

ARS Corporate Presentation

June 28, 2024



Forward-looking statements

Statements in this presentation that are not purely historical in nature are “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements in this presentation include, without limitation, statements regarding: the anticipated timing for regulatory review decisions on the *neffy* NDA and MAA; ARS Pharma’s belief that *neffy* will be approved for the treatment of Type I allergic reactions; ARS Pharma’s belief and expectations regarding the labeling for *neffy*; the timing for the potential U.S. launch of *neffy*, if approved; the potential market, demand and expansion opportunities for *neffy*; ARS Pharma’s expected competitive position; whether the results will be sufficient to demonstrate that *neffy* is at least as effective as injectable epinephrine; the timelines for potential regulatory filings, approvals and commercialization of *neffy* in ex-US regions; ARS Pharma’s marketing and commercialization strategies, including potential partnerships in foreign jurisdictions; potential benefits of *neffy*, if approved, including the likelihood that doctors will prescribe *neffy* and that allergy patients and caregivers will choose to carry and dose *neffy* compared to needle-bearing options; the expectation of *neffy* attaining coverage, including without restriction for 80% of commercial lives within a year of launch; ARS Pharma’s anticipated cash, cash equivalents and short-term investments on hand upon any future approval and launch of *neffy*; the expected size, composition and reach of ARS Pharma’s sales force; the availability and functionality of *neffy*Experience and *neffy*Connect; the anticipated pricing and co-pay buydown; the anticipated timing and costs of future studies and commercialization efforts, and their impact on operating runway; ARS Pharma’s projected operating runway; expected intellectual property protection; and any statements of assumptions underlying any of the foregoing. These forward-looking statements are subject to the safe harbor provisions under the Private Securities Litigation Reform Act of 1995. Because such statements are subject to risks and uncertainties, actual results may differ materially from those expressed or implied by such forward-looking statements. Words such as “anticipate,” “could,” “demonstrate,” “expect,” “indicate,” “may,” “plan,” “potential,” “will” and similar expressions are intended to identify forward-looking statements. These forward-looking statements are based upon ARS Pharma’s current expectations and involve assumptions that may never materialize or may prove to be incorrect. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of various risks and uncertainties, which include, without limitation: the PDUFA target action date may be further delayed due to various factors outside ARS Pharma’s control; the ability to obtain and maintain regulatory approval for *neffy*; the results of the new clinical trial may not support the approval of *neffy*; results from clinical trials may not be indicative of results that may be observed in the future; potential safety and other complications from *neffy*; the labelling for *neffy*, if approved; the scope, progress and expansion of developing and commercializing *neffy*; potential for payers to delay, limit, or deny coverage for *neffy*; the size and growth of the market therefor and the rate and degree of market acceptance thereof vis-à-vis intramuscular injectable products; ARS Pharma’s ability to protect its intellectual property position; uncertainties related to capital requirements; and the impact of government laws and regulations. Additional risks and uncertainties that could cause actual outcomes and results to differ materially from those contemplated by the forward-looking statements are included under the caption “Risk Factors” in ARS Pharma’s Quarterly Report on Form 10-Q for the quarter ended March 31, 2024, filed with the Securities and Exchange Commission (“SEC”) on May 9, 2024. This and other documents ARS Pharma files with the SEC can also be accessed on ARS Pharma’s website at ir.ars-pharma.com by clicking on the link “Financials & Filings” under the “Investors & Media” tab.

The forward-looking statements included in this presentation are made only as of the date hereof. ARS Pharma assumes no obligation and does not intend to update these forward-looking statements, except as required by law.





Potential to Transform the Treatment of Type I Allergic Reactions

- **neffy®**: first potential “no needle, no injection” solution for Type I allergic reactions to address an unmet market need
- **Positive CHMP Opinion** (EU decision) with FDA reviewing same data package for the U.S. with assigned Oct 2, 2024 PDUFA date (physician’s labeling received from FDA and discussions ongoing to finalize label)
- **Registration program** demonstrates comparable PK and PD, without risk of needle-related safety concerns, fear and hesitation
- **Significant opportunity to disrupt and expand** current epinephrine injectables market, which is highly dissatisfied
- **Potential multi-billion-dollar market** driven by HCP and consumer preference and adoption
- **NCE-like IP exclusivity** potential until at least 2038
- **\$223.6 million in cash and short-term investments** as of 3/31/2023 with an anticipated >\$200 million at anticipated FDA approval in H2 2024

