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Kirkland, February 13, 2018

**Via priority mail & email:** PMR-Consultations-RMB@hc-sc.gc.ca

Patented Medicines Regulations Consultations
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**ATTENTION: Karen Reynolds, Executive Director, Office of Pharmaceuticals Management Strategies, Strategic Policy Branch, Health Canada**

**Subject: Consultations on Proposed Amendments to the *Patented Medicines Regulations***

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Dear Ms. Reynolds:

On behalf of Merck Canada Inc. (Merck Canada), thank you for the opportunity to provide our input on the draft amendments to the *Patented Medicines Regulations* pre-published in Canada Gazette I in December 2017.

Merck Canada is the longstanding Canadian subsidiary of Merck & Co. (Merck), a leading global biopharmaceutical company committed to improving health and wellbeing wherever it operates. Merck invests heavily in research in Canada and around the world in order to bring innovative medicines and vaccines to address unmet health needs. Merck Canada employs nearly 800 Canadians across the country and markets more than 250 vaccines and pharmaceuticals in a broad range of therapeutic areas, including cardiology, infectious diseases, respiratory conditions, oncology, diabetes, virology, women's health and biosimilars.

Based on our assessment, which involved leveraging our global expertise and experience, the proposed pricing reform presents serious flaws. We believe this warrants a comprehensive review of the proposal, with the ultimate goal of finding a more balanced policy approach for regulating the prices of new medicines.

Merck Canada and our industry association, Innovation Medicines Canada (IMC), are ready to work with the federal government to develop an alternative solution that addresses affordability concerns while ensuring a strong Canadian health system and a thriving life sciences and research ecosystem. We have concrete proposals ready to be tabled for consideration.

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The reasons why we believe the current proposal should be replaced by a more balanced and well-considered approach can be summarized as follows:

1. **The reform is unprecedented and based on questionable assumptions:**
   - No other country has adopted such restrictive, complex and multi-layered price controls for patented medicines. In fact, Canada is the only country among the current basket of comparator countries (i.e., the PMPRB7) or the proposed revised basket of countries (i.e., the PMPRB12) where the government's jurisdiction regarding excessive pricing of medicines is grounded in patent legislation.
   - The proposed reform is an untested experiment in market regulation. No evidence has been provided to show that it will work in practice and there have been no substantive discussions or workshops on how the regulations would impact patients, the health system or research investments.
   - The reform is expected to decrease pharmaceutical revenues by approximately 30% even though Canadian prices have been consistently below the median prices in the current basket of comparator countries and decreased in 2016. Based on experiences in other jurisdictions, this will have negative consequences for continued market participation as well as market entry.
   - As more fully outlined in Merck's attached submission, the proposed reform is founded on several assumptions that are supported by little or no evidence or that have not been verified, including: (a) Canadian drug prices are high compared to other countries; (b) the reform will not significantly affect industry revenues; (c) the reform will not reduce patient access to medicines; (d) the reform will not decrease employment or R&D investments; and (e) PMPRB is exempt from compliance with Canada's trade agreements. All of these issues, which impact our health system and economy, have not been appropriately considered in the government's Regulatory Impact Assessment Statement (RIAS). In fact, the proposed amendments fall well below the standards required by the Cabinet Directive on Regulatory Management, which include advancing the public interest, promoting a fair and competitive economy, limiting administrative burden, policy coherence and minimal duplication.

2. **The reform will lead to poorer health outcomes and a sub-optimal health system:** A significant drop in pharmaceutical revenues and the uncertainty and instability created by the proposed approach will lead to delayed launches or decisions to not launch patented medicines in Canada. It may not always make sense to launch in Canada if the maximum allowable price is low relative to the business potential that this country represents (Canada represents 2% of the global market) and given the fact that Canada is a pricing reference country for several other jurisdictions. Reduced access to new medicines will have long-lasting and negative effects on Canadians' health outcomes and our health system.

3. **The reform will result in reduced research investments and job losses:** The proposed approach will lead to loss of investments and high-quality jobs in the pharmaceutical sector in Canada, and run counter to Canada's Innovation and Skills Strategy and global trade priorities. The reform will send the wrong signal to global investors and make Canada a less attractive place to invest in high-value research, including clinical trials. The reform will also serve as a red flag for global investors in other economic sectors who are looking for a strong, predictable and business-friendly environment.

