Patented Medicine Prices Review Board

Conseil d'examen du prix des médicaments brevetés

Canada

Revised PMPRB Guidelines

Overview of key changes

Industry Webinar

June 29, 2020

Outline

A. The Path to PMPRB Reform

B. Overview of key Guideline changes

C. Case Studies

D. Questions and Answers

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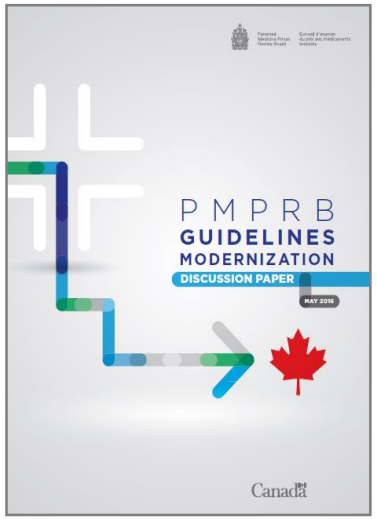
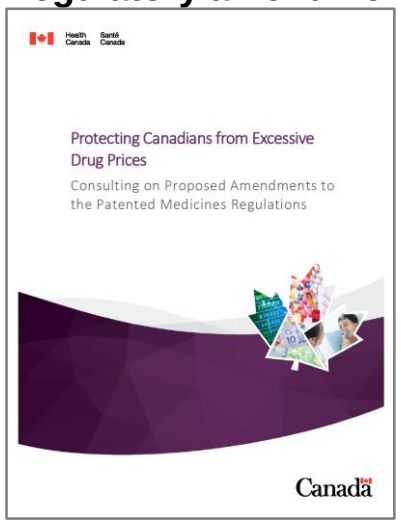
A. The Path to PMPRB Reform

The path to PMPRB reform so far ….

PMPRB Discussion paper on Guideline reform

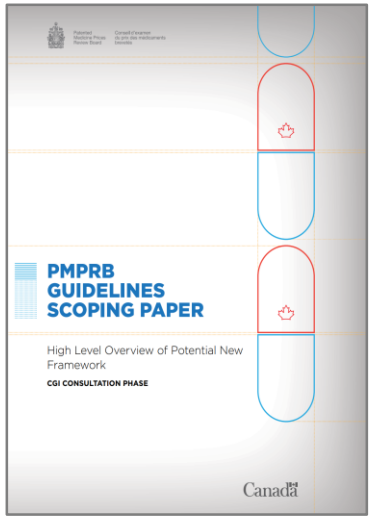


Health Canada pre-consultation on regulatory amendments

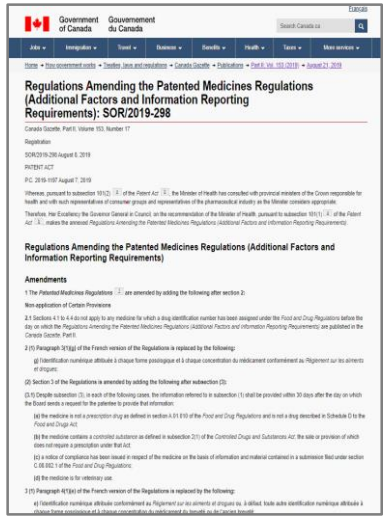


Health Canada Canada Gazette I

PMPRB Guidelines scoping paper



Health Canada Canada Gazette II



PMPRB Draft Guidelines

PMPRB draft Guideline consultation: November 21st to February 14th

The PMPRB staff made significant efforts to identify and reach out to as many stakeholders as possible: over 1000 contacts representing more than 700 organizations were contacted directly by the PMPRB.

- Health Partners Working Group on Nov 15th (10 participants) and Jan 23rd (19 participants): one-day outreach session with health partner representatives including CADTH, INESSS, pCPA, Drug plans, Health Canada, and Cancer Agencies.
- Industry forum on December 9 (20 participants): one-day outreach session with representatives of IMC and BIOTECanada (Alt Hotel, Ottawa)
- Civil Society Forum on December 10 (48 participants): one-day outreach session that brought together patient groups and other non-institutional stakeholders with diverse voices
- Industry Webinar on January 17 (187 participants)
- Cross country bilateral meetings with a wide variety of stakeholders across the county (60+ meetings with 260+ participants): public and private payers, patient and patient groups, clinicians, industry and associations, pharmacists and distributors, health care organizations, etc.
- Bilateral meetings with pharmaceutical companies, and consultants (40+ meetings)

The information on dates, locations and stakeholder groups, as well as electronic versions of the presentations are available on the PMPRB website.

Written Submissions

Category	Submissions (#)	Submissions (%)
Consumer/patient advocacy total	**41**	**33%**
Patentee	34	28%
Patentee association	4	3%
Generics/biosimilars	2	2%
Patentee/patentee association total	**40**	**33%**
Distributor/consultant/pharmacist	11	9%
Industry associations (e.g. life sciences)	6	5%
Consultant	2	2%
Other total	**19**	**15%**
Union	7	6%
Clinician	4	3%
Academic	3	2%
Think tank	1	1%
International	1	1%
Civil academic/clinician/think tank total	**16**	**13%**
Public (e.g. agency, health authority, government)	5	4%
Private insurance	2	2%
Public entity or private insurance total	**7**	**6%**
Grand Total	**123**	**100%**

- The consultation received a total of 123 submissions. A similar exercise in 2016 resulted in 67 submission and a consultation in 2008 resulted in 43.
- Number of submissions from patentees increased to 34 from 24 in 2016 (21 in 2008). This is a 33% increase over 2016 submissions.
- One-third (33%) of the submissions received were from patentees and their industry associations, and another third (33%) came from consumer and patient advocacy groups.
- PMPRB also received almost 900 letters from individuals or patients, the majority of which were Cystic Fibrosis patients and their caregivers as part of an advocacy initiative spearheaded by Cystic Fibrosis Canada.