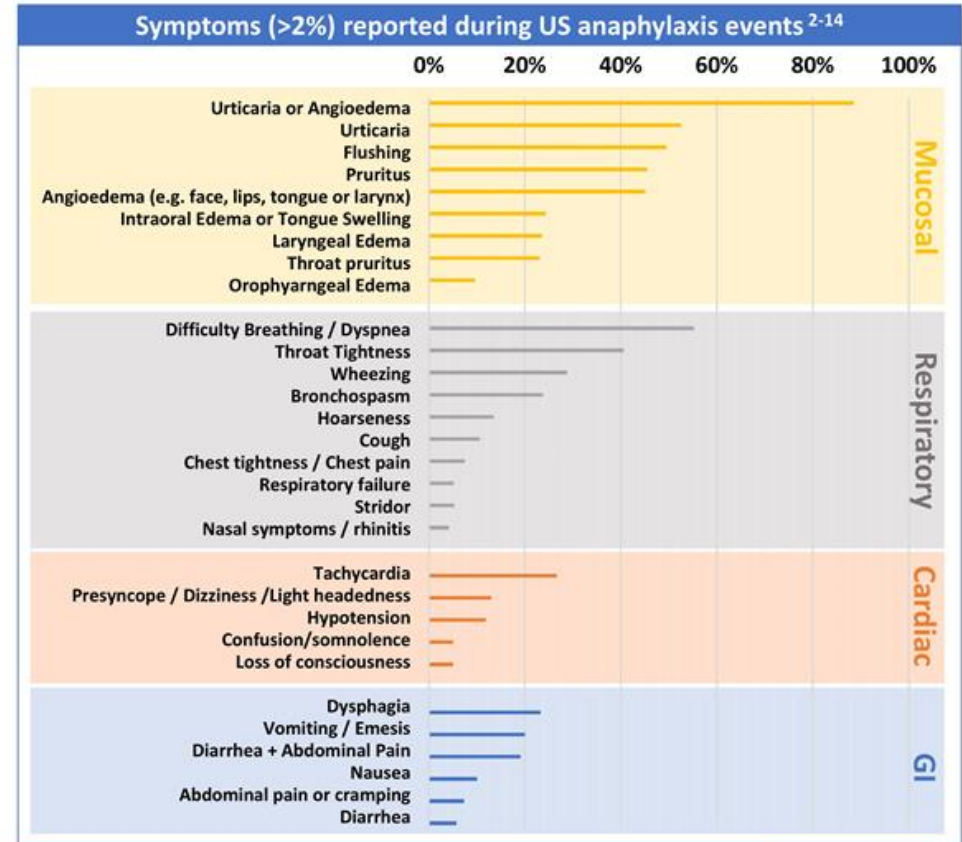
Anaphylaxis is Accompanied by Many Frequent Symptoms

Common Anaphylaxis Symptoms Include:

>85% urticaria (hives, erythema) or angioedema (swelling of the face, lips, tongue or larynx)

>55% difficult breathing

>40% gastrointestinal (eg, vomiting, nausea)



4

References: 1. Shaker MS, et al. *J Allergy Clin Immunol*. 2020. 2. Pistiner M, et al. *J Allergy Clin Immunol Pract*. 2021. 3. Jalil M, et al. Abstract at AAAAI 2020 Virtual Meeting. 4. Gonzalez-Estrada A, et al. *Ann Allergy Asthma Immunol*. 2018. 5. Lee S, et al. *J Allergy Clin Immunol*. 2017. 6. Lee S, et al. *J Allergy Clin Immunol Pract*. 2014. 7. Manivannan V, et al. *Am J Emerg Med*. 2014. 8. Wood RA, et al. *J Allergy Clin Immunol*. 2014. 9. Walsh KE, et al. *Pharmacoepidemiol Drug Saf* 2013. 10. Decker WW, et al. *J Allergy Clin Immunol*. 2008. 11. Ross MP, et al. *J Allergy Clin Immunol*. 2008. 12. Webb LM & Lieberman P. *Ann Allergy Asthma Immunol*. 2006. 13. Ditto AM, et al. *Ann Allergy Asthma Immunol*. 1996. 14. Rudders SA, et al. *Pediatrics*. 2010. Note that some publications do not specify angioedema symptom subtype. Angioedema subtype frequency aggregated when reported.

Epinephrine: The First Line of Defense Against Anaphylaxis

Patients with Type 1 Severe Allergic Reactions are prescribed epinephrine to use at symptom onset

- Used for over 100 years
- Well-known mechanism of action, and only drug known to reverse a systemic allergic reaction
- Well-established efficacy and safety profile

Products approved based on pharmacologic properties, not clinical efficacy studies

- All approved products demonstrate efficacy (90% response on a single dose) despite different pharmacokinetic (PK) properties
- Clinical studies are considered unethical/unfeasible

All approved products are needle-based

- High unmet need for needle-free, easy-to-carry epinephrine remains

neffy is the first “no needle, no injection” solution for Type I allergic reactions to address an unmet market need



Rapid, reliable delivery



Small and easy to carry



Place and Press administration



Well-tolerated in extensive trials

Unmet Need / Current Challenges

Vast Majority of Type I Allergy Patients Face Significant Limitations with Current Treatment Options

PROBLEM:

ONLY 10% - 20% of patients with active Rx use as indicated⁷



NO TREATMENT AVAILABLE

~50% of patients carry¹
(<20% carry two)



REFUSAL OF TREATMENT

~25% - 60% do not administer^{1,3,5,6}



DELAY IN TREATMENT

~40% - 60% of patients delay²



USER ERROR IN TREATMENT

23% - 35% fail to dose correctly⁴

SOLUTION:

neffy



SMALL

- Fits in your pocket; easy to carry the recommended 2 devices
- ~10% of cases require repeat doses of epinephrine¹

NO NEEDLE NO INJECTION

- Rapid administration without a needle
- No risk of needle-related injuries; lacerations² or cardiotoxic blood vessel injections
- Less hesitation to dose

EASIER AND MORE CONSISTENT DOSING

- 100% of untrained adults and children can dose *neffy* successfully⁷
- High bioavailability, low 2 mg dose of *neffy* achieves comparable PK without overexposure risk including any side effects that mimic anaphylaxis

RELIABLE

- 99.999% delivery of effective dose in reliability testing; not obstructed by any anaphylaxis symptoms; no inhalation required
- 24-month shelf-life at room temperature, with up to 3 months at high temperatures (122°F)

neffy Designed for Ease of Use and Easy Carry

For epinephrine to be effective, patients must:



Regularly have their device on hand

Not hesitate to dose immediately after symptom onset

Have a second device on hand if needed (~10% of cases)

Administer the device as intended

Case holds **two** neffy 2mg devices

- **neffy** has a simple place and press administration (no hold time)
- **100%** of adults and children able to use **neffy** successfully without any training

Relative Size of *neffy* two pack Compared to iPhone 15 and EpiPen



Registrational studies demonstrate comparability on both PD surrogates for efficacy and PK with *neffy*