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4. **The reform will leave the government open to constitutional and legal challenges:**
   - The proposed amendments to the *Patented Medicines Regulations* exceed Parliament's authority over patents in section 91(22) of the *Constitution Act, 1867* (Constitution) and encroach on the provinces' exclusive jurisdiction to legislate, notably in respect of property and civil rights conferred by section 92(13) of the Constitution. As such, the courts could declare the proposed amendments invalid based on the ground that it creates an unconstitutional price control scheme.
   - Patented medicines are a category of intellectual property that is protected by numerous international agreements to which Canada is a party, including the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and the North American Free Trade Agreement (NAFTA). Discriminatory treatment of patentees in certain industries, or undermining the rights conferred by pharmaceutical patents in ways that are not linked to patent abuse, directly implicates Canada's trade obligations. Merck Canada is troubled by the absence of consultation on this issue, and the unsupported statement in the RIAS summary that the PMPRB is somehow exempt from compliance with Canada's trade agreements. This statement appears only in the summary and is never explained or justified in the body of the RIAS. If the amended regulations put Canada offside of its international treaty obligations, this could give rise to claims against the government for compensation under those treaties.
   - The content of the proposed amendments raises a number of other legal violations, which could render them invalid and *ultra vires* the *Patent Act* based on the fact that they exceed the scope of the regulation-making powers set out in this act.

5. **The reform will pose significant technical challenges in its implementation:** Many of the proposed amendments are ill-fitting for price regulation or for the Canadian context. We want to draw your attention to four proposals that are especially problematic:
   - Health economic evaluations are designed and intended to be used to inform health care resource allocation, not to determine price excessiveness. They will be very difficult to implement in practice, as PMPRB is a regulator, not a payer.
   - Forecasted market size is not appropriate to regulate price, as it is a highly volatile exercise that has to be revisited on a regular basis.
   - Confidential product listing agreements are based on a number of variables, including reimbursement criteria, competitors and the size of the market. These factors, however, are often more restrictive than a product's indication (label) and should not be used to determine its maximum allowable price.
   - The revised basket of reference countries is not aligned with the Canadian pharmaceutical market and policy environment or our goal of having high performing health and innovation systems. The United States should remain in the basket, as Canada is closer to this country than most European countries in terms of how drugs are covered and its geography, which has important trade implications. South Korea, on the other hand, should not be added to the basket, as it is too dissimilar to Canada. Compared to Canada, South Korea spends much less on healthcare per capita, reimburses medications at a much lower rate, has a lower number of new drug launches, invests significantly less per capita in clinical trials and has inconsistent drug pricing policies. South Korea also has drug prices that are not comparable to the OECD average or neighbouring Asian countries.

We support the written submissions of our industry associations, IMC and BIOTECanada. We have included our more detailed input in the attached document, structured along the five issues outlined above.

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The proposed PMPRB reform is anchored in a framework that was developed thirty years ago, with dated formulas and perspectives that no longer reflect the current biopharmaceutical industry, Canada's public/private health benefits system, health research and scientific advances. By working together, we can develop an alternative approach that brings the Canadian system into the 21st century.

We believe that with goodwill and an open mind, the industry and the Canadian governments can come to an arrangement that meets the needs of our country. Already, IMC has made overtures to the federal government, indicating our interest in pursuing an industry-wide negotiation.

The federal government can ensure Canada remains a favoured destination for new medical innovation, industry investments and a vibrant and prosperous life sciences community.

If you would like to discuss any of these matters with me, I would be pleased to meet with you at your convenience.

Sincerely,

Anna Van Acker
AVA/lv
Enclosures

## Merck Canada Inc.'s Submission on Proposed Amendments to the *Patented Medicines Regulations*

### 1. The reform is unprecedented and based on questionable assumptions

#### *Unprecedented*

There is no other country that has adopted such restrictive, complex and multi-layered price controls for patented medicines or that imposes a regulated price on the sale of all patented medicines across an entire country for every payer. Even New Zealand, a country renowned for its very restrictive cost-control system for pharmaceuticals, does not go this far. As well, we should stress that New Zealand's cost-control measures were adopted by the government to help manage its health care budget and not by a quasi-judicial agency tasked with the limited mandate of protecting consumers against the abuse of patents.

Canada is the only country among the current basket of comparator countries (i.e., the PMPRB7) or the proposed revised basket of countries (i.e., the PMPRB12) where the government's jurisdiction regarding excessive pricing of medicines is grounded in patent legislation.

