Combining Plasma Collection with Demand Diversion to Achieve Immunoglobulin Self-Sufficiency in Canada

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Key message: Achieving Ig self-sufficiency in Canada requires combining supply expansion with demand reduction strategies—supply alone is insufficient.

Background

- Immunoglobulin (Ig) demand in Canada is growing rapidly, driven by expanded indications and population aging (Figure 1)
- Canada has one of the highest Ig usage rates globally
- Domestic plasma collection is insufficient, implying a heavy reliance on US imports
- Ensuring self-sufficiency is critical for supply security and patient access
- Currently, Canada's self-sufficiency ratio – the proportion of Ig coming from domestic plasma – stands at 27%, far below the 42% target (Figure 2)

Figure 1. Ig demand and domestic supply in Canada

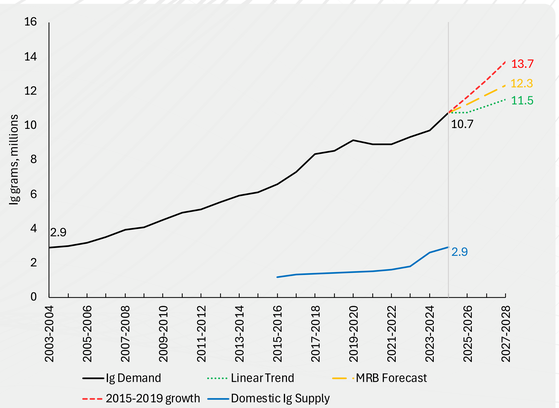
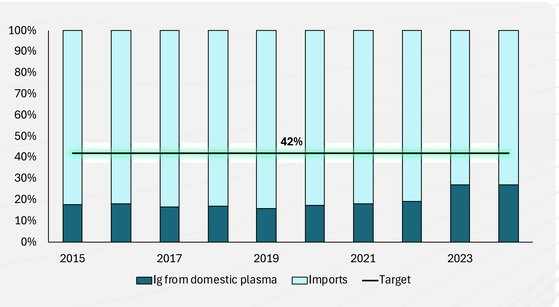


Figure 2. Ig supply sources



Note: Up-to-date data have been incorporated since abstract submission.
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Objectives

1. Evaluate feasibility of achieving Ig self-sufficiency through supply expansion
2. Assess impact of demand-side strategies (e.g., generalized myasthenia gravis [gMG] & chronic inflammatory demyelinating polyneuropathy [CIDP] substitution)

Methods

Data sources

- Ig historical data and collection center inputs were obtained from Market Research Bureau[1] and government publications[2-4]

Approach

- Forecast Ig demand along 3 scenarios
  - Low: Linear trend
  - Mid: MRB forecast
  - High: Historical growth (2015-2019)
- Estimate plasma collection requirements and associated costs
- Model demand diversion strategies (switching to alternative therapies) for non-responsive gMG and CIDP patients

Key assumptions

- 4.5 grams of Ig extracted per liter of plasma[1]
- Direct public cost of Ig therapy is $97 CAD per gram administered[4,9-10]
- Average of 10,000 liters of plasma collected per collection center per year
- Ig non-responsive patients switched to alternative therapies: 30% for gMG and 39% for CIDP[5-8]

Results

- Demand is projected to reach 11.5–13.7M grams by 2027. gMG and CIDP represent ~30% of Ig usage
- Reaching target requires 422-622k more liters of plasma annually
- Switching non-responsive gMG and CIDP patients reduces the increase in Ig demand from 15% to 8% (Figure 3)
- To reach target, under the mid scenario, demand diversion lowers the need for new centers from 19 to 12 per year (Figure 4)

Figure 3. Impact of demand diversion

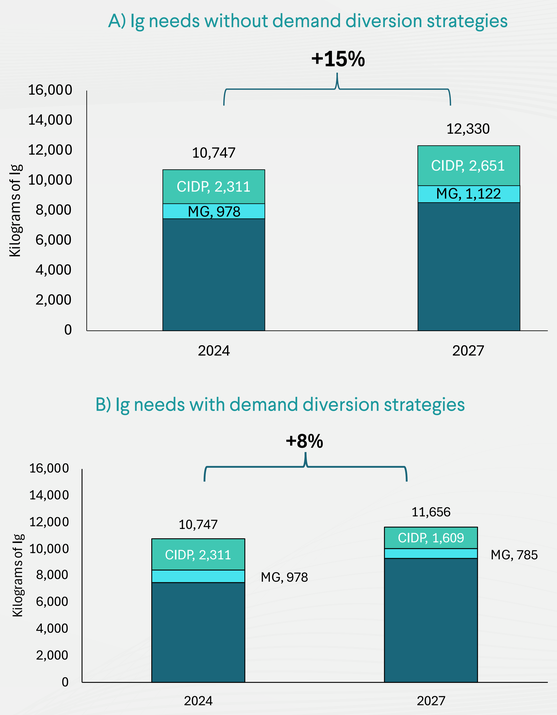
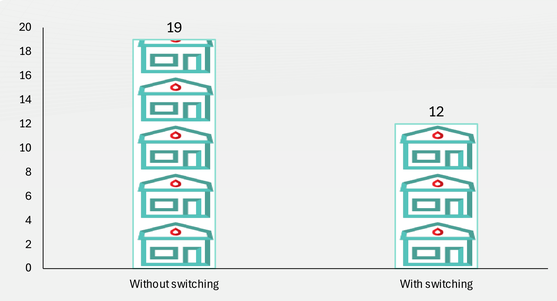


Figure 4. New collection centers to open each year on average to reach target (Based on mid scenario)



Discussion

Achieving Ig self-sufficiency in Canada through expanded plasma collection alone is operationally and financially implausible within the foreseeable future

- Supply expansion alone is constrained by infrastructure, cost, and geography
- Low population density limits efficiency, with few remaining urban centers above 100k people
- A supply-side strategy focused solely on increasing domestic Ig production would cost an additional $184-272M annually

An integrated strategy combining moderate supply expansion with demand-side interventions offers a more feasible and cost-effective pathway to improving supply security, system sustainability, and patient access to essential Ig therapies

- Shifting non-responsive patients to alternative therapies would reduce Ig demand and offset the cost of additional Ig needed to attain self-sufficiency

Policy alignment is required to achieve self-sufficiency

- Siloed blood product and pharmaceutical budgets at the governmental level limit overall system optimization
- Standardized treatment guidelines for conditions such as gMG and CIDP could improve both equity and efficiency by aligning treatment decisions with best available evidence, and promoting more cost-effective use of therapies

References:

1. Marketing Research Bureau (MRB)
2. Canadian Blood Services and Héma-Québec annual reports and board meeting minutes
3. Nova Scotia Provincial Blood Coordinating Team (2023) Atlantic Canada Annual IVIG and SCIG FY 2022-23 Report
4. INSPQ (2025) Utilisation des immunoglobulines non spécifiques intraveineuses et sous-cutanées au Québec 2022-2023
5. Bril et al. Ann N Y Acad Sci. 2012
6. Bril et al. Muscle Nerve. 2025
7. Alhaidar et al. J Clin Med 2022
8. Léger et al. J Peripher Nerv Sys 2013
9. Fu, Song, Isaranuwatchai, & Betschel. Ann Allergy Asthma Immunol. 2018
10. Ritchie, et al. Allergy, Asthma & Clinical Immunology. 2022
11. Héma-Québec (2023) La collecte du plasma au Québec