PD and PK Data

- 2 mg *neffy* met all clinical endpoints
- PD surrogates for efficacy comparable to approved products (SBP/HR \geq approved injection products)
- Rapid and significant response on PD surrogates for efficacy observed even 1 minute after dosing
- PK bracketed by approved products (exposures \geq IM/SC for efficacy, $<$ EpiPen for safety)
- Repeat doses (including during rhinitis) within range of approved injection products



Safety Data

- Adverse events generally mild in nature with no meaningful nasal irritation or pain up to 4 mg dose
- Most common adverse events ($>5\%$) were mild nasal discomfort (9.7%) and mild headache (6%), with no correlation of nasal discomfort to pain or irritation
 - Mean VAS pain scores between 5 to 8 out of 100
 - No irritation based on formal assessment
- No serious adverse events in any clinical study
- No risk of needle-related injuries or blood vessel injections with *neffy*

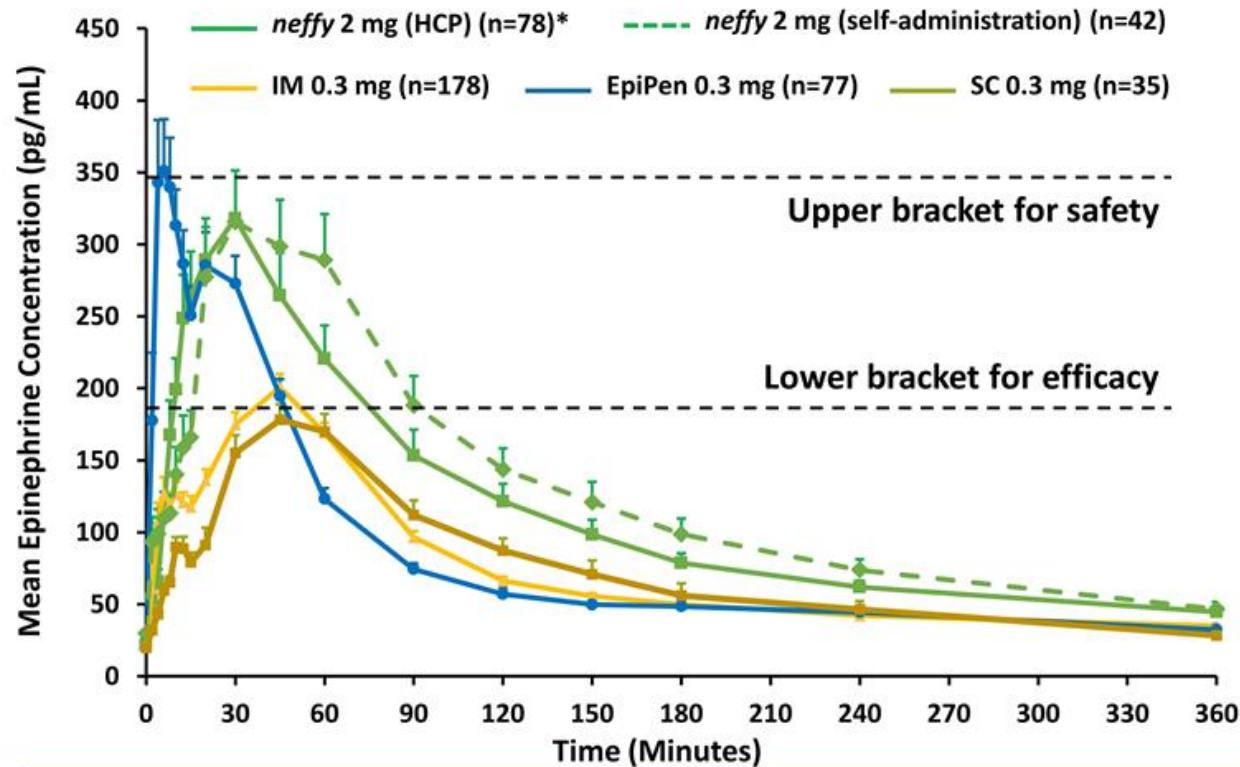
Positive CHMP Opinion (EMA recommendation for approval) received on June 27, 2024
Response to FDA submitted on April 2, 2024 followed by up to 6-month FDA review