#### *Untested*

The Patented Medicine Prices Review Board (PMPRB) reform is a risky and untested experiment in market regulation. The approach is divorced from a pragmatic and clear understanding of how the global and Canadian market for pharmaceuticals functions to bring medicines and vaccines from the laboratory into Canadian pharmacies, hospitals and clinics and to patients. Health Canada has provided no evidence that the reform will function in practice, or that it has thoroughly considered its impacts. There have been no substantive discussions or workshops on how the regulations would impact patients, the health system or research investments. In fact, to date, the important concerns raised by various stakeholders in Health Canada's consultation in spring 2017 have been disregarded, as the draft amendments are essentially the same as what was proposed by Health Canada in May 2017.

#### *Drastic and disproportionate*

1. The government's proposed approach is way out of proportion with any problem that Health Canada has identified. Canadian drug prices decreased by 0.5% in 2016 and have been below the median prices in the seven countries that the board currently compares with on a consistent basis, falling to 25% below in 2016.[1] Despite this, Health Canada is proposing changes that will drastically decrease average industry revenues. The firm PDCI Market Access estimates loss of industry revenues of approximately 30% ($26.1 billion over ten years), using aggregate data and conservative assumptions.[2] Another analysis by Ernst & Young (EY)[3] reviewed potential impacts on a sample of 36 products based on aggregate 2014-16 data. Impacts of changes based on the EY model also forecast 30% revenue loss with a range of impact on individual products from 15% to 90% (the variability is driven by revenue mix between public and private payers in Canada). These analyses demonstrate that the impact of the changes on pharmaceutical revenues has been grossly underestimated by Health Canada in its Regulatory Impact Assessment Statement (RIAS), as Health Canada is estimating revenues to decrease by approximately 10%.

The negative consequences of the proposed regulations will be similar to the blunt approaches used to control costs in the mid-1990s, when Canadian governments cut access to the supply of medical services, infrastructure and professionals. These policies did not take a whole-of-government and holistic approach. The fallout of those decisions is still being felt throughout health systems and by patients twenty years later.

Finally, the proposed regulatory changes fail to meet the government's own principles for regulation, including requirements to:[4]

- **Protect and advance the public interest:** The proposed changes will undermine the health of Canadians, as they will result in more limited access to new therapies and vaccines.
- **Make decisions based on evidence:** The RIAS accompanying the draft regulatory changes includes limited references or evidence and relies on many assumptions that have not been tested or verified.
- **Promote a fair and competitive market economy:** The proposed changes will lead to reduced health research investments and discourage innovation in Canada.
- **Monitor and control the administrative burden**: The regulatory changes along with the proposal to implement these changes, as outlined in the PMPRB Guidelines Scoping Document,[5] will create additional layers of oversight for reviewing the prices of patented medicines. This will be added to Canada's existing long and complex review system for patented medicines.
- **Create accessible, understandable and responsive regulation**: The regulatory proposals have not been developed through substantive engagement and transparency. The proposals as currently crafted will also lead to policy incoherence and duplication with other levels of government and payers that already review and lower patented medicine prices in Canada.

## 2. The reform will lead to poorer health outcomes and a sub-optimal health system

A significant drop in pharmaceutical revenues and the uncertainty and instability created by the proposed approach will lead to reduced access to new medicines, with long-lasting and negative effects on Canadians' health outcomes and our health system.

- Canada is currently one of the top countries in terms of new medicines launched. We benefit from one of the highest percentages of new drug launches worldwide at 61%, compared with the median of OECD countries at 45%.[6]
- The proposed changes will create a less favorable market for new medicines. This means the viability of launching new drugs in Canada will be affected, resulting in delays in new drugs coming to Canada or some new drugs not entering Canada at all. Studies have shown that lower expected prices and the use of price regulation/control mechanisms have a negative impact on the extent and timing of the launch of new drugs.[7] Already, decisions are being made to de-prioritize Canada as a launch country for our newest medicines and vaccines due to the uncertainty of how the federal pricing regulator will function beginning in January 2019.
- Studies have shown that access to new medicines lead to better health outcomes.[8] Conversely, countries with slower or reduced access to new medicines have poorer health outcome results.[9]