Next steps in the PMPRB Guideline consultation

June 19 to July 20

Release of the revised Guidelines
30-day consultation period commences

Engagement sessions:

- **Industry Webinar**
- **Public Webinar**
- **Health Partner Webinar**
- **Private Insurers Webinar**

B. Overview of key Guideline changes

Key Guideline Changes

1. Therapeutic Class Comparison
2. International Price Comparison
3. Screening criteria for Category I medicines
4. MRP: Pharmacoeconomic Value
5. Therapeutic Criteria
6. Market Size Adjustments
7. Reasonable Relationship Test

Four broad categories of patented medicines

1. Grandfathered patented medicines include the dosage strengths and forms for patented medicines for which the patentee was assigned a Drug Information Number(DIN) prior to August 21, 2019 regardless of whether those dosage strengths and forms have been approved for new indications (without a DIN change) after August 21, 2019.
2. Line Extensions of Grandfathered patented medicines are new dosage forms and strengths of Grandfathered patented medicines to which a DIN was assigned on or after August 21, 2019.
3. Gap Medicines are patented medicines for which a DIN was assigned on or after August 21, 2019 and the first sale in Canada took place prior to January 1, 2021.
4. New patented medicines include all other dosage strengths and forms of patented medicines

1. Therapeutic Class Comparison

What the Nov Draft Guidelines said	Feedback received
The Draft Guidelines addressed this factor in two main ways:	
1. The MLP would be set by the lower of the MIP for the PMPRB11 comparator countries and the dTCC subject to an LIP floor	Canadian prices would be pushed towards the lowest international prices particularly for meds in therapeutic areas dominated by older, genericized products.
2. If a cost-utility analysis was not available for a Category I patented medicine, then the MRP would be set by the lower of the LIP, the dTCC or the iTCC, with further Market Size adjustments.	Approach does not recognize therapeutic innovation
Both the dTCC and the iTCC would be calculated based on the median cost of treatment across the comparator medicines, derived by taking into account the lowest public price and price source.	Recommendation dTCC and the iTCC be calculated based on the highest rather than the median cost of treatment across comparators.

1. Therapeutic Class Comparison

What the Revised Guidelines Propose

For the MLP

- dTCC/iTCC will only be considered in the establishment of the MLP for medicines that do not have international prices.
- When applicable, the dTCC will be calculated, based on the **highest** instead of the median cost of treatment across the comparator medicines, taking into account the lowest public price.
- If the patentee has not filed international prices by the end of the interim period (max 3 years), and there are no domestic therapeutic class comparators, the MLP may be set at the **median** of the iTCC.

For the MRP

- For Category I high market size medicines (>$50 million), the dTCC will be calculated based on the **median** cost of treatment across the comparator meds, derived by taking into account the lowest public price and subject to the applicable therapeutic criteria level floor.

Considerations/Analysis

- Few patented medicines are generally launched in therapeutic areas dominated by genericized medicines: 17% of new DINs were introduced into a therapeutic class dominated by genericized medicines (2017 and 2018).
- When available, international prices are expected to already partially reflect the pricing of comparator medicines in those markets.
- All tests and factors will be considered , including the dTCC and iTCC, in the context of an investigation.
- These changes will reduce regulatory burden, streamline and expedite the process of establishing the price ceilings and improve predictability.

2. International Price Comparison

What the Nov Guidelines said	Feedback Received
• MIP applies to all patented medicines.	• The MIP approach incorrectly assumes that all prices above the median of the comparator countries are excessive.
If the prevailing MIP exceeds the MLP by more than 10%, the MLP may be adjusted based on actual lagged CPI up to the MIP level. Conversely, if the prevailing MIP is lower than the MLP by more than 10%, a reassessment will be conducted	
• For grandfathered medicines, the MLP would be set at the lower of : (i) the MIP for the PMPRB11 countries, or	• The application of the MIP for grandfathered patented medicines viewed as a departure from the CBA, and the HIP viewed as the more appropriate test. • Expected to have an significant impact on revenues and effect the downstream supply chain, result in shortages and impact the services available to patients.
(ii) the patented medicine's ceiling under the Guidelines applicable prior to the issuance of these Guidelines.	• Patentees that report all benefits (i.e. compassionate units) are penalized because resulting NEAP maybe lower than the MIP • NEAP viewed as a potential impediment to enter into contracts (e.g. vaccines)

2. International Price Comparison

What the Revised Guidelines Propose

For new patented medicines and "Gap" medicines, the MLP will be set at the MIP of the PMPRB11 countries.

If the prevailing MLP deviates from the MIP for **2 subsequent** periods by more than 10% the MLP will be reassessed. CPI applies to price increases.

For grandfathered medicines and their line extensions, the MLP would be set at the lower of:

i. the existing ceiling under the Guidelines applicable prior to the issuance of these Guidelines (ie. NEAP) and the **HIP** for the PMPRB11 countries
ii. Reassessment if MLP>HIP

Considerations/Analysis

- The Patent Act does not require the Board to adopt any specific threshold based on the PMPRB11 prices, only that these be considered.
- The CBA was intended as an assessment of the impact of the amendments to the regulations thus it used existing guidelines. It is not binding on the Board.

3. Screening criteria for Category I medicines

What the Nov Draft Guidelines said	Feedback Received
A patented medicine will be classified as Category I if it meets either of the following criteria:	• While some patients called for a lower threshold given that some medicines that cost less are beyond the means of many consumers, others were concerns that the threshold was too low, resulting in most rare disease meds becoming Category I.
• 12-month treatment cost greater than 50% of GDP per capita	• Seen as inconsistent with a risk-based approach, as too many medicines would be expected to fall into this category. Most patented medicines are thought to realize over $25M annual revenue at some point over the life of their patent.
• Estimated or actual market size (revenue) exceeds annual Market Size Threshold initially be set at $25 million.	• Consider level of therapeutic improvement in both drug categorization and the assessment of excessive pricing.

3. Screening criteria for Category I medicines

What the Revised Guidelines propose

A New patented medicine will be classified as Category I if it meets either of the following criteria:

► *12-month treatment cost greater than **150%** of GDP per capita ($90k)*

or

► *Estimated or actual market size (revenue) exceeds annual market size threshold* of **$50 million**.

Considerations / Analysis

- Over the last three years, close to two-thirds (66%) of the new medicines have treatment costs that exceed 50% of GDP per capita.
- Revised thresholds are estimated to result in approximately ¼ of new medicines triggering the Cat I criteria and are therefore better aligned with the risk-based approach and administrative feasibility.

4. MRP: Pharmacoeconomic Value

What the Nov Draft Guidelines said	Feedback Received
The price at which the medicine's ICER is equivalent to the $60K/ QALY. This Pharmacoeconomic Value Threshold ("**PVT**") sets the PEP For medicines with an estimated prevalence below 1 in 2,000 across all approved indications, the PEP is 50% above the PVT price Additional market size adjustments apply for revenues over $25M.	• The PVT is too restrictive, highly uncertain and would result in very low prices that might prevent or delay medicines from coming to Canada. • The PVT viewed as unreasonable for rare disease medicines. • Absence of a floor was viewed as exacerbating the significant uncertainty • Stakeholders felt that one-size does not fit all when applying the PV and proposed retaining consideration to the level of therapeutic improvement. • Differential PVTs were recommended along with the suggestion to increased the PVT to $100,000/QALY, $120,000/QALY, or even higher for potentially curative medicines. • Concerns over the confidentiality of the MRP.