FDA Status Update

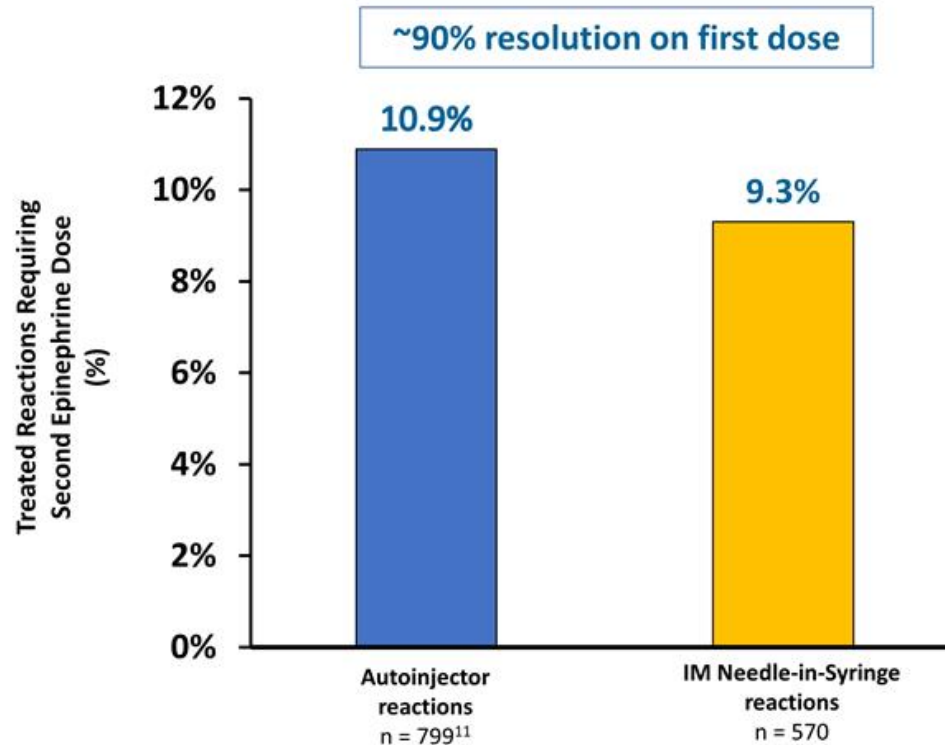
- ARS is nearing the final stages in the FDA review. ARS has received physician labeling (prescribing information or “PI”) from FDA, with ongoing discussions with FDA to finalize labeling
- ARS believes that the Division of Pulmonology, Allergy and Critical Care has completed review including physician labeling, with work ongoing at other peripheral groups at FDA
- *neffy* labeling expected to be consistent with new AAAAI anaphylaxis guidelines¹ that leave it to physician discretion as to whether to seek emergency medical assistance after administration, which may reduce hesitancy to dose and lead to broader adoption of *neffy*
- Labeling expected to include both pharmacodynamic data showing *neffy* response on SBP and HR even 1 minute after dosing *neffy* as well as pharmacokinetic data

Results from *neffy* 2 mg Studies Satisfies Bracketing Approach agreed with FDA to Reference Historic Efficacy and Safety



- FDA focused on PK properties to ensure efficacious and safe epinephrine exposures within range of approved products (“Bracketing”)
- Minimum exposure must be \geq IM/SC (efficacy)
- Maximum exposures must be $<$ EpiPen (safety)
- No difference in efficacy between all injection products
- ~90% response to single dose irrespective of device

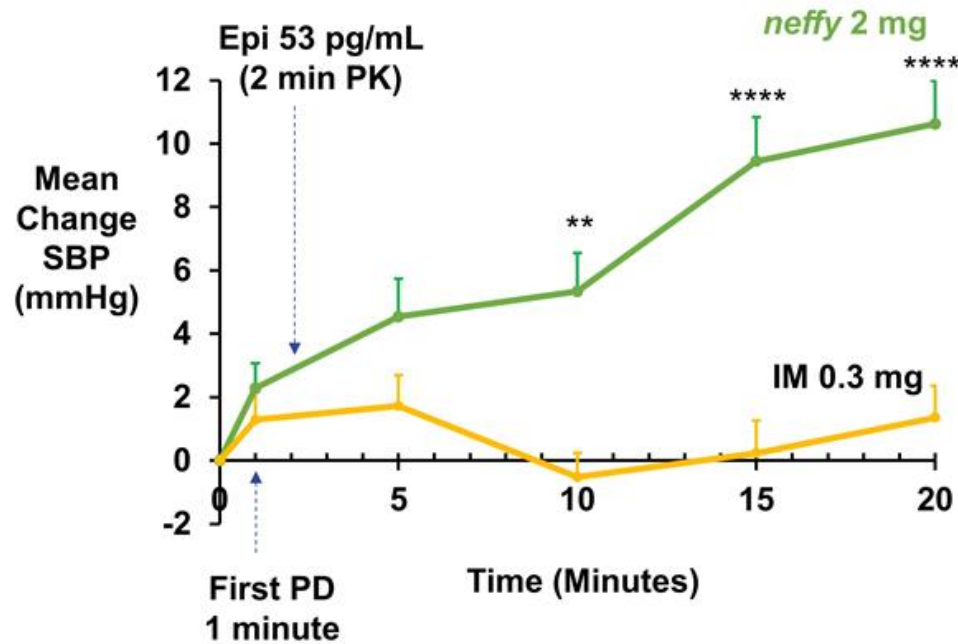
Second Dose Frequency Demonstrates Similar Efficacy Between IM and Autoinjectors (the only FDA approved products today)



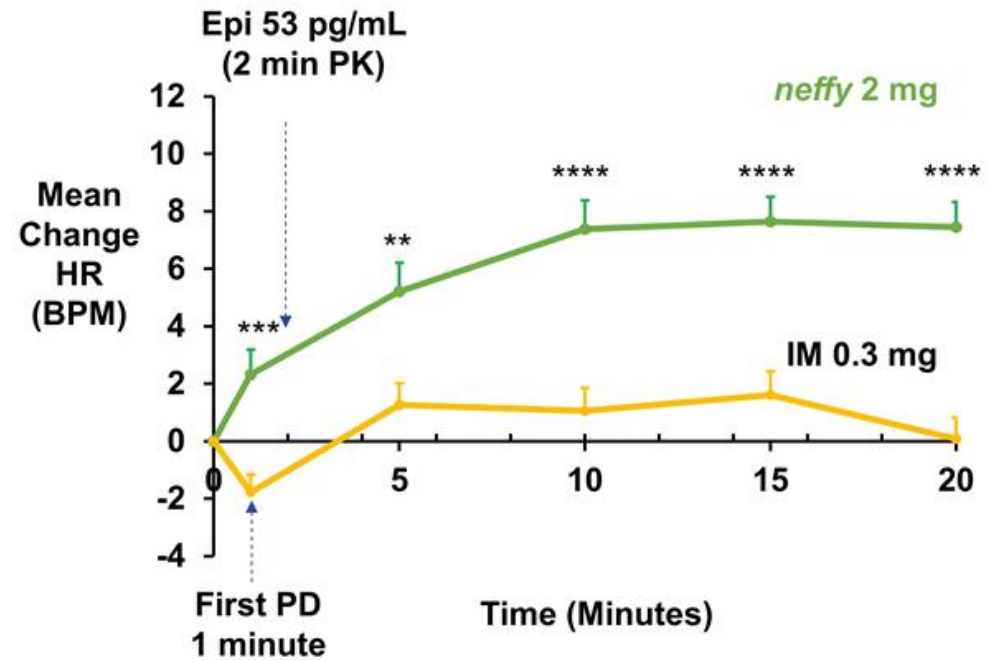
- Analysis of 12 studies with 100% autoinjector ($\geq 80\%$ EpiPen) or 100% IM-needle-and-syringe use in community or ED setting¹⁻¹¹
- Differences in PK profile across products do not impact efficacy based on need for repeat dosing to resolve symptoms