## 3. The reform will result in reduced research investments and job losses

Contrary to the RIAS related to the draft amendments, which provides limited references or evidence to support policy evaluation, studies show a strong correlation between pharmaceutical sales revenues and R&D expenditures.[10]

The proposed approach will lead to loss of investments and high-quality jobs in the pharmaceutical sector in Canada and run counter to Canada's Innovation and Skills Strategy and global trade priorities. Many pharmaceutical cost-containment measures adopted over the last decade have negatively affected employment at Merck Canada. These include provincial and national product listing agreements, therapeutic class negotiations, elimination of reimbursement incentives in Quebec, reference-based- and maximum-allowable-cost policies, and private insurance cost controls. Our number of employees decreased from 1,800 in 2008 to approximately 800 in 2018. The impact of job losses will be of much greater proportion with the proposed PMPRB reform given the anticipated drop in industry revenues.

The reform will also send the wrong signal to global investors and make Canada a less attractive place to invest in high-value research.

Currently, Canada is one of the most important subsidiaries with respect to the number of clinical trials carried out by Merck. Canada represents 2% of the global market with 4% of clinical trials globally being conducted in Canada. In 2016, Merck invested in 100 clinical research studies involving more than 220 Canadian trial sites, and more than 3,000 patients nationwide. However, with the proposed reform and its impact on pharmaceutical revenues, there will be less resources to invest in research and clinical trials in Canada. Also, as fewer medicines enter the Canadian market, it will be more difficult for companies to conduct clinical trials in this country. This is because clinical trials involve comparing new medicines to standard-of-care treatments and this will not be possible if these treatments are not available in Canada. Clinical trials are important, as they enable patients to have early access to the latest therapies, which are often crucial for life threatening diseases like cancer.

The reform will also have devastating repercussions for the Canadian biosciences ecosystem, including research institutes, teaching hospitals, contract research organizations, contract manufacturers, clinical trial centers, etc. This ecosystem depends on investments from multinational pharmaceutical companies to thrive. In fact, Merck invests important resources in research and innovation hubs in Canada, such as Oncopole and Amorchem, and in small Canadian biotech companies, such as Zymeworks Inc. These types of investments will no longer be possible if the proposed reform is implemented in its current form.

Finally, the proposed reform will also serve as a red flag for global investors in other economic sectors who are looking for a strong, predictable and business-friendly environment.

4. **The reform will leave the government open to constitutional and legal challenges**

There are several important constitutional and legal issues that have not been considered in the development of the regulations. As a result, the proposed amendments rest on uncertain legal foundations.

First, the courts could find that the proposed amendments to the *Patented Medicines Regulations* violate the constitutionally-enshrined division of powers between the provincial and federal governments, specifically:

- The proposed amendments could create an unconstitutional price control scheme that exceeds Parliament's jurisdiction over patents under section 91(22) of the *Constitution Act, 1867*, 30 & 31 Victoria, c. 3 (U.K.). The federal patent power allows correction of patent abuse, but does not authorize federal regulation of prices in a general way. Yet the purpose and effect of the amendments are both unrelated to patent abuse, and focus instead on pure price regulation.
- Price regulation and the regulation of specific industries are an exclusively provincial responsibility under section 92 of the *Constitution Act, 1867*. The amendments transform the PMPRB from a body concerned with regulating the maximum allowable price for patented medicines to one concerned with regulating the affordability of healthcare, which is a provincial matter. The fact that the amendments seek to compel production of regulatory documents and contracts between patentees and provincial governments illustrates the extent to which the PMPRB is attempting to encroach on existing provincial jurisdiction and duplicate existing provincial regulations.
- The information disclosure requirements proposed by paragraphs 4(4)(a) and (b) of the proposed amendments will contravene the constitutional restriction that PMPRB may only regulate the "factory gate" price because after that sale, patent rights are exhausted, and subsequent transactions occur outside the scope of the patent monopoly. This point was clearly made in the 2009 *Pfizer* decision.[11]

Second, the proposed amendments raise a number of other legal issues that could affect their validity. In particular, the courts could find the amendments to be *ultra vires* section 101 of the *Patent Act*, R.S.C. 1985, c. P-4, because they exceed the scope of the regulation-making powers set out in that provision. Among other things, the proposed amendments are inconsistent with the purpose of the *Patent Act*, which is to foster innovation. They also attempt to achieve a prohibited purpose, namely to create an unlawful price control regime.