4. MRP: Pharmacoeconomic Value

What the Revised Guidelines propose

Price adjustment		
Therapeutic Criteria Level	PVT	Reduction Floor off MLP
Level I	$200K/ QALY	20%
Level II	$150K/ QALY	30%
Level III	$150K/ QALY	40%
Level IV	$150K/ QALY	50%
Pharmacoeconomic analysis without an ICUR (eg. cost minimization)	Median of dTCC subject to 50% floor	
No pharmacoeconomic assessment	50% of MLP	

Considerations / Analysis

- The combination of higher PVT depending on the therapeutic criteria level and price floors off the MLP, provides for an approach that is responsive to the feedback received and continues to be in line with international norms.
  - NICE in the UK has an explicit cost effectiveness threshold of €30,000/QALY. However, in certain cases NICE will allow a higher threshold of £50,000/QALY for end of life treatments and €100,000 to €300,000 for "Highly Specialized Technologies" (HSTs) depending the QALY gain provided by the medicine.
  - In other countries such as the Netherlands and Norway, the thresholds depend on the severity of the disease, among other factors.
- Allowing for a range of potential price reductions founded on a more nuanced MRP calculation methodology, differential PVT and reduction floors, and a confidential therapeutic level criteria addresses concerns about reverse-engineering the MRP.

5. Therapeutic Criteria

What the Revised Guidelines propose

Therapeutic criteria is being reintroduced in the price review process in two ways:

(i) Pharmacoeconomic value assessment

(ii) dTCC reduction floor in the MRP assessment of high market size (below)

Therapeutic Criteria Level (See Appendix E – The Scientific Review Process)	dTCC Reduction Floor off MLP
Level I	20%
Level II	30%
Level III	40%
Level IV	50%

Considerations / Analysis

- Approach is responsive to the suggestion to give consideration to therapeutic criteria.
- Introducing similar floors to high market size Category I drugs provides for equal treatment and consistency in the application of the dTCC factor with the PEV factor.
- Reduces uncertainty for patentees as maximum reduction off the MLP price will be known in advance.

5. Therapeutic Criteria Level

Level	Definition
Therapeutic Criteria Level I:	The patented medicine is the first medicine to be sold in Canada that effectively treats a particular illness or effectively addresses a particular indication in a clinically impactful manner.
Therapeutic Criteria Level II:	The patented medicine provides a considerable improvement in therapeutic effect, relative to other medicines sold in Canada, in a clinically impactful manner.
Therapeutic Criteria Level III:	The patented medicine provides limited absolute improvement in therapeutic effect, relative to other medicines sold in Canada.
Therapeutic Criteria Level IV:	The patented medicine provides no or slight improvement relative to other medicines sold in Canada.

The benefit to the patient, quality of clinical evidence and QALY gain will be taken into consideration when determining the therapeutic level of a medicine. A detailed description linked to each level is available in the guidelines.

6. Market Size Adjustments

What the Nov Draft Guidelines said

Annual revenues	Incremental adjustment factor
<$25M	0%
$25M–$50M	-10%
$50M–$75M	-20%
$75M–$100M	-30%
$100M–$125M	-40%
$125M+	-50%

Feedback Received

- Factor viewed by some as outside of the PMPRB mandate.
- The market size adjustments increases uncertainty and brings down prices to unreasonable levels
- Suggested that the market size factor only be used, if at all, in exceptional circumstances, such as an investigation or hearing
- The $25 million market size threshold viewed as arbitrary.

6. Market Size Adjustments

What the Revised Guidelines propose

A market size adjustment is applied to Category I patented medicines when actual revenues exceed $50 million across all dosage forms and strengths of the patented medicine.

High Cost Patented Medicines

Annual Revenues	MRP	Incremental MLP adjustment factor
<$12M	MLP	0%
$12M-50M	Greater of PEP and Floor	
$50M-$100M		-25%
>$100M		-35%

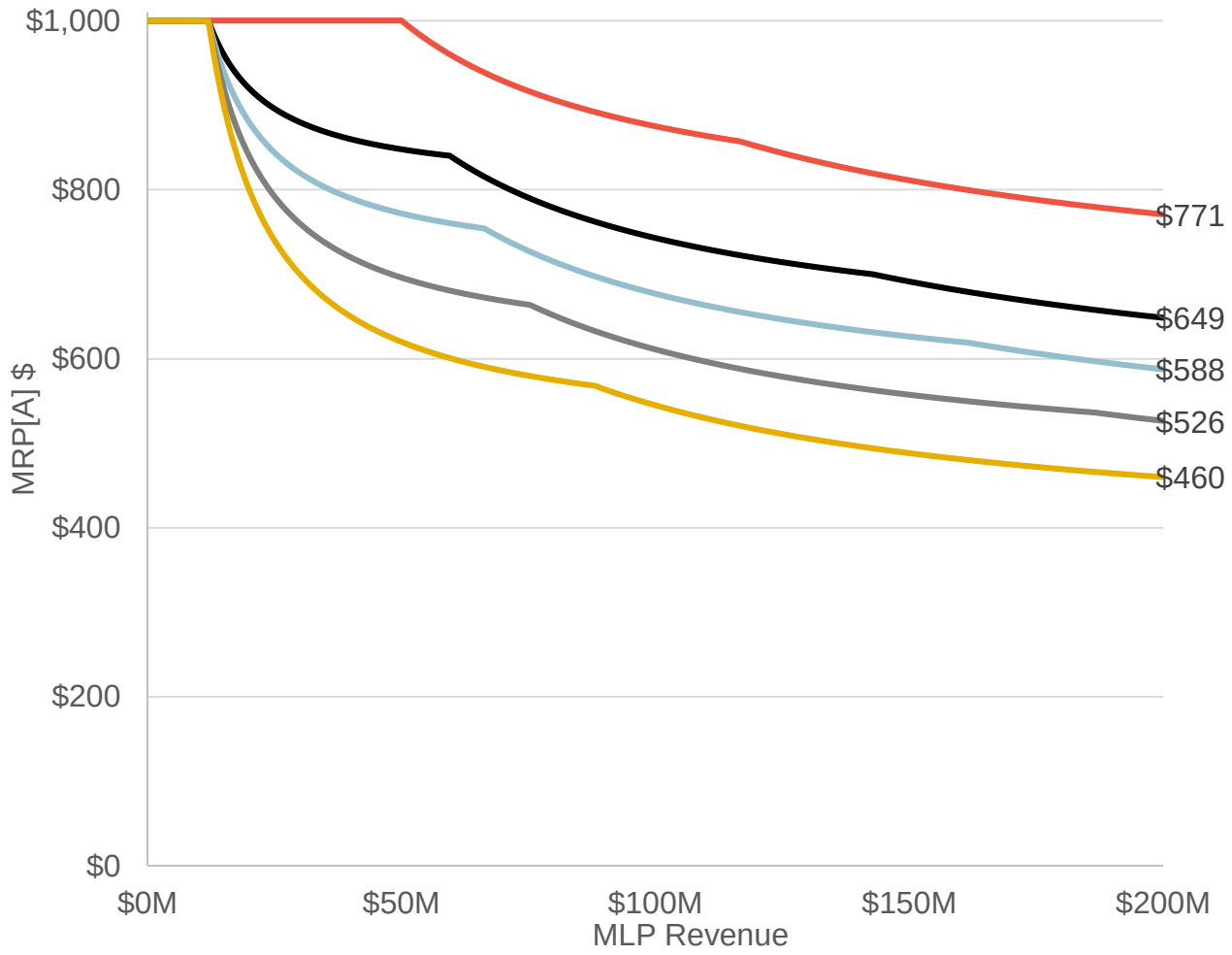
High Market Patented Medicines

Annual Revenues	MRP	Incremental MLP adjustment factor
<50M	MLP	0%
$50M-$100M	Lowest of the MLP and the median of the dTCC	-25%
>$100M		-35%