Robust response on PD surrogate markers for efficacy shows engagement of receptors that reverse anaphylaxis symptoms

Systolic Blood Pressure Response



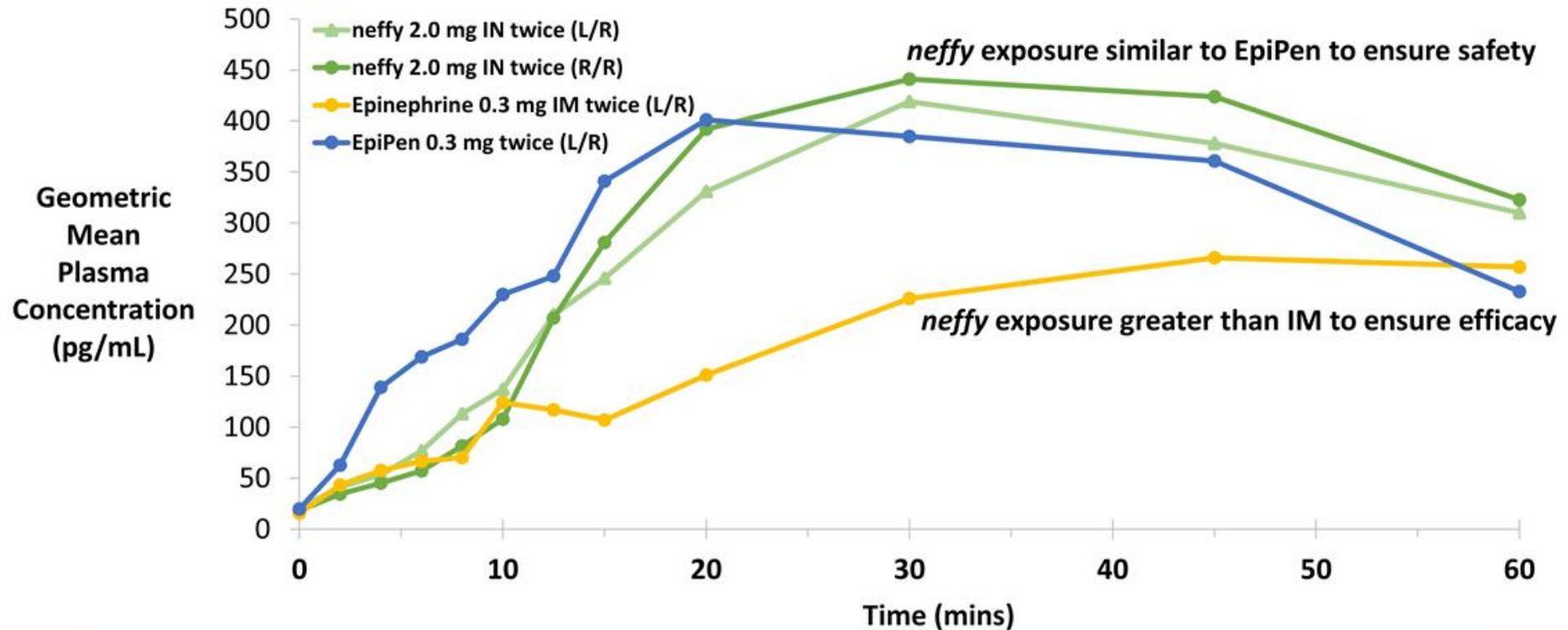
Heart Rate Response



Significance level: ** p < 0.01, *** p < 0.001 **** p < 0.0001

Exposures of repeat doses of *neffy* in healthy subjects are also in the range of FDA approved epinephrine injection products

Repeat-dosing (10 min apart) results in healthy subjects



PK/PD profile and ability to dose may be influenced by anaphylaxis itself, so FDA asked ARS to evaluate rhinitis in clinical studies



- Intranasal formulation least impacted by anaphylaxis symptoms compared to alternate non-injectable routes
- Nasal symptoms or rhinitis only impact only 4% of cases (analysis of 4,805 US anaphylaxis events)¹⁻¹²
- ARS successfully evaluated patients with rhinitis, which responded positively to single and repeat doses of *neffy*

Potential effect on ability to dose or absorption profile by theoretical route of administration for epinephrine

Anaphylaxis Symptom	US %	Intranasal	Sublingual	Oral*	Inhalation*
Nasal symptoms or rhinitis	4%	X			X
Oropharyngeal edema	10%		X	X	X
Vomiting / Emesis	20%		X	X	X
Dysphagia	23%			X	X
Laryngeal Edema	24%			X	X
Bronchospasm	24%				X
Intraoral Edema or Tongue Swelling	24%		X	X	X
Angioedema (e.g. face, lips, tongue or larynx)	45%		X	X	X
Difficulty Breathing / Dyspnea	55%				X