Third, the proposed amendments could expose the government to liability under international agreements. More specifically, the amendments are inconsistent with Canada's international treaty obligations concerning the protection of intellectual property. Patents over medicines, like all patents, are protected by international treaties that Canada has signed, both multilaterally (Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)) and regionally/bilaterally (i.e., North American Free Trade Agreement (NAFTA) and the Canada-European Union Comprehensive Economic and Trade Agreement (CETA)). Unjustified distinctions between patents in certain industries violates non-discrimination and equal treatment obligations embedded in these treaties. Similarly, undermining the rights conferred on patentees to an excessive and unjustifiable extent represents a failure to provide the level of patent rights which Canada has committed to providing under these instruments. Merck is troubled by the absence of consultation on this issue, and the unsupported statement in the RIAS summary that the PMPRB is somehow exempt from compliance with Canada's trade agreements. While this statement appears in the summary section of the RIAS, it is never revisited or justified in the body of the text. If the amended regulations put Canada offside of its international treaty obligations, this could give rise to claims against the government for compensation under those treaties.

5. **The reform will pose significant technical challenges in its implementation**

***Pharmacoeconomic value***

Pharmacoeconomic (PE) value should not be added as a new economic factor to the PMPRB's drug pricing framework.

First, the use of PE analysis would be inappropriate in the context of regulating drug prices:

- Health economic evaluations are designed and used to inform health care resource allocation,[12] not to determine price excessiveness.
- PE analyses prepared by the Canadian Agency for Drugs and Technologies in Health's (CADTH) are limited in scope and cannot be used to assess the value of a medicine for all Canadians.
    - CADTH's PE analyses only reflect value assessments of public drug plans, as the agency's mandate for reviews is limited to these payers.
    - The assessment of value in the public market does not reflect value assessments within the private market because patients, families, and employers have different health objectives, tolerance levels for uncertainty, and willingness-to-pay. For example, employers are interested in promoting a healthy and productive workforce and reducing absenteeism.
    - Given that the population covered by public plans and private plans differ, their value assessments will also differ.
- The use of QALYs is especially challenging for certain treatments, therapeutic areas and patient populations:
    - Newer treatments tend to be disadvantaged, as analyses relying on QALY comparisons favour therapies that have been on the market for a longer period of time and that have overall survival data. Analyses using QALYs also favour older generic drugs where prices have dramatically decreased (e.g., oncology, diabetes).
    - Analyses using QALYs are biased against conditions where there are many costs associated with surviving patients. For example, in some recent oncology models, even if the new drug was priced at $0, the ICER would still not fall within the threshold range for some HTA bodies, as patients surviving will require many medical treatments and costs (lifetime horizon).
    - QALYs do not appropriately measure interventions that reduce short term-disability, many undesirable health states and difficult conditions for patients (e.g., nausea, vomiting, pain associated with use of contrast agents, postoperative recovery, etc.).
    - A QALY framework can underestimate the clinical benefits of interventions for a pediatric population and result in artificially high ICERs. Using a fixed cost per QALY threshold to regulate prices could therefore reduce the number of products that come to market for children and adversely impact innovation.[13]
    - ICERs are not a relevant metric for drugs for palliative care and rare diseases. Most of the orphan drugs appraised to date have cost-effectiveness thresholds well above the "accepted" level, as cost-utility analyses are not suited for these types of drugs that often have more uncertain evidence and higher price points given their small patient population.[14] As such, relying on a fixed cost per QALY threshold to regulate prices would more negatively affect patients with rare conditions and certain patient subpopulations, creating inequities in access among Canadians.

Second, it will be challenging for the PMPRB to use PE analyses with ICERs in practice to regulate drug prices:

- Cost-effectiveness analyses often produce multiple ICERs, which will create significant uncertainty for pharmaceutical companies, as they will not know which one will be used by the PMPRB.[15]