Considerations / Analysis

- Like Pharmacoeconomic Value, Market Size is now a s.85(1) factor and the Board has a positive statutory obligation to consider it.
- The adjustment of the screening criteria requires a similar adjustment to the market size adjustment to provide cohesion to the guidelines.
- A retrospective analysis indicates that approximately one-quarter of patented medicines realize over $50 million in annual gross revenues (without PLA's) over the first 10 years of market exclusivity, while only 14% realize over $100 million.

The MRP for a medicine that costs $1,000 per unit



		Up to $12M	$50M	$100M	$200M	$500M
Low-cost medicine		$1,000	$1,000	$875	$771	$698
High-cost medicine	Cost effective (0%)					
	Level I (20%)	$1,000	$848	$743	$649	$571
	Level II (30%)	$1,000	$772	$677	$588	$508
	Level III (40%)	$1,000	$696	$611	$526	$445
	Level IV (50%)	$1,000	$620	$545	$460	$381

The example assumes that neither the dTCC nor higher PEP than the PEV threshold apply

7. Reasonable Relationship (RR) Test

What the Current Guidelines say

Three different RR tests have been used:
Test 1: Same Strength Test - there is a single or multiple comparable drug product(s) of the same strength as the new patented drug product.
Test 2: Linear Relationship Test - there are multiple comparable drug products at different strengths than the new drug product (either higher or lower).
Test 3: Different Strength Test - there is a single comparable drug product at a different strength than the new drug product (either higher or lower). In this case, the following test applies:

- When the new strength is higher, the MAPP will be determined based on the proportional relationship with lower strength of the comparable drug product.
- When the new strength is lower, the MAPP will be equal to the price of the higher strength comparable drug product.

What the Nov Draft Guidelines said

- When a new strength of a medicine that is currently sold in Canada is introduced and meets the requirements of the RR test, the MLP or MRP of the new strength will be set to be equivalent to the price per standard unit of the existing strength(s).

- This approach will also be applied when multiple strengths of a new medicine are first sold simultaneously and some strengths are identified specifically as loading, titration, or reduction doses.

What the Revised Guidelines Propose

iMLP: At introduction, an RR will only be conducted when the MLP of the reference strength is no longer interim. iMLP set at MIP for all strengths until at least one strength has an MLP and becomes the reference strength.

MLP: The ceiling for the new strengths will be established based on the proportional relationship, subject to a HIP cap.

- The MLP of the new higher strength will be set to be equivalent to the price per standard unit of the reference strength subject to HIP cap.
- The MLP for the new lower strength will the be set by the lower of the reference strengths and the HIP.
- If list price is lower than the RR test it will set the MLP.

Additional issues

- **Biosimilars and generics without an Abbreviated New Drug Submission (ANDS)**
  - New patented Biosimilars and New patented Generic medicines are always Category II and investigated only if there is a complaint
- **Tendered medicines (vaccines, blood products)**
  - No special provisions
  - In the case of an investigation, “Staff may consider whether the actual market size is materially lower than the estimated market size, or whether the patented medicine is a vaccine, blood product or other product subject to a tendering process”
- **Net revenues**
  - All patentees are to report price and revenue information that is net of all adjustments including discounts, rebates and free goods and services, to any party that pays for, or reimburses, the patented medicine

Covid-19

Investigation of Covid-19 Patented Medicines

- patented medicine which appears on the *List of Drugs for Exceptional Importation and Sale* set out in accordance with s. 3 of the March 30, 2020 *Interim Order Respecting Drugs, Medical Devices and Foods for a Special Dietary Purpose in Relation to COVID-19* will not be subject to an investigation unless a complaint is received from either the federal Minister of Health or any of her provincial or territorial counterparts

Ability to Increase Price

Patentees have raised concern about entering into contracts or offering drugs at cost at introduction and not being able to increase their price afterwards due to the PMPRB.

- MLP only for GAP drugs
- MLP can increase up to MIP if MLP<MIP+10%
- Guidelines signal that Staff may provide special consideration due to material changes such as market size or when the patented medicine is a vaccine, blood product or other product subject to a tendering process
- Reassessment a key feature of new guidelines based on new indication, change in market size or update to HTA. A new indication may alter the patented medicine's market size, therapeutic class comparators, and cost-effectiveness. As a result, there may be an increase or decrease in the MRP

Compliance with the iMLP, MLP and MRP

New Patented Medicines

(1) **iMLP:** patentees must comply with the iMLP at market entry if the iMLP is known at that time, or within one (1) reporting period when the iMLP is known.

(2) **MLP:** patentees must comply with the MLP at market entry if the MLP is known at that time, or within one (1) reporting period when the MLP is set subsequent to an iMLP.

(3) **MRP/MRP[A]:** patentees must comply with the MRP/MRP[A] within two (2) reporting periods of the MRP/MRP[A] being known.

