Translating Evidence Informed Systemic Therapy Clinical Practice into a Patient-based Systemic Treatment Funding Model

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Health System Funding Reform in Ontario

• Ontario is moving away from a global funding system for health care and towards **Patient-Based Funding (PBF)**

• Under PBF, health care organizations are funded based on:
  • How many patients they look after
  • The services they deliver
  • The evidence-based quality of these services
  • The specific needs of the population they serve

• CCO manages a number of QBPs including:
  • Systemic Treatment
  • Chronic Kidney Disease
  • GI Endoscopy
  • Cancer Surgery
  • Colposcopy

Future QBPs

Health System Funding Reform

Patient Based Funding (70%)

Global (30%)
Ontario Health System Funding Reform: Shift to patient-based funding

Scope: Ambulatory Care Systemic Treatment
Activities related to direct patient care at all 77 systemic treatment facilities

Goal: Implement a new episode-based funding model which:
- Ensures funding follows the patient
- Reduces inequities in funding
- Ties funding to evidence-informed practice

The following are out of scope for now:
- Inpatient Systemic Treatment
- Physician Compensation
- Pediatrics
- Home Care
- Laboratory & diagnostic imaging
Systemic Treatment Funding Model - Transition to Episode-Based Funding

Previous State

LIFETIME PER CASE FUNDING
CCO funding
PCOP Funding
Hospital base

New Model

Consultation
Adjuvant or Curative Therapy
Palliative Therapy
Un-modeled
Active patients not on treatment

Carve-out
Bundles for Systemic Treatment Adjuvant/Curative vs. Palliative Intent

Inputs to development: Data, Disease Site Groups

**Adjuvant/Curative Treatment Bundle**

Based on a course of treatment

Includes:
- # Cycles
- # Chemotherapy Suite Visits
- # Ambulatory Clinic Visits
- Nursing Time
- Pharmacy Time
- Non-PDRP funded drugs
- Supportive Drugs
- Supplies
- Follow-up visits during and post treatment

**Palliative Time Based Bundle**

Based on a month of treatment

Includes:
- Same as adjuvant/curative with exception of:
  - Cycles
  - Follow-up visits post treatment

Multiple Price Points
Determining Evidence-Informed Practice: Selecting Regimens for Disease Site and Intent

Step 1: Identification of Evidence-Informed Regimens

Step 2: Identification of Regimen Elements

Step 3: Micro-costing the Evidence-Informed Regimens

Step 4: Banding the Evidence-Informed Regimens
Step 1: Identification of Evidence-Informed Regimens

The following activities were completed with Disease Site Group (DSG) Leads:

- Reviewed all regimens reported to Cancer Care Ontario’s Activity Level Reporting (ALR) in 2011/12 and 12/13
- Initial identification of evidence-informed regimens for each disease site and treatment intent
Step 2: Identification of Regimen Elements

All evidence informed regimens were then thoroughly reviewed with the DSG leads to identify:

- Number of cycles
- Number of chemotherapy suite visits
- Number of ambulatory clinic visits
- Non-NDFP/supportive drugs
- Post treatment follow-up visits (for adjuvant/ neo-adjuvant/curative)

All Disease Site Group members had multiple opportunities to review the lists of evidence-informed regimens for their respective disease site.
Step 3: Micro-costing the Evidence-Informed Regimens

1. Nursing and Pharmacy time for each regimen identified by nursing and pharmacy advisory groups (workload groups)
2. Manager, Clerical, Clinical Visit and Supply costs determined based on existing data sources
3. Number of visits x workload calculated
4. Time converted to hours, factoring in non-patient facing time and benefit hours determined and standard MOHLTC hourly rates applied
5. Non-NDFP drug costs built into model based on standard body surface areas and drug cost rates
# Step 4: Banding Evidence-Informed Regimens

## Adjuvant/Curative/Neo-Adjuvant Regimen Bands

<table>
<thead>
<tr>
<th>Band</th>
<th>Price Point</th>
<th>~# Regimens</th>
<th>~# Cases</th>
<th>Notes</th>
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<tr>
<td>1</td>
<td></td>
<td>80</td>
<td>6,808</td>
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<tr>
<td>2</td>
<td>To be released</td>
<td>62</td>
<td>3,463</td>
<td>• Funded as a full course of treatment + post treatment well follow-up</td>
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<tr>
<td>3</td>
<td></td>
<td>25</td>
<td>1,441</td>
<td></td>
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<tr>
<td>4</td>
<td></td>
<td>7</td>
<td>381</td>
<td></td>
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</table>

## Palliative Regimen Bands

<table>
<thead>
<tr>
<th>Band</th>
<th>Price Point</th>
<th>~# Regimens</th>
<th>~Pt. Months</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>To be released</td>
<td>Band X contains all non-IV treatment and palliative supportive care, off treatment</td>
<td></td>
<td>• Funded monthly, time-based</td>
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<tr>
<td>1</td>
<td></td>
<td>164</td>
<td>26,939</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>71</td>
<td>14,974</td>
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<td>3</td>
<td></td>
<td>32</td>
<td>3,769</td>
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</table>

To reduce complexity a banding approach was taken → regimens of a similar price were grouped together.

