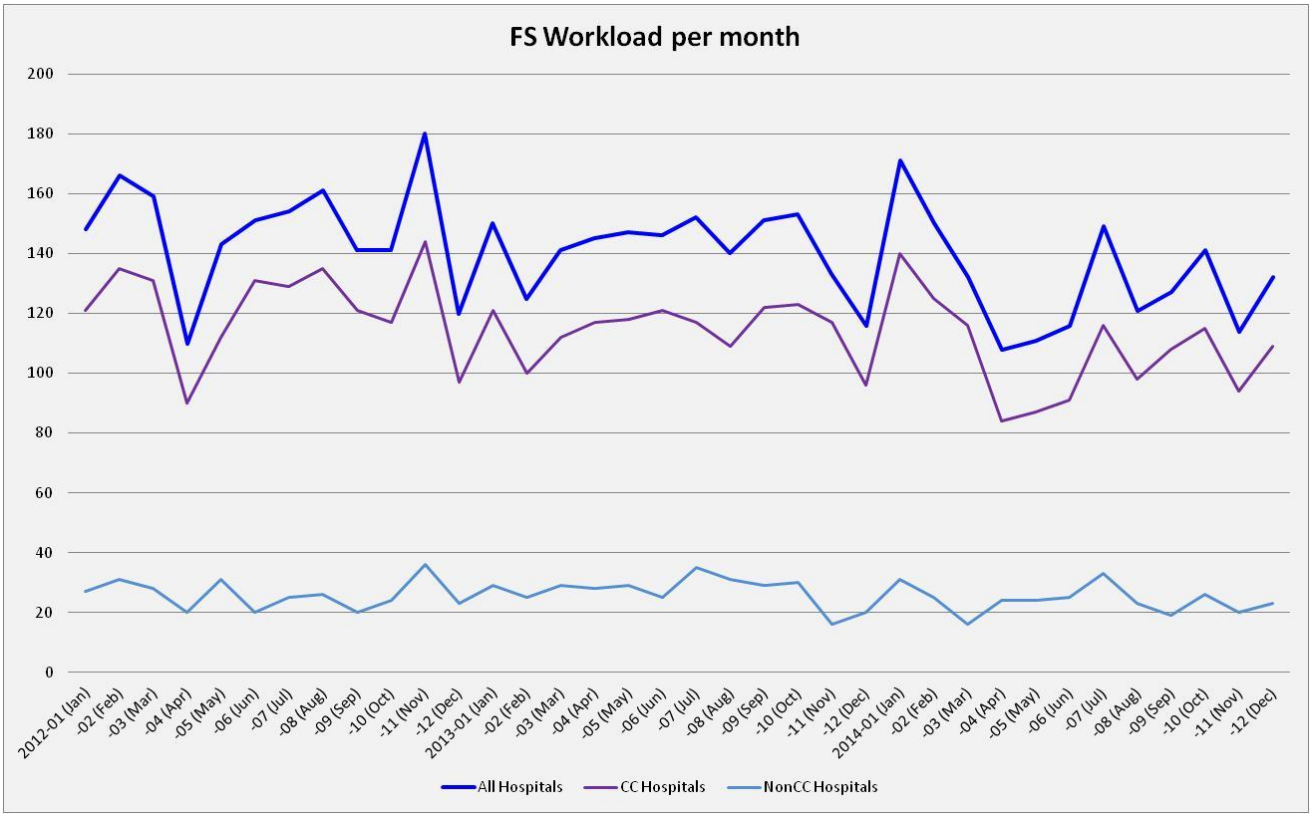
Graph 15 (created July 2016)



Graph 16 – original 2015 report



Graph 17 (created July 2016)



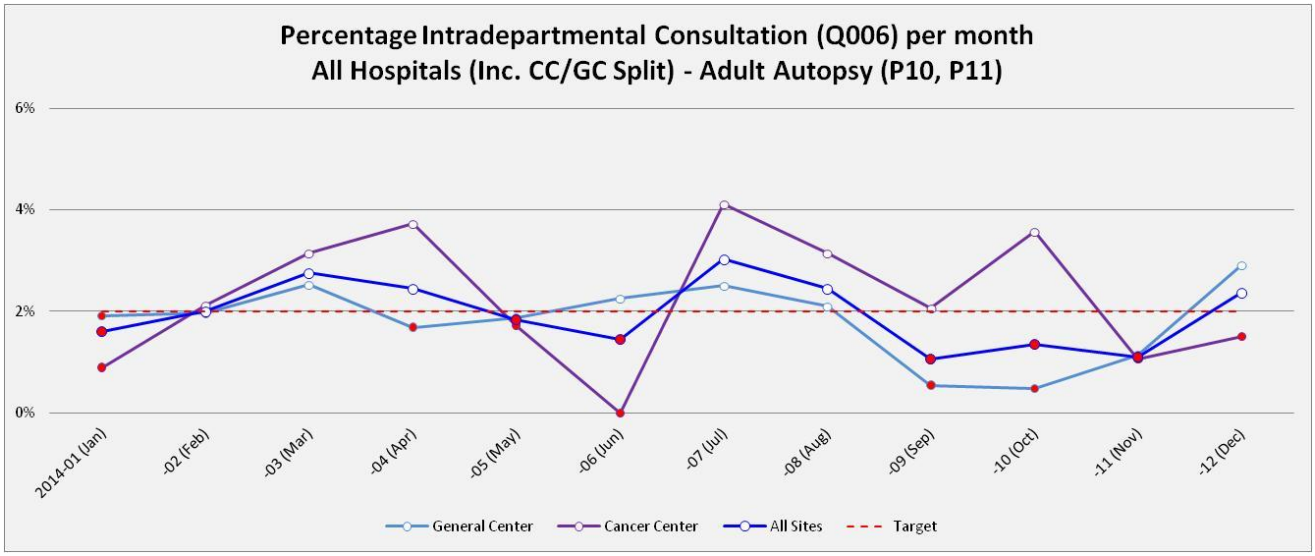
6. Adult Autopsy Intradepartmental Consultation

Adult Autopsy includes both Coroner and Non-Coroner autopsies. As in part, Intradepartmental consultation is where a pathologist seeks a second opinion from a colleague within his/her department on a particular case. Pathologists should record the involvement of colleagues, with their agreement, in the NQAIS system and if deemed necessary in the final report.
Any review of an autopsy case that occurs prior to authorisation of the final report should be recorded as an intradepartmental consultation.

- Target set is 2% for all adult autopsy cases (coroner & non coroner).

Commentary:
Reviewing the data to date indicates that the target set is achievable. The Working Group noted that data is limited to date for this target and may not yet reflect activity in the laboratory. Participants are encouraged to code this activity, and feedback any questions.

Graph 17 (created July 2016)



Conclusion

It is planned to continue to analyse data, consult participants to progress with challenging areas and set targets on the remaining quality activities. A similar report will be published following on from this analysis.

All targets will be reviewed on an annual basis to ensure effectiveness and take into consideration improvements made by individual hospitals.