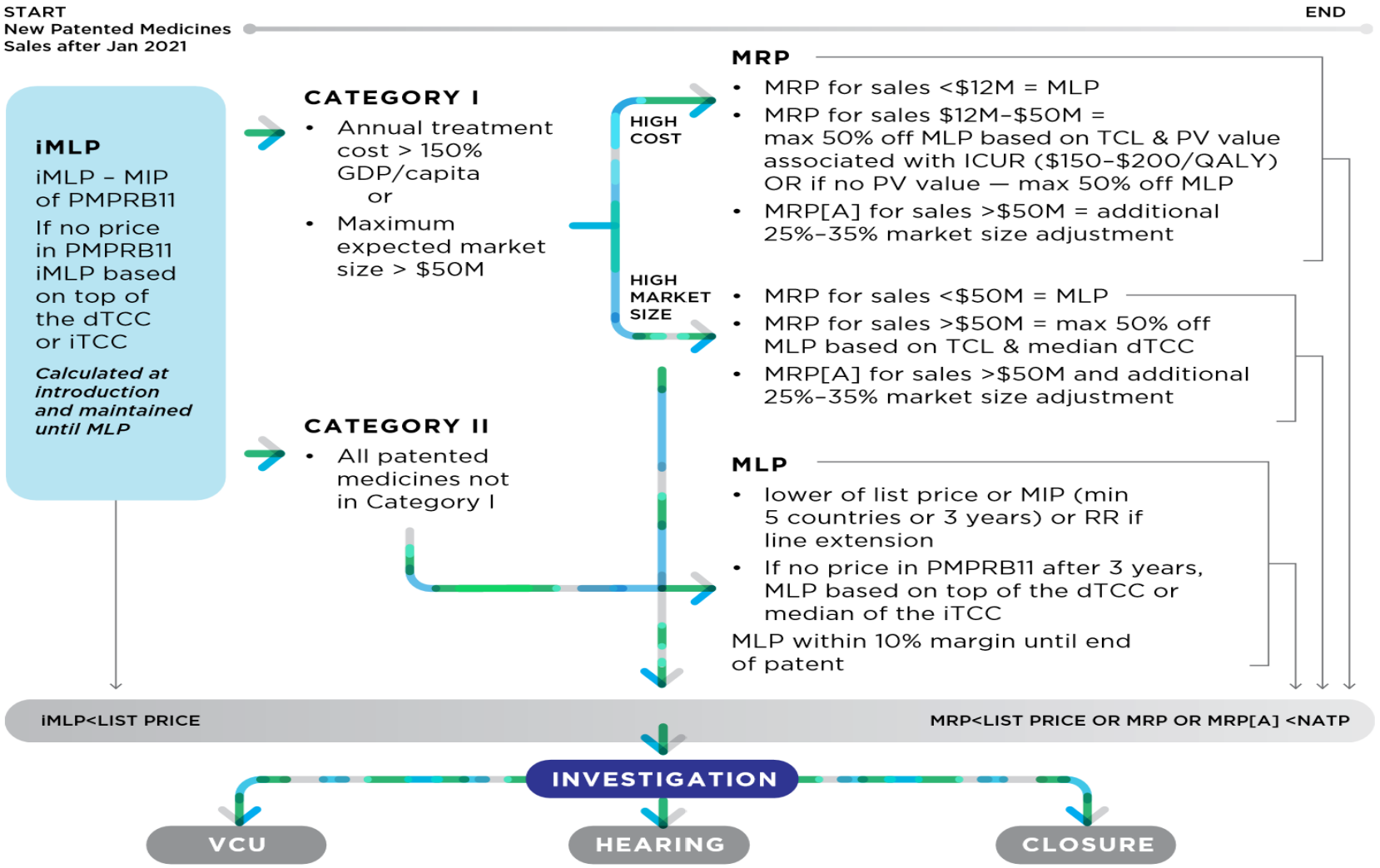
Grandfathered, Line Extension and Gap and Patented Medicines

Patentees are expected to comply with the MLP within one reporting period for the Line Extension patented medicines and within two (2) reporting periods for the Grandfathered, or Gap patented medicine.

Reassessment – the price of the reassessed medicine must come into compliance as follows:

(1) MLP: within one (1) reporting period of being notified of the new MLP.
(2) MRP: within two (2) reporting periods of being notified of the new MRP.

Schematic of Revised Guidelines



iMLP – interim Maximum List Price

MLP – Maximum List Price

MRP – Maximum Rebated Price

MRP[A] – Maximum Rebated Price [Adjusted]

MIP – Median International Price

dTCC – domestic Therapeutic Class Comparison

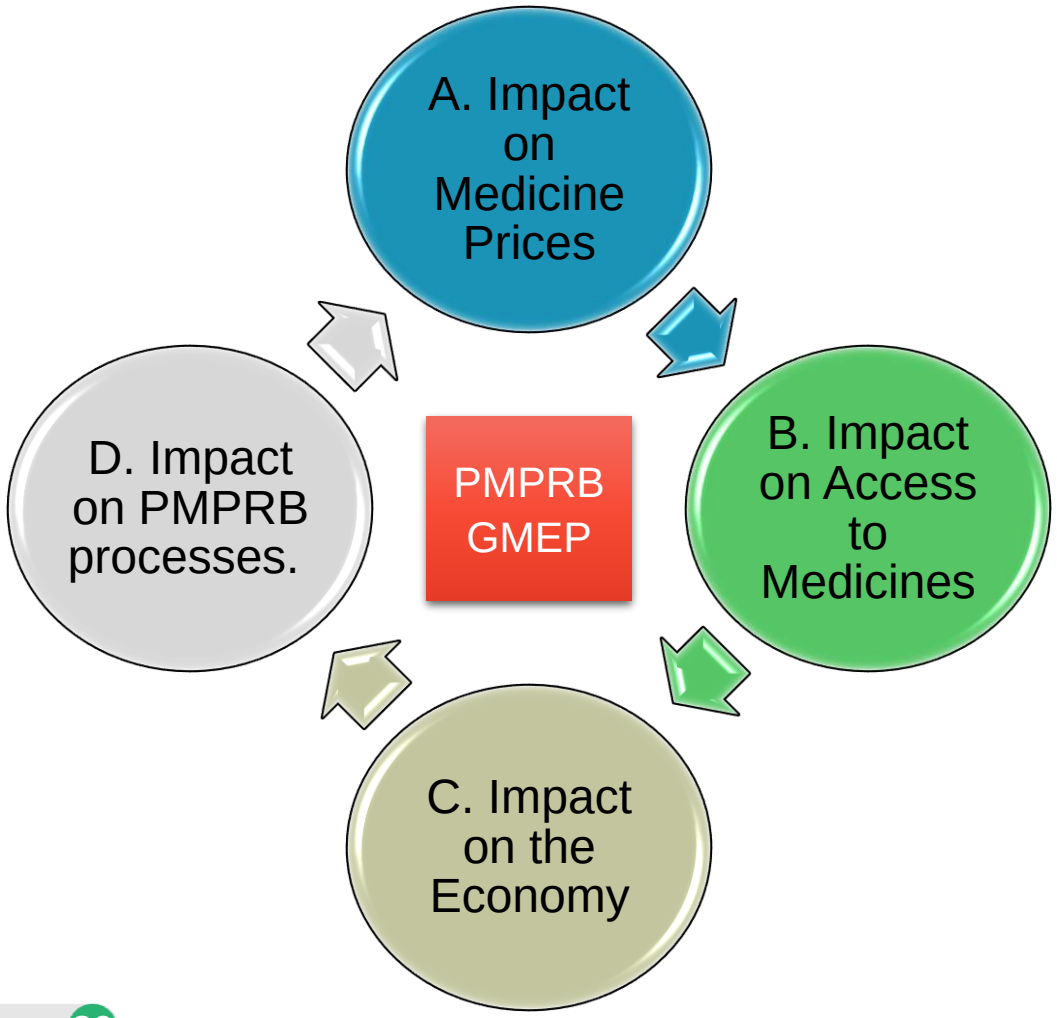
iTCC – international Therapeutic Class Comparison

