PharmaJet®
Needle-Free Injection™

Needle-free Injection Technology

Class II Medical Device

0.1mL, 0.5mL volumes

PharmaJet's spring-powered, reusable injectors use disposable, auto-disabling needle-free syringes to deliver drugs/vaccines to the desired depth - IM/SC/ID. The syringe is available for use with a vial or in a prefilled* option. *In Development

Management Team:

- **Ron Lowy:** Chairman and CEO

  Ron has more than 30+ years of experience managing and growing technology based global businesses. Previous to PharmaJet he served as the President and CEO of Fisher Biosciences, a division of ThermoFisher Scientific. Ron spent the first 15 years of his career in general management positions at GE Healthcare.

- **Jeffrey A. Jordan:** CFO

  Jeff has more than 20+ years of experience in corporate finance. In his previous role, he directed the global finance functions for the Laboratory Products Group of Thermo Fisher Scientific, supporting $1.9B in annual revenue and 10,000 employees.

- **Heather Callender-Potters:** Vice-Chairman and CBDO

  One of the co-founders of the company, Heather has 25 years of Private Equity fund management and international investments. She has managed individual investments and financial investor consortiums, ranging from $1 million to more than $100 million.

- **Chris Cappello:** COO

  Chris has a proven track record for managing regulatory pathways (10+ years) and launching disruptive medical devices into the market. Previous to PharmaJet Mr. Cappello managed the technology and development programs at AlloSource and Applied Medical.

PharmaJet's team consists of a variety of highly qualified medical device experienced individuals, with backgrounds touching all aspects of required expertise, including engineering, manufacturing, regulatory, marketing, science, clinical, R&D, sales, and logistics.

PharmaJet Mission: Worldwide Acceptance of its Needle-Free Devices as standard of care for vaccine delivery

PharmaJet has developed user-friendly, inexpensive device platforms for fluid injection into the body without a needle. Able to compete with traditional needle-syringe delivery, which inherently poses costly needle-stick, re-use and pass-along disease issues, PharmaJet's devices have been optimized for vaccine administration, a 2.8B annual immunization market growing in excess of the 140m annual birth cohort. Unique in the field of jet injection because of its ability to reach target tissues accurately and comfortably, PharmaJet has unique scientific claims and wide regulatory clearances.

PharmaJet's "Needle-free" Solution:

- ✓ ***Non-inferior method of administration vs. needles for standard depth and dose***
- ✓ ***Engineered dose efficiency captures extra doses per vial, stretching vaccine supply***
- ✓ ***Improves the immune response of some vaccines and pharmaceuticals (e.g. nucleic acid vaccines)***
- ✓ ***Fractional dose intradermal delivery creates superior immune response to full dose (e.g. Polio)***
- ✓ ***Work flow as fast or faster than needles***
- ✓ ***Eliminates needle stick injuries and reduces disease transmission***
  - 800,000 needle sticks[3] reported in US/yr. …costing $3B
  - Developing country needle-stick and re-use issues of up to 1-4 times per year
- ✓ ***Simple "Push & Click" enables easy injection for caregivers***
- ✓ ***95% preference by patients and caregivers[1]***
  - 24% of adults / 63% of children report a fear of needles[2]
- ✓ ***Differentiates in a commodity vaccine market***
- ✓ ***Cost effective, comfortable and safe for providers and patients***

1 PharmaJet, Inc. (2016): Doc. #60-10417-0018 Workplace Immunization White Paper
2 Survey of the prevalence of immunization non-compliance due to needle fears in children and adults. Taddio, A *et al* Vaccine, Vol. 30:32, July 2012; 4807-4812
3 Occupational Safety & Health Administration: Safer Needle Devices: Protecting Healthcare Workers

Significant Achievements:

- Regulatory and Intellectual Property
  - Multiple marketing clearances for all tissue depths (IM/SC/ID)
  - Numerous regulatory approvals for regions and countries (FDA, CE, India, ME, Brazil, etc.)
  - First and only World Health Organization Pre-qualified Needle-Free Injection System
  - Sponsor of multiple pivotal FDA IND non-inferiority studies
  - 22 clinical trials confirming safety and efficacy
  - IP includes four separate patent families, with 67 issued and pending patent applications
- Distribution
  - Domestic distributors in place (e.g. McKesson/Moore Medical, FFF, ABO, etc.)
  - International distributors established (e.g. India, S. Korea, Middle East, etc.)
- US Commercial activity
  - FDA approved PharmaJet named method of administration on vaccine label for influenza
  - Usage across pharmacy, occupational, university settings
  - American Pharmacists Association (APhA) includes PharmaJet in education program reaching up to 14,000 new pharmacist graduates per year
- Key Global Partnerships
  - World Health Organization WHO - Polio Eradication Initiative –multi-year supply agreement for intradermal fractional dose delivery – 500 m dose annual market
  - Serum Institute of India — Largest global vaccine manufacturer, 5-year exclusive contract
  - GosZMP – largest drug manufacturer and distributor in Russia, 5-year exclusive contract, with prefilled program initiating
  - Seqirus (bioCSL/Novartis influenza) – #2 in Flu-Globally

Strategy & Positioning:

- Global Influenza and Pandemic Preparedness planning with agencies and NGO's
- Rapidly expanding clinical study portfolio with vaccine and novel pharmaceutical partners
  - PharmaJet-specific named method of administration on label indication for standard vaccines: Influenza, MMR, M, MR, with several others in process
  - WHO published clinical claims for PharmaJet's intradermal device for fractional dose polio (fIPV) administration demonstrating 60% dose reduction is superior to full dose
  - Published third party assessments for dose/speed/waste efficiency vs. needles
  - WHO Polio Eradication stock-piling contract extending to MOH purchase conversations with 35 countries for deployment of PharmaJet's needle-free fIPV usage
  - More than 40 studies complete or in process across array of vaccine and injectable medicine indications including: Zika, Dengue, malaria, HPV, Nucleic Acid based vaccines, Therapeutic cancer vaccines, allergens, and others
  - 32 development agreements with Pharma companies and government entities established
- Pre-fillable Syringe in development, with estimated 50-70% savings in cold chain and logistics

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