Establishing a global quality of care benchmark report

Presented by:
Fanny Sampurno
13th August 2019
Background

TrueNTH Global Registry (TNGR) is an international project that aims to improve care by using a consistent dataset to:

- identify variations; and
- optimise outcomes and quality of care in men with localised prostate cancer.
2015-17: TrueNTH Global Registry (TNGR) set up
2017: Expert consensus on quality indicators
2018-19: TNGR Report development
2019: TNGR first report to LDCs and sites

Funded by

Executive Committee

Project Coordination Centre (PCC)
Dr Mark Litwin, Dept. urology, UCLA

Data Coordination Centre (DCC)
Prof Sue Evans, Dept. of Epidemiology, Monash University

MONASH University

Local Data Centre
Participating site

Local Data Centre
Participating site

Local Data Centre
Participating site

= site recruiting patients
25 Local Data Centres (LDCs), operating in 15 countries
Aim: To obtain expert consensus on indicators that can measure the quality of localised prostate cancer management worldwide.

Methodology:
- Literature reviews on numerous international evidence-based clinical guidelines;
- Expert panellists were asked to rate the importance and feasibility of each of the recommendations.

A set of **33 evidence and consensus based quality indicators (QI)** were selected.

<table>
<thead>
<tr>
<th>Clinical</th>
<th>Process of care</th>
<th>15 indicators</th>
<th>QI 1-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcomes</td>
<td>6 indicators</td>
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Methodology

1. Determine the best way to present the data

2. Develop the report
Methodology - Determine the best way to present the data

- 7 Working group Sessions

2 Surveys
- 35 members completed 2nd survey
- 18 Non Clinicians
- 17 Clinicians

1st Survey: 10 members (5 clinicians and 5 non-clinicians) 83% RR

2nd Survey: 35 members (17 clinicians and 18 non-clinicians) 92% RR

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Methodology - **Determine the best way to present the data**

**Dashboard**

<table>
<thead>
<tr>
<th>QUALITY INDICATOR</th>
<th>Page No</th>
<th>Range (%)</th>
<th>PERFORMANCE SUMMARY CHART COMPARISON TO LDC AVERAGE*</th>
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</thead>
<tbody>
<tr>
<td>1. PSA level is documented at diagnosis</td>
<td>9</td>
<td>17-100</td>
<td></td>
</tr>
<tr>
<td>2. Clinical T category/stage is documented</td>
<td>10</td>
<td>1-100</td>
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Methodology - Determine the best way to present the data

Quality Indicators (QI)

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Methodology – Develop the report

1. Automate vs manual process
2. Off the shelf vs Bespoke report
3. SQL vs R Report

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Methodology – Develop the report

Tasks

1. Set up research extract
Methodology – Develop the report

- ADMIN
- Biopsy
- AS
- WW
- Prostatectomy
- EBRT
- :
- :
- Progression
- Patient reported

Pre-treatment

Treatment

Tasks

1. Set up research extract
Methodology – Develop the report

Tasks
1. Set up research extract
TrueNTH Global Registry **Safe Haven**

- It is a secure *remote access system* which provides secure data access to approved users.

- Approved data users are provided with a *Monash account* to log onto Safe Haven via a virtual private network (VPN).

- Connection to Monash VPN requires *two-factor authentication*.

- Statistical applications, reference management software and Microsoft office programs are available in Safe Haven.

- Data is not permitted to leave Safe Haven, except when all relevant regulatory and governance approvals have been obtained.
Employ R Data Scientists
Methodology – Develop the report

1. Set up research extract
2. Prepare QI calculation details
3. Build QI report using R Markdown

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<td><strong>DIAGNOSIS</strong></td>
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<tr>
<td>1</td>
<td>PSA level is documented at diagnosis</td>
<td>This indicator reports on documentation of PSA at diagnosis...</td>
<td>Biopsy</td>
<td>BiopPSAStatus == 1 &amp; BiopTime == 1</td>
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<tr>
<td>2</td>
<td>Clinical T category/ stage is documented</td>
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<td>BiopcT %in% 0:13 &amp; BiopTime == 1</td>
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## Calculation Details

### Quality Indicators (QI) Calculation

#### Research Extract

![Research Extract](image1)

![Quality Indicators](image2)

![QI_Wrangling](image3)

#### QI_Wrangling

**Data Completeness**

A set of report for each site

**Control Script**

Calculation Details

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<tr>
<td>1</td>
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<td>Order</td>
<td>Complete</td>
<td>Total</td>
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<tr>
<td>2</td>
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<tr>
<td>10</td>
<td>XYZ09</td>
<td>1</td>
<td>4</td>
<td>20</td>
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Data Frame

QI_Wrangling

A set of report for each site
Workflow

Research Extract → QI Calculation Details → QI_Wrangling → Data Frame → Quality Indicator
1. PSA LEVEL IS DOCUMENTED AT DIAGNOSIS

This indicator reports on how well PSA is documented at diagnosis*. PSA levels are important to understand risk of disease progression. We only include men diagnosed via TRUS or transperineal biopsy as prostate cancer may be an incidental finding (e.g. TURP).

Figure 1 provides a summary of the completeness of PSA documentation for men at your LDC and trend in documentation over time including 95% confidence intervals (CIs).

**Numerator (n)**: Men diagnosed via TRUS or transperineal biopsy who have a PSA level documented within a six month period prior to the biopsy

**Denominator (N)**: Men diagnosed via TRUS or transperineal biopsy

*NOTE: PSA test result must be taken within a six month period prior to or up to date of diagnosis.

Figure 1: Percentage (%) of PSA levels documented in contributing LDCs at diagnosis and trend

Data points for your LDC are plotted on the graph for comparison:

- **Your LDC**
- **Other LDCs**

Legend:
- **Line**: Aspirational target %
- **Dotted line**: Pooled median % cases met the aspirational indicator
- **Dashed line**: Pooled average % cases met the aspirational indicator
- **Dotted line**: Lower and upper 95% confidence limits
- **Dashed line**: Lower and upper 99.2% confidence limits

Diagram:

- **Data Frame**
- **QI_Wrangling**
- **Quality Indicator**
Methodology – Distribute the reports

Tasks
1. Set up research extract
2. Prepare QI calculation details
3. Build QI report using R Markdown
4. Distribution of the reports
Distribution of the reports

- Reports are distributed via SFTP.

- Q&A sessions were held:
  - To educate data managers on how to interpret the QI reports;
  - To understand how are they going to use the QI reports at a local level & to whom the reports will be distributed to;
  - To address questions and concerns from the data managers.

- FAQs page

Reports comparing indicator performance are distributed to LDCs and participating sites with the purpose of improving the CONSISTENCY and QUALITY of prostate cancer management on a global basis.
Acknowledgements

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