- An ICER is always expressed versus a single comparator and an appropriate cost-utility analysis for a new drug will generate ICERs for all relevant comparators. In this regard, CADTH's economic guidelines state that "current care" should be considered which, in "many cases, may include more than one relevant comparator".[16] This means that, unless the new drug only has one comparator, there will be at least two ICERs produced.
- CADTH's economic guidelines also recommend that "stratified analyses of subgroups should be conducted when factors that may lead to different estimates in costs or outcomes are identified". Given that factors such as age, gender, disease severity, and baseline risk tend to be associated with heterogeneity, analyses following the CADTH guidelines will be stratified in multiple subgroups, each associated with a different ICER versus a given comparator.
- CADTH's economic guidelines also state that probabilistic analyses should be performed. As PE analyses are becoming increasingly more complex, CADTH is now looking at the probability of a drug to be cost-effective versus multiple comparators in various publicly-covered patient populations. For example, the recommendation by the Common Drug Review (CDR) for Epclusa (sofosbuvir/velpatasvir, a drug to treat HCV) analyzed 26 subgroups, which produced highly variable ICERs. The CDR report stated that *"due to the significant, unresolved limitations of the submitted economic analysis, the results (including CDR reanalyses) were deemed unreliable for decision-making".*[17] It is therefore unclear how a price test using a cost/QALY threshold could be applied in a situation where CADTH itself was not able to make a determination regarding cost-effectiveness.

- Results of PE analyses often demonstrate cost-effectiveness in one group of patients but not in another. For instance, the CDR recommendation for ZEPATIER® (elbasvir/grazoprevir) states that the drug "*is cost-effective for patients with genotype 1 or 4 CHC infection regardless of cirrhosis status and prior treatment experience. In genotype 3, EBR/GZR is not considered to be cost-effective at the submitted price.*"[18] Similarly, new products can often be found to be cost-effective versus one comparator, but not versus another alternative.
- ICER estimates for oncology products are typically reported by the pan-Canadian oncology Drug Review (pCODR) as a range rather than a single figure. The range, which includes a lower bound and an upper bound, can also be very broad. For instance, the economic guidance report for KEYTRUDA® for non-small cell lung cancer outlined a range of $149,342 to $254,945.[19]
- Cost-utility is not the appropriate analysis to evaluate the cost-effectiveness of certain drugs and certain patented drugs are not subject to cost-effectiveness reviews by CADTH. An example of this would be the treatment BRIDION® (sugammadex). Because this product is exclusively used in hospitals, it did not require an evaluation by CADTH and its ICER was not assessed. Further, a cost-utility analysis would not be appropriate for BRIDION®, as its benefit has no impact on quality of life. Its benefit is to improve hospital efficiency by decreasing the time required to reverse a neuromuscular blockade at the end of a surgery.

In light of the above, adopting PE value as an economic factor in PMPRB's pricing framework will create significant uncertainty and cause manufacturers to reconsider their launch sequencing for new products. While Canada is a relatively small market in the global pharmaceutical world, it is a pricing reference country for multiple other jurisdictions, which together represent an important business opportunity. Further, fixed cost per QALY thresholds for determining non-excessive list prices could also affect the availably of some drugs, as it may not always make sense to launch in Canada if the maximum allowable price is low relative to the business potential that this country represents.

In sum, adding this new economic factor could significantly delay or limit access to innovative medicines for Canadian patients.

***Market size***

Market size should not be added as a new economic factor to the PMPRB's pricing framework.

First, it would not be appropriate to use forecasted market size to regulate prices as forecasting is a highly volatile exercise that has to be revisited on a regular basis. In particular, pharmaceutical companies perform forecasts that are revisited on an almost continuous basis because many variables must be taken into consideration. Those variables are unknown factors on which assumptions have to be made, and the accuracy of the assumptions tends to be inconstant. These variables include but are not limited to: date of new competitive entry, relative efficacy of new entrants, share to be captured by new entrants, restrictions/expansions of reimbursement criteria, date of generic entry, rate of generic substitution, changes in treatment guidelines that may impact treatment patterns, and introduction of new technologies that may improve diagnostic rates.

Second, market size is a more appropriate consideration for payers than for a price regulator, which has the limited mandate of protecting consumers against excessive pricing of patented medicines. In the context of reimbursement, risk-sharing agreements are sometimes negotiated with payers under the pan-Canadian Pharmaceutical Alliance (pCPA) to address differences that can occur between forecasted and actual market size. In fact, as an industry, we are working in collaboration with the provincial and federal governments to ensure affordability through confidential product listing agreements that are based on factors such as the reimbursement criteria, competitors and the size of the market. These factors, however, are often more restrictive than a product's indication and should not be used to determine its maximum allowable price.

***Revised basket of countries***

The basket of countries should not be revised as proposed by Health Canada, as the choice of reference countries is not aligned with the Canadian pharmaceutical market and policy environment or our goal of having high performing health and innovation systems. Specifically, we believe the United States should remain in the basket and that South Korea should not be added.

