InsuJet™
Inject Needle-Free

Cost analysis - North America

The cost of insulin therapy

The cost of insulin therapy varies greatly per country.
We devised a model to calculate the costs of insulin therapy with clear assumptions for different global markets.

The resulting model allows for a comparison between the costs of the InsuJet™ vs conventional treatment methods and utilizes norms for specific geographical markets.

Regional Diabetic Metrics:
Insulin Use: 50 IU/day [1,2] Exploited (body weight x IU/kg)
Adult: TDD of insulin usually ranges from 0.3 IU/kg to 0.6 IU/kg[2]
Adult body weight: ~ 81kg body weight
Injections: 4/day[3]

Syringe Pricing (USD)
Hospital Safety Syringe Pricing (considering pricing from 3 representative sources)
McKesson, Monoject, & Magellan: $0.35/safety syringe
Note: Price in USD, not reflecting volume discounts

NuGen MD Retail List Price Effective Dec 2021 (USD)
InsuJet™ V5 Injector: $260
InsuJet™ Nozzle: $6.00
InsuJet™ 10 mL Adaptor: $4.70

The above pricing, results in the below monthly costs of therapy as compared to safety syringes:

	Safety syringe	InsuJet™
Starting costs	-	$ 260.00
Monthly costs	$ 42.00*	$ 19.05

The results

Figure 1.0: Based on the above prices and diabetic norms the following extrapolations demonstrates the potential market value proposition for end-users or buying groups over the lifetime of a needle-free device (5000 uses) compared to 3 years of safety syringe use.

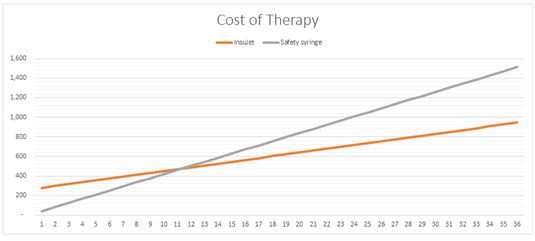

***Figure 1.0**, InsuJet™ Breakthrough Cost Savings for an Individual Diabetic patient/Lifetime of Device, Canada, not including insulin cost*

The higher onset costs of the InsuJet™ are offset by a much lower slope which is the result of lower monthly cost of therapy ($42/ month for the safety syringe vs $19/month for the needle free device).

Monthly costs:

$42/month
Safety Syringe

$19/month
InsuJet™

Breakeven point cost savings ~ 11.3 months*

**These prices are reflective only of our current price list and do not necessarily reflect the price point of distributors in this given area in the future. $260.00/($42.00 - $19.05) = 11.3*

These significant cost savings are the result of a reduction in the use of disposables. The InsuJet™ Nozzle lasts for 14 days or 56 uses, while the InsuJet™ Adaptor lasts for the lifetime of the insulin vial. This greatly reduces sharps waste and reduces costs.

120 Needle Sharps /month
Safety Syringe

2 Nozzles & 1.5 Adaptors /month
InsuJet™

In 3 years (device lifetime) each individual will save $556 using the assumptions given. For every 1000 devices sold, it is estimated to be approximately $556,000 every 3 years, as related to total costs using a safety syringe to the individual, stake holders, NGOs, and governmental agencies.

Saving per individual per lifetime of device (3 yrs):

$556

When considering the total insulin dependent diabetic population for various countries, potential cost savings given a certain market penetration can be estimated. Working with a conservative market penetration rate of only 1%, the following numbers can be achieved for the USA and Canada (Table 1.0 and 2.0) .

Country information	
Country	Canada
Population [4]	37,742,154
Diabetics prevelance [5]	8
Diabetic patients	2,868,404
Insulin users [6]	553,602
1% of Insulin Users	5,536

Country information	
Country	United States
Population [4]	331,002,651
Diabetics prevelance [5]	11
Diabetic patients	35,748,286
Insulin users [6]	6,899,419
1% of Insulin Users	68,994

***Table 2.0** Country estimated insulin dependent population*

	1) Number of needle sharps eliminated based on 1% of the market	2) Total reduction in cost of therapy based on 1% of the market
USA	100,731,521	$ 39,064,512
Canada	8,082,588	$ 3,134,494

***Table 3.0** Saving Value Proposition based on model assumptions*
1) Total projected environmental sharps waste stream reduction of needle sharps/year (assuming 4 injections per day)
2) InsuJet™ positive economic impact by total savings per lifetime of device

Sharps waste management

When estimating cost of therapy, the cost of needle sharp waste management should be considered. The precise cost of needle sharp management per individual syringe is difficult to obtain, as multiple actors may be involved, but a reference in tied to handling and waste management across the US, defines an estimate range of $1.0 to $3.0 per syringe. For this model we selected $1.0 per syringe. This important overlooked metric will significantly increase the overall cost of use of syringes and increase the total environmental impact of conventional therapy.

Including the cost of sharps waste management into the cost of therapy.

	Safety syringe	InsuJet™
Starting costs	-	$ 260.00
Monthly costs	$ 162.00*	$ 19.05**

***Table 4.0** Price assumptions, use of 10ml insulin vial.*
** 4 x daily injection 30 days x ($0.35 + $1.0 sharps waste management costs)*
*** 2 x InsuJet™ Nozzle ($6.00) + 1.5 x InsuJet™ 10ml Adaptor ($4.70)*

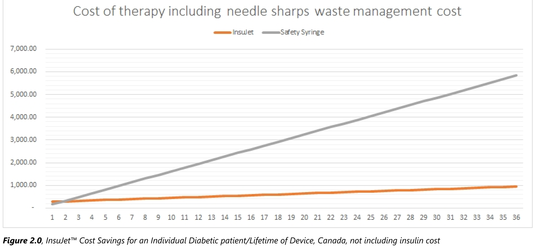

***Figure 2.0**, InsuJet™ Cost Savings for an Individual Diabetic patient/Lifetime of Device, Canada, not including insulin cost*

Monthly costs:

$162/month
Safety Syringe

$19/month
InsuJet™

Breakeven point cost savings ~ 1.8 months*

Saving per individual per lifetime of device (3 yrs):

$ 4,886

*These prices are reflective only of our current suggest price list and do not necessary reflect the price point of distributors in this given area in the future. $260.00/($162.00 - $19.05) = 1.8

	1) Number of needle sharps eliminated based on 1% of the market	2) Total reduction in cost of therapy based on 1% of the market
USA	100,731,521	$ 337,119,424
Canada	8,082,588	$ 27,050,097

***Table 5.0** Saving Value Proposition based on model assumptions including needle sharps waste management cost*
1) Total projected environmental sharps waste reduction of needle sharps/year (assuming 4 injections per day)
2) InsuJet™ positive economic impact by total savings per lifetime of device

nuGen MEDICAL DEVICES

References:
1. Clin Interv Aging. 2006 Jun; 1(2): 107–113.
2. https://en.wikipedia.org/wiki/Human_body_weight
3. InsuJet Post Market Surveillance Survey data
4. https://www.worldometers.info/world-population/population-by-country/
5. https://www.indexmundi.com/facts/indicators/SH.STA.DIAB.ZS
6. https://haiweb.org/wp-content/uploads/2019/07/Estimate-of-Insulin-Use-in-Type-2-Diabetes.pdf

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