ATP – Average Transaction Price

Summary of Compliance Timelines

Patented Medicine Category	iMLP	MLP (3 years or 5 countries min.)	MRP	Reassessment	Compliance Assessment
Grandfathered	N/A	Lower of NEAP and HIP	N/A	If MLP>HIP	2 reporting periods (Dec. 2021)
Line extension of grandfathered	Lower of list and HIP	Lower of list and HIP	N/A	If MLP>HIP	1 reporting period
Gap	Lower of list and MIP	Lower of list, NEAP/MAPP and MIP	N/A	If MLP>MIP+10%	2 reporting periods (Dec. 2021)
New Category I	MIP	Lower of list and MIP (or dTCC or iTCC if no IP*)	Lower of MLP and MRP (X% off MLP based on PEP, dTCC subject to TCL floor and market size adjustment if applicable)	Market size trigger Updated therapeutic/HTA evidence New relevant indication	MLP – 1 reporting period MRP – 2 reporting periods
Line extension of new Category I	MIP	RR or level pricing subject to HIP	Same X% off MLP as reference strength	As above for all DINS	MLP – 1 reporting period MRP – 2 reporting periods
New Category II	MIP	Lower of list and MIP (or dTCC or iTCC if no IP)	N/A	N/A	1 reporting period
Line extension of new Category II	MIP	RR or level pricing subject to HIP	N/A	N/A	1 reporting period

Guideline Monitoring and Evaluation Plan (GMEP)



- The PMPRB is committed to the development and execution of an extensive GMEP to assess their impact and inform any future enhancements.
- The new GMEP is the most comprehensive to date, aiming for an in-depth assessment of four key impact areas (shown in the graphic).
- Discussions with interested stakeholders, expected to shape the GMEP development.
- Both qualitative and quantitative indicators will be employed, and various administrative, commercial, international, domestic and internal data sources will be consulted.
- Trends prior and post framework implementation will be compared and reported regularly (i.e. baseline results versus post implementation).
- Some impacts are expected to be immediate, while others may take longer to materialize. Also, some impacts may be directly attributable to the PMPRB, while other may also be impacted by factors outside the PMPRB purview.

Assumptions: CBA vs June Draft Guidelines – side by side

Element	CBA	NOV Draft	JUNE -Draft
Category I (Prioritization)	Breakthrough, Significant Improvement, Orphan designation, treatment cost >$10K	Treatment cost>$30K Market Size >$25M	Treatment cost>$90K Market Size>$50M Rev<$12M @MLP
Therapeutic and International Price Referencing	Lower of median of the dTCC and PMPRB11 – no floor	Lower of median of the dTCC and PMPRB11 – with LIP floor	Median of the PMPRB11 Limited dTCC (top of dTCC MLP level if no PMPRB11) Maximum price reductions at MRP level (20-50% depending on Therapeutic Criteria Level (TCL))
Application of Pharmacoeconomic Value Factor	$30K/QALY for high market size $50K/ QALY for high cost $150K/QALY rare disease drugs	$60K/QALY for most high priority meds 1.5*PEP for rare disease drugs	($150K-$200K)/QALY maximum reduction 20%-50% depending on TCL
Application of Market Size Factor	50% max reduction	50% max reduction	35% max reduction
Grandfathered Medicines	Limited MIP of PMPRB11 on high priority existing Line extensions treated differently from Grandfathered medicines	MIP of PMPRB11 Line extensions treated differently from Grandfathered medicines	HIP of PMPRB11 Line extensions treated the same as Grandfathered medicines

C. Case Studies

1. High-cost medicine
2. High market size medicine
3. Reasonable Relationship test

Hypothetical high-cost medicine

Case Study
High-cost medicine

- **The medicine could be treating a rare disease, oncology, etc.**
- **Two indications:**
  - Indication A with a prevalence of 2,000 Canadian patients, maximum annual treatment cost of $365,000
  - Indication B with a prevalence of 1,000 Canadian patients, maximum annual treatment cost of $250,000
- **Both indications meet the first criterion for Category I;**
- **Indication A is the relevant indication as it has the highest prevalence**
- **Market size gradually increases to reach its full potential of 1,000 patients at Year 6 (one-third of total Canadian potential population)**
- **Multiple scenarios are explored:**
  - Scenario 1: A cost-utility analysis is available from a publicly funded HTA agency
  - Scenario 2: A cost-minimization analysis is available from a publicly funded HTA agency
  - Scenario 3: No cost-utility analysis is available from a publicly funded HTA-agency

Scenario 1: Cost-utility analysis available

Case Study
High-cost medicine

- **Cost-utility analysis available from a publicly funded HTA agency for the relevant indication A**
  - The HTA agency re-analysis -> ICUR of $600,000 per QALY
  - The PMPRB's scientific review identified the medicine as Level II.
  - The pharmacoeconomic value threshold (PVT) for Level II is $150,000 per QALY gained
  - The PEP calculated based on the allowable Level II PVT would require a reduction of 75%
  - The reduction floor for Level II of 30% off the MLP applies

Price adjustment		
Therapeutic Criteria Level	PVT	Reduction Floor off MLP
Level I	$200K/ QALY	20%
Level II	$150K/ QALY	30%
Level III	$150K/ QALY	40%
Level IV	$150K/ QALY	50%
Pharmacoeconomic analysis is a cost minimization	Median of dTCC subject to 50% floor	
No pharmacoeconomic assessment	50% off MLP	

Scenario 1: Cost-utility analysis available

Case Study
High-cost medicine

Category I

- Annual Treatment cost: $365,000 > 150% GDP per capita
- Highest market size reached in year 6: 1,000 patients

Cost utility available, and PMPRB Level II (30% floor off MLP)

MLP: $1,000
MIP=$1,000
The MLP is set at the MIP

MRP[A]: $528
- Pharmacoeconomic Price
- Market size adjustment

Annual Revenues (units*price)	Incremental MLP adjustment factor	MRP	Scenario 1	
		Description	High Cost + CUA	
<$12M	0%	MLP	MLP	$1,000
$12M-$50M		Greater of PEP and Floor	Floor	$700
$50M-$100M	-25%		0.75 * Floor	$525
>$100M	-35%		0.65 * Floor	$455

	Intro Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Revenue at MLP	$2M	$6M	$12M	$30M	$50M	$100M	$365M
MRP/MRP[A]	$1,000			$820	$772	$677	$528
Revenues at MRP/ MRP[A]	$2M	$6M	$12M	$25M	$39M	$68M	$193M
	First $12M sold at MLP of $1,000			PEP / Floor applies after $12M (30% reduction, $700)		PEP/Floor and Market Size adjustment applies after $50M	