With the revised basket, the government's new target is the median of prices in the OECD countries. We are aware of no other economic sector where Canadian prices or other regulatory objectives are linked to middle or average of the OECD. The OECD includes countries with a wide range of GDP per capita, R&D infrastructure and health system quality, access and expenditure. The OECD median does not appropriately reflect Canada's global leadership and economic position. In fact, Canada is now leading the G7 in terms of economic growth.[20] Given our advantageous position, we should aspire to be compared to high performing systems, including the United States.

Further, in many important ways, we are closer to the United States than most European countries in terms of how drugs are covered. There are many similarities between the markets in the United States and Canada. Both are mixed private/publicly funded systems with multiple payers. Utilization and prescribing patterns are also comparable. Geographic proximity and an extensive economic relationship (e.g. 70% of Canadian exports are to the United States, making it by far our most important trading partner) support a high degree of scientific and clinical integration and patient movement.

South Korea, on the other hand, is not an appropriate comparator for Canada for several reasons:

- South Korea spends significantly less on health care than Canada and other countries.
  - South Korea has the lowest spending per capita on healthcare compared with the top 22 countries of the OECD[21] and the countries used in the determination of the PMPRB12.
  - Among the PMPRB12 countries, 9 of them[22] are geographically closer together and more comparable to Canada. South Korea spends 41% less on healthcare per capita than the average of these nine countries.
- South Korea's drug prices are not comparable to the OECD average or neighbouring Asian countries.
  - On average, the price of a newly listed medicine in Korea is 45% of the average across the OECD countries.[23]
  - South Korea has the lowest prices out of the surrounding 10 Asian countries, at 81% of the average of these 11 Asian countries.[24]
- South Korea has a much lower rate of reimbursing medications that receive regulatory approval:
  - Compared to Canada, South Korea reimburses 74% of total medications and only 61% of oncology medications were funded between 2007 and 2015.[25]
- South Korea has implemented policies of mandated price reductions, which are inconsistent with the reimbursement policies of other countries found in the current or revised basket of countries.
  - The prices of 32 recently launched drugs in Korea declined on average 17% over four years, compared to a typical 4-year decline of 9% for the same medicines in other OECD countries.[26]

The negative implications of adding South Korea to the PMPRB basket of countries include:

- **Reduced investments in clinical trials:** The rate of investment in clinical trials per capita in South Korea is less than half that of Canada, with 37.6 studies per million population in Canada versus 16.2 studies per million in South Korea.[27] As previously mentioned, clinical trials are important, as they contribute to the development of scientific expertise and provide early access to the latest therapies to patients who may have otherwise exhausted their treatment options. This is especially important for patients suffering from cancer and rare diseases.
- **Reduced drug launches:** South Korea also has a lower number of new drug launches than other developed countries. Of the 154 new medicines registered globally between 2008 and 2012, 104 were available in USA in 2013, 82 in Germany, 60 in Canada and 58 in France, and only 45 in Korea (29% of the total).[28]
- **Delayed access:** Medications are submitted on average 5 months later to regulatory authorities in South Korea compared with Canada.[29]

In sum, we should not add to the reference basket a country like South Korea that severely limits patient access to new therapies. Limited access means that many patients in South Korea do not experience the health benefits of new medicines.

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[1] Patented Medicine Prices Review Board, *Annual Report 2016*, Ottawa, 2017: http://www.pmprb-cepmb.gc.ca/view.asp?ccid=1334.

[2] PDCI Market Access, *Proposed Amendments to the Patented Medicines Regulations: A critical appraisal of the cost-benefit analysis, 2018:* http://www.pdci.ca/pdci-critical-assessment-pm-regs-amendments/.

[3] Publication pending.

[4] Cabinet Directive on Regulatory Management: https://www.canada.ca/en/treasury-board-secretariat/services/federal-regulatory-management/guidelines-tools/cabinet-directive-regulatory-management.html.

[5] *PMPRB Guidelines Scoping Document*, PMPRB, December 2017: http://www.pmprb-cepmb.gc.ca/CMFiles/Consultations/scoping_paper/pmprb_scoping_paper_e.pdf.

[6] *Meds Entry Watch, 2015*, NPDUIS: Patented Medicine Prices Review Board, April 2017: http://www.pmprb-

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