* insufficient oral and inhalation systemic absorption due to rapid conjugation and oxidation in GI tract or difficulty taking in enough puffs¹⁴

neffy on track for potential US launch in H2 2024 with market exclusivity potential until at least 2038

Extensive studies in the lab and clinic completed to develop a proprietary product with expected NCE-like exclusivity

- ✓ Issued composition of matter patent (US10,576,156) on Intravail® + epinephrine provides foundational exclusivity blocking any generic products. **Method of treatment patents (US11,173,209; US11,191,838)** block other alkyl glycosides.
- ✓ Issued method of treatment patent (US10,682,414, US11,744,895, US11,717,571, US11,191,655) also blocks intranasal epinephrine product using a different technology using a low dose (<4 mg)
- ✓ PCT patent granted in Europe (EP19751807), UK (GB2583051), Japan (JP6941224), Canada (3088909), Australia (AUS2019217643), Korea (10-2375232), China (2019800010042), with same claims as the US



Commercialization Strategy





PHYSICIAN

Significant Opportunity to Address Unmet Needs in Current US Severe Allergic Reaction Market



Epidemiology prevalence data estimates
~40M patients with type 1 allergic reactions²⁻¹⁰



Consistent Market Growth (Units)
+6.5% CAGR since 2010, +12.7% YoY in 2023¹



~20M diagnosed and under physician care
over the last 3 years¹¹



Promotional Responsiveness
~50% increase over market growth trend
with consumer promotion (2010 to 2015¹)



~3.2M patients filled Rx in 2023, but
~80-90% do not use as indicated¹¹
(1) do not carry (~50%), (2) do not inject (25-60%),
(3) wait to inject (40-60%) or (4) dose incorrectly (23-35%)
~\$1 billion net today based on generic autoinjector pricing¹



~3.3M don't fill regularly,
haven't refilled or haven't filled a
written Rx in 2022¹¹



~13.5M Type 1 diagnosed but
not prescribed Rx (past 3 years)¹¹

neffy has the ability to address the unmet need and is aligned with what healthcare providers, patients and parents want¹



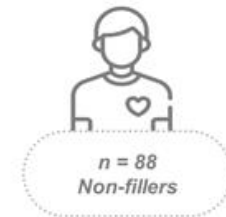
88%

OF PATIENTS LIKELY TO VERY LIKELY TO ASK THEIR PHYSICIAN ABOUT *neffy* Rx¹



89%

OF NON-FILLING PATIENTS STATED THEY WOULD ASK THEIR PHYSICIAN ABOUT *neffy* RX¹



72%
OF THE TIME, PEOPLE WHO USE AN OTC WOULD USE *neffy* FIRST²

81%
OF PEOPLE WOULD USE *neffy* SOONER THAN CURRENT NEEDLE INJECTORS³



PHYSICIAN

Physicians supportive of adopting *neffy* into practice



n = 75
Physicians

8.5 out of 10 rating¹

viewed as a major advance in therapy

10 = MAJOR ADVANCE / 1 = NOT AN ADVANCE AT ALL

99%

n = 185
Physicians

Would prescribe *neffy* if their patients asked for it¹

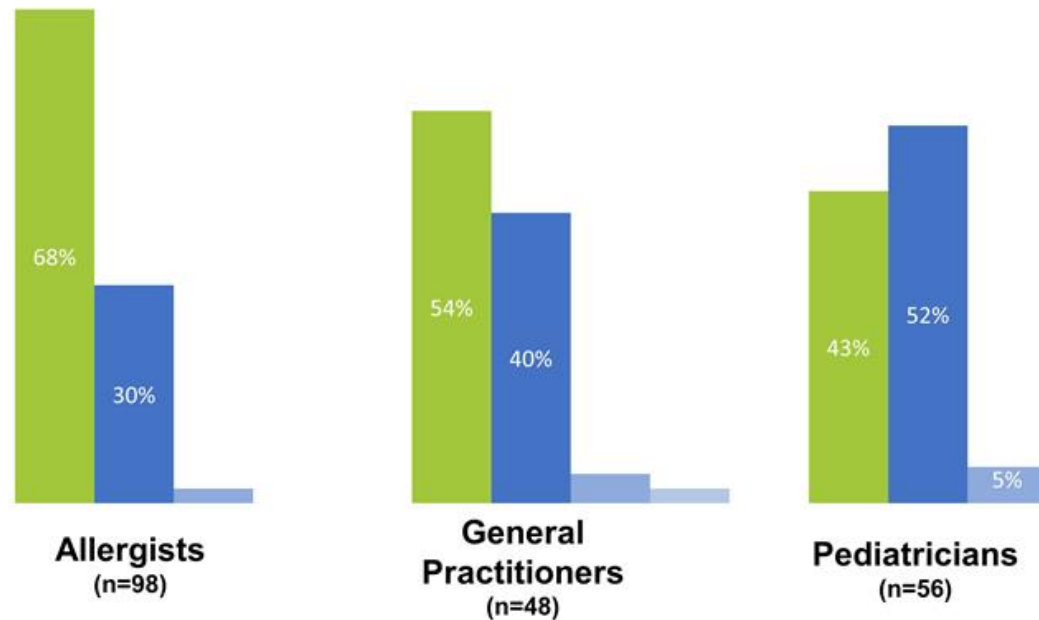


Two-Thirds of Allergists and Half of GPs Ready to Prescribe *neffy* as Soon as Possible; Majority of Pediatricians Expected to Prescribe within One Year

Timeline for Prescribing *neffy*

– % of physicians

- As soon as possible
- Within one year of its approval
- 1-3 years of it being on the market
- After it is on the market for more than 3 years