Analysis completed comparing the use of individual regimen prices vs. banded prices shows no significant difference at the system, facility or disease site level.
Continued Development of Evidence-Informed Practice

Updates to Evidence-Informed Practice

- Lists of evidence-informed regimens will be updated on a regular basis to align with current clinical practice including quarterly and real-time updates when there are funding changes
- Disease experts involved in process

Long-Term Goals for Evidence-Informed Practice

- Continued evolution of evidence-informed practice and a development of standardized criteria/qualifiers for evidence-informed practice
- Standardization of clinical practice (where appropriate) across the province

Alignment with CCO’s Drug Formulary website & app

- Full alignment between Funding Model evidence-informed regimens, CCO’s Drug Formulary website and mobile app, and CPOE system reporting
Overview of the Systemic Treatment Funding Model

- **Consultation & Re-consult**
  - 1 price point for consult + re-consult
  - $33.4M (20%)

- **Un-modeled**
  - Unbundled, hospital specific payment for elements not yet included in the rest of the model
  - $39.7M (23%)

- **Adjuvant, Neo-adjuvant or Curative Therapy**
  - Based on a course of treatment for evidence informed regimens: 4 price points
  - $45.7M (27%)

- **Palliative Therapy**
  - Monthly payment for evidence informed treatment regimens: 3 price points
    + 1 price point for Supportive Care Off-Treatment & Oral
  - $46.2M (27%)

- **Active Patients Not on Treatment**
  - Monthly payment for patients who have clinic visits + no evidence of prior treatment
  - $5.0M (3%)

- **$39.7M**
- **$45.7M**
- **$46.2M**
- **$5.0M**
Systemic Treatment Funding Model Development is Foundational for Future Applied Research

- A significant amount of data compiled around current state of practice and processes established to gain further understanding of the current state
  - Enables a data-driven understanding of current state of practice
  - Provides a real-time description of what is happening in the system
  - Detects variation at provincial, regional and facility level
  - Can be linked to other databases to answer complex research questions

- Defines planned future state based on evidence informed practice
  - Provides an opportunity to identify practice variance by disease site and region
  - Potential research opportunities to understand the causes of practice variation

- Process for developing evidence informed practice can be leveraged to drive further improvements in clinical practice
  - Initial focus is on appropriateness of treatment
  - Longer-term focus: comparative effectiveness, optimal efficiency of systemic treatment delivery
Acknowledgements

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  • Dr. Bill Evans

• Project Sponsors:
  • Irene Blais, Director, Funding Unit
  • Elaine Meertens, Director, Planning and Regional Projects

• Project Team members
  • Carlin Lalonde, Project Lead
  • Huma Tariq, Methodologist
  • Jennifer Lam, Project Coordinator
  • Sandro Serino, Contract Lead

• All members of the Systemic Treatment Funding Model Advisory Group
• Disease Site Group Leads and Members
Appendix
### Development of Evidence Informed Practice: Regimens Across Disease Sites

<table>
<thead>
<tr>
<th>Disease Site</th>
<th>Adjuvant/Curative</th>
<th>Adjuvant/Curative &amp; Palliative</th>
<th>Palliative</th>
<th>Disease Site TOTAL</th>
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<tbody>
<tr>
<td>Breast</td>
<td>17</td>
<td>6</td>
<td>46</td>
<td>69</td>
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<tr>
<td>CNS</td>
<td>-</td>
<td>1</td>
<td>10</td>
<td>11</td>
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<tr>
<td>Gastrointestinal</td>
<td>9</td>
<td>19</td>
<td>53</td>
<td>81</td>
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<tr>
<td>Genitourinary</td>
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<td>17</td>
<td>36</td>
<td>63</td>
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<tr>
<td>Gynecological</td>
<td>9</td>
<td>13</td>
<td>22</td>
<td>44</td>
</tr>
<tr>
<td>Head &amp; Neck</td>
<td>6</td>
<td>5</td>
<td>20</td>
<td>31</td>
</tr>
<tr>
<td>Hematology</td>
<td>29</td>
<td>9</td>
<td>71</td>
<td>109</td>
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<tr>
<td>Lung</td>
<td>10</td>
<td>10</td>
<td>25</td>
<td>45</td>
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<tr>
<td>Sarcoma</td>
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<td>12</td>
<td>29</td>
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<tr>
<td>Skin</td>
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<td>1</td>
<td>19</td>
<td>21</td>
</tr>
<tr>
<td>Primary Unknown</td>
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<td>-</td>
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