Scenario 2: Cost-minimization analysis

Case Study
High-cost medicine

- Upon review of the manufacturer submission for the relevant indication A, the HTA found no improvement over comparators (cost-minimization analysis).
- The PMPRB's scientific review completed the dTCC, and found that a 40% price reduction off the MLP is required to the meet the requirement for the median cost of treatment across the comparator medicines. The 50% floor is not reached.
- The dTCC price is subject to further market size adjustments

Price adjustment		
Therapeutic Criteria Level	PVT	Reduction Floor off MLP
Level I	$200K/ QALY	20%
Level II	$150K/ QALY	30%
Level III	$150K/ QALY	40%
Level IV	$150K/ QALY	50%
Pharmacoeconomic analysis is a cost minimization	Median of dTCC subject to 50% floor	
No pharmacoeconomic assessment	50% of MLP	

Scenario 2: Cost-minimization analysis available

Case Study
High-cost medicine

Category I

Annual Treatment cost: $365,000 > 150% GDP per capita
Highest market size reached in year 6 : 1,000 patients
Cost minimization (Median of dTCC subject to 50% floor)

MLP: $1,000
MIP=$1,000
MLP is set at the MIP

MRP[A]: $465
- Pharmacoeconomic Price
- Market size adjustment

dTCC (median): $600

Annual Revenues (units*price)	Incremental MLP adjustment factor	MRP		
		Description	Scenario High Cost + CMA	
<$12M	0%	MLP	MLP	$1,000
$12M-$50M		Median of dTCC subject to 50% floor	dTCC (median)	$600
$50M-$100M	-25%		0.75 * dTCC median	$450
>$100M	-35%		0.65 * dTCC median	$390

	Intro Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Revenue MLP	$2M	$6M	$12M	$30M	$50M	$100M	$365M
MRP/MRP[A]	$1,000			$760	$696	$611	$465
Revenues at MRP/MRP[A]	$2M	$6M	$12M	$23M	$35M	$61M	$170M
	First $12M sold at MLP of $1,000			dTCC / Floor applies after $12M (40% reduction, $600)		PEP/Floor and Market Size adjustment applies after $50M	

Scenario 3: No cost-utility analysis available

Case Study
High-cost medicine

- No cost utility analysis available from any of the publicly funded organizations for the relevant indication A
- The price reduction is 50% off the MLP, subject to further market size adjustment

Price adjustment		
Therapeutic Criteria Level	PVT	Reduction Floor off MLP
Level I	$200K/ QALY	20%
Level II	$150K/ QALY	30%
Level III	$150K/ QALY	40%
Level IV	$150K/ QALY	50%
Pharmacoeconomic analysis is a cost minimization	Median of dTCC subject to 50% floor	
No pharmacoeconomic assessment	50% of MLP	

Scenario 3: No cost-utility analysis available

Case Study
High-cost medicine

Category I

Annual treatment cost: $365,000 > 150% GDP per capita
Highest market size reached in year 6: 1000 patients
No pharmacoeconomic assessment (50% off MLP)

MLP: $1,000
MIP=$1,000
MLP is set at the MIP

MRP[A]: $402
✓ Pharmacoeconomic Price
✓ Market size adjustment

Annual Revenues (units*price)	Incremental MLP adjustment factor	MRP	Scenario 1	
		Description	High Cost + CMA	
<$12M	0%	MLP	MLP	$1,000
$12-50M		50% of MLP	0.5 * MLP	$500
$50M-$100M	-25%		0.375 * MLP	$375
>$100M	-35%		0.325 * MLP	$325

	Intro Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Revenue at List price (MLP)	$2M	$6M	$12M	$30M	$50M	$100M	$365M
MRP/MRP[A]	**$1000**			**$700**	**$620**	**$545**	**$402**
Revenues at MRP/MRP[A]	$2M	$6M	$12M	$21M	$31M	$54.5M	$147M
	First $12M sold at MLP of $1,000			50% reduction applies after $12M		50% reduction and Market Size adjustment applies after $100M	

Hypothetical medicine: high market size

Case Study
High market size

- The medicine could be treating a prevalent conditions such as diabetes, mental health, etc.
- Lower cost medicine: $1,000 per patient per year
- One approved indication with potential treatment population of 1M in Canada
- Medicine captures 50% of the potential treatment population by year 6 → 500K patients
- Revenues exceed the $50M market size threshold after Year 3
- Therapeutic Criteria Level IV → dTCC Reduction Floor = 50%

Scenario 1: MLP < dTCC
- MLP = $10
- dTCC = $15
- Market size adjustment is based on the MLP; the dTCC is not used

Scenario 2: MLP > dTCC
- MLP = $10
- dTCC = $4
- dTCC Reduction Floor = $5 (50% of MLP)
- The market size adjustment is based off the dTCC Floor of $5

Annual Revenues (units*price)	Incremental price adjustment factor	MRP				
		Description	Scenario 1 MLP < dTCC		Scenario 2 MLP > dTCC	
<$50M	0%	MLP	MLP	$10	MLP	$10
$50M-$100M	-25%	Lower of the MLP and the median of the dTCC adjusted by applicable factor	0.75 * MLP	$7.50	0.75 * dTCC Floor	$3.75
>$100M	-35%		0.65 * MLP	$6.50	0.65 * dTCC Floor	$3.25

Hypothetical medicine: high market size

Case Study
High market size

Two scenarios:
Scenario 1: MLP < dTCC (dTCC =$15)
Scenario 2: MLP > dTCC (dTCC =$5)

MLP: $10
MIP=$10, The MLP is set at the MIP when international prices are available

MRP: $6.98 (scenario 1)
$4.06 (scenario 2)
✗ Pharmacoeconomic Price
✓ Market size adjustment

		Intro Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Revenue at MLP		5M	20M	50M	100M	200M	400M	$500M
Scenario 1: MLP < dTCC	**MRP**	$10			$8.75	$7.71	$7.10	$6.98
	Revenues at MRP	$5M	$20M	$50M	$88M	$154M	$284M	$349M
Scenario 1		**First $50M sold at MLP of $10**			**Market size adjustment off of the MLP of $10**			

		Intro Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Revenue at MLP		5M	20M	50M	100M	200M	400M	$500M
Scenario 2: MLP > dTCC	**MRP**	$10			$6.88	$5.27	$4.26	$4.06
	Revenues at MRP	$5M	$20M	$50M	$69M	$105M	$170M	$203M
Scenario 2		**First $50M sold at MLP of $10**			**Market size adjustment off of a dTCC Floor of $5**			

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Hypothetical medicine: high market size
Multiple DINs

Case Study
High market size

In the case of multiple DINs, the discount off the MLP applied uniformly across all DINs, i.e. ratio between MLP and MRP is constant