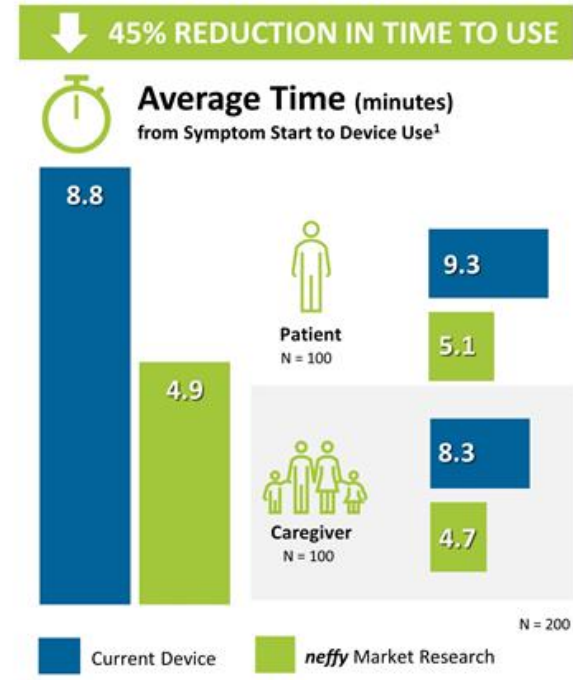




neffy: Innovative Treatment to Overcome Known Challenges with Needle-Injectors for SAR Patients

Benefits of needle-free alternative to address major unmet needs

- More allergy patients and caregivers are likely to carry *neffy* compared to current needle-bearing options
- Patients are likely to dose *neffy* more rapidly with a needle-free device

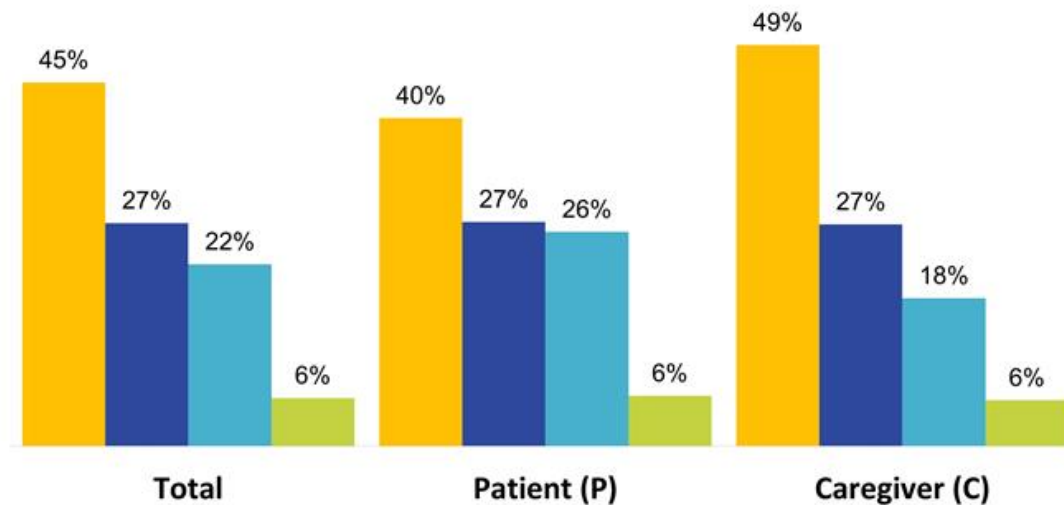




~ 72% of Respondents would Make a Special Appointment to Discuss *neffy* with their HCP

Action Taken to Discuss *neffy* with HCP

- Make a special in-person appointment to discuss *neffy*
- Make a special telehealth appointment to discuss *neffy*
- Wait until my next regular appointment to discuss *neffy*
- Wait to see if my doctor wanted to discuss *neffy* with me



Respondents who may ask their HCP about *neffy*, Aug-23: Total (n=476), Patient (n=244), Caregiver (n=232) % of respondents

neffy Strategic Objectives



EDUCATE PRESCRIBERS

Drive adoption within specialty and high decile prescribers on the compelling value-proposition of *neffy*



FACILITATE ACCESS

neffy access, affordability and support services



ACTIVATE PATIENTS

Create awareness and motivate patients and caregivers to seek *neffy*



EDUCATE

Drive Adoption within Specialty and High Decile Prescribers

Healthcare Provider Launch Objectives

- Commercial force of ~**110** Sales and Virtual Representatives and Area Sales Managers
- Education, awareness, and resources to drive adoption (*neffy* Experience)
- Calling on **12,500** Allergy Specialists and High Decile Prescribers
 - **Reaching 40-45%** of Prescriptions from all HCPs -> 55% of Prescriptions including co-located HCPs (~50,000 HCPs)
 - **Reaching >80%** of Prescriptions from Allergists and Pediatricians

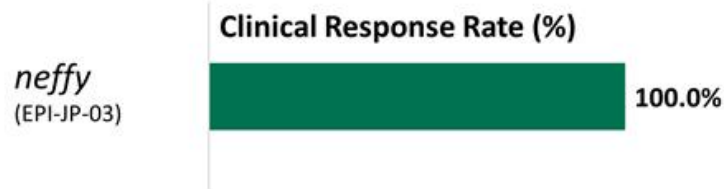




EDUCATE

neffy shows robust and rapid clinical resolution of oral food challenge anaphylaxis symptoms (preview of *neffy* experience)

Efficacy Study of *neffy* in Oral Food Challenge Induced Anaphylaxis (EPI-JP-03, n = 15 pediatric subjects)¹



100% of patients responded to a single dose of *neffy* in the first 15 minutes, and did not require a second dose of epinephrine per treatment guidelines

100% of patients experienced complete resolution of the anaphylaxis symptoms with single dose of *neffy*²

16 min median time to complete resolution of anaphylaxis following single dose of *neffy*

neffy Experience Program (rescue therapy at allergy challenge clinics)

- Enable real-world experience with *neffy*
- Target allergist offices that conduct in-office food challenge testing
- HCPs will have the ability to gain first-hand knowledge of *neffy's* effectiveness
- Patients undergoing allergy challenge will also be exposed to *neffy*





FACILITATE

Committed to ensuring *neffy* access for all patients

Key findings from discussions with the major payers and PBMs:

- High degree of interest in *neffy* and positive receptivity in early conversations; proactively requesting clinical presentations prior to approval
- Epinephrine is covered as a pharmacy benefit, and we expect to achieve coverage without restriction for 80% of commercial lives within a year of launch
- ARS is committed to access and affordability – we will offer a co-pay buydown to \$25 for commercial patients, a cash price of \$199, and a Patient Assistance Program for uninsured or underinsured
- *neffyconnect* will assist in managing coverage by providing patients, caregivers and healthcare providers with information regarding support programs and financial aid

"If this is priced properly, this could be a 'state-of-the-art therapy' for patients."

– PBM

*"This is a **game-changer**; it really addresses the unmet needs we currently have in this space, specifically the safety and tolerability issues."*

– Payer

"There is no value in delaying access to a product like this and nothing to prior authorize (PA). We can't PA if the patient needs it."

– PBM



Create Awareness & Motivate Patients and Caregivers to Request *neffy*

Consumer Launch Objectives

- Drive awareness & motivate patients and caregivers to request *neffy* by name
- Enable patients and caregivers to feel fully prepared to act during a potential crisis moment
- Activate patients and caregivers to share their *neffy* story to encourage peer uptake

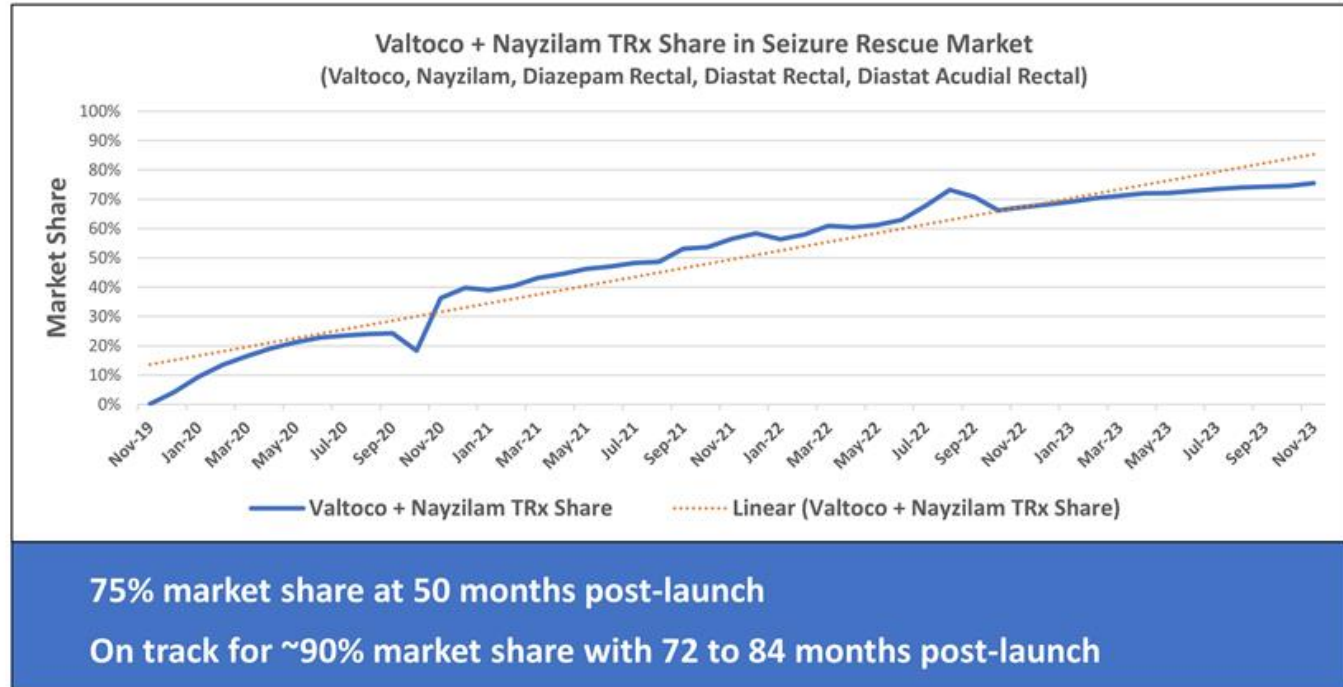


Intranasal Analog Comparison: Seizure Rescue Market Valtoco and Nayzilam Share Growth

VALTOCO®



NAYZILAM®



US Epinephrine Market Evolution Due to the Availability of *neffy* Supports Significant Revenue Opportunity¹

Millions of epinephrine 2-pack devices sold in US



- 1 ~\$1B+ net sales US market based on generic epinephrine pricing in 2023³
(~5M 2-packs, ~3.2M active patients)
- 2 Natural population growth (~0.6% YoY growth)
- 3 Conversion of some lapsed Rx patients
- 4 Conversion of some never filled Rx patients
- 5 Conversion of some never Rx'ed patients
- 6 Growth in diagnosed population due to branding, marketing and DTC
- 7 Increased Rx/year (improved persistency)
- 8 Increased devices/Rx (patient demand for *neffy*)

neffy Shows Robust and Rapid Clinical Responses in Treatment-Resistant Urticaria; Phase 2b outpatient study to initiate in 2024