Assume that a second DIN (DIN 2) that is double the strength enters the market in Year 3 at a List Price of $20 and does not lead to changes in revenues

			Intro Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Revenue at List Price / MLP			5M	20M	50M	120M	250M	400M	$500M
Scenario 1: MLP < dTCC	Revenue at MRP		$5M	$20M	$50M	$102M	$187M	$284M	$349M
	MRP/MLP Ratio (apply across all DINs)		100%	100%	100%	85%	75%	71%	70%
	DIN 1 ($10)	MRP	$10	$10	$10	$8.5	$7.5	$7.1	$7
	DIN 2 ($20)	MRP	-	-	-	$17	$14	$14.2	$14

Reasonable Relationship – Hypothetical Case Study

Example

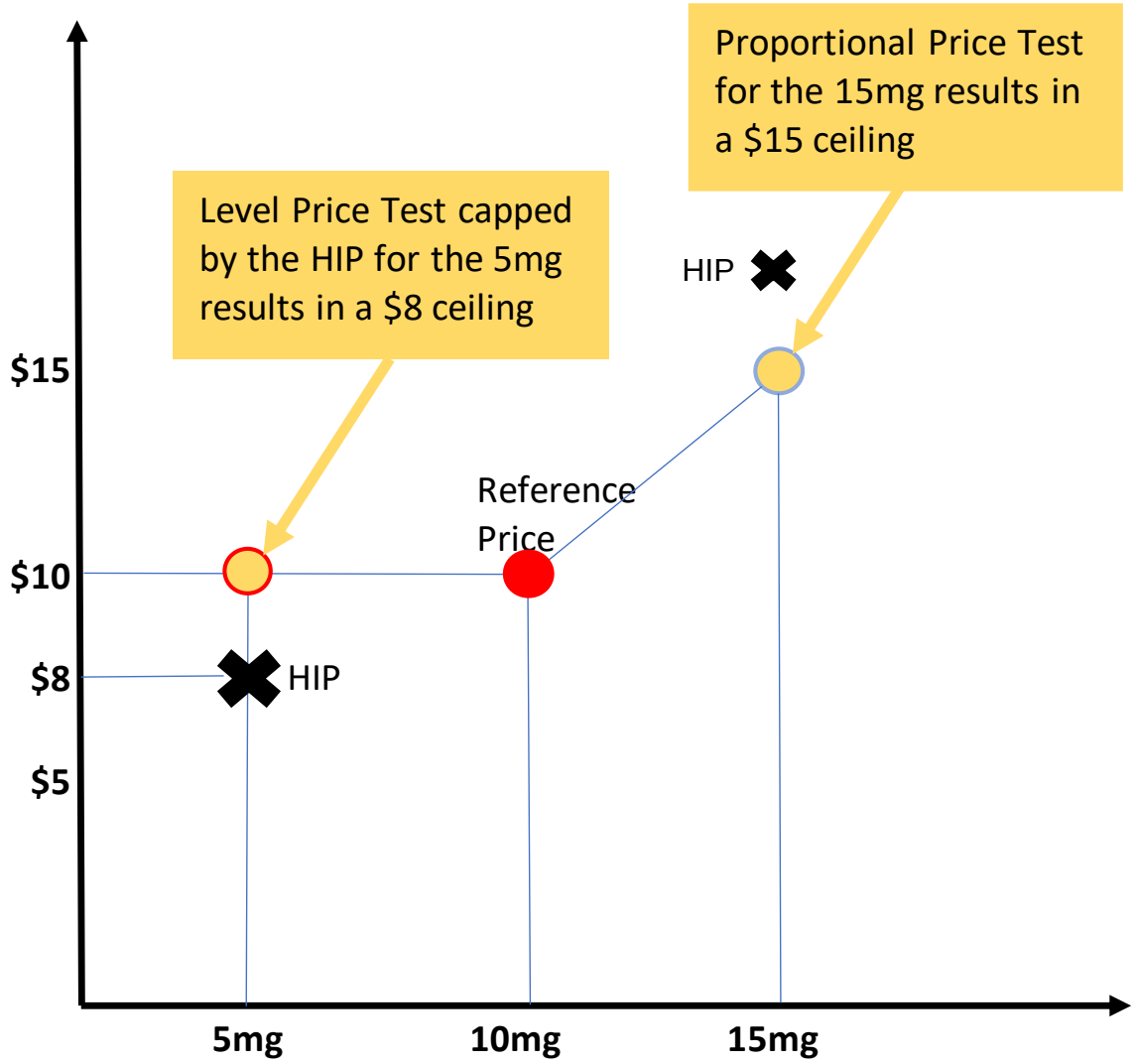
Reference Strength
10mg = $10

Additional Strengths
5mg and 15mg introduced

Ceilings established based on the RR

5mg = $8

15mg = $15



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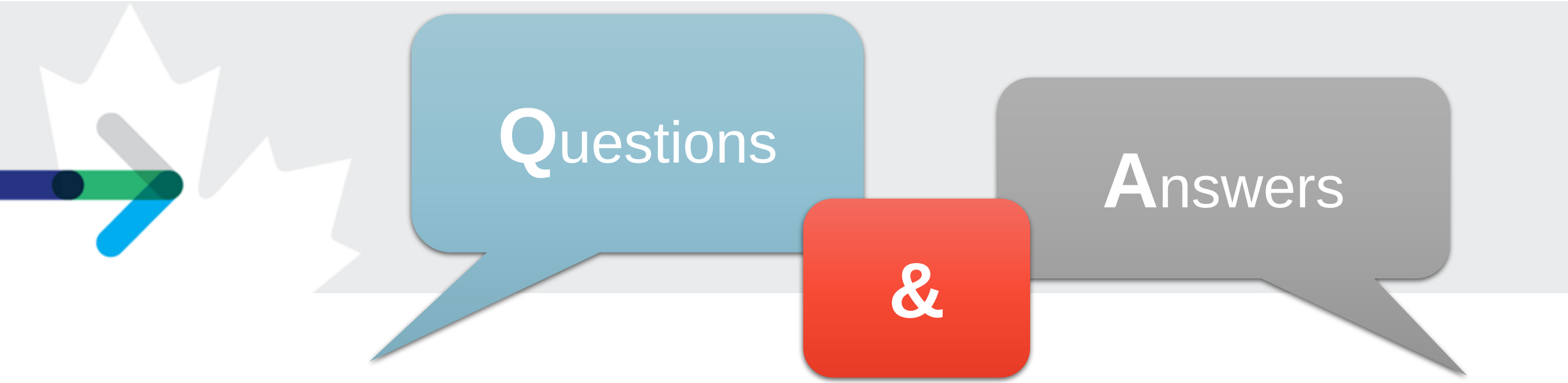
Questions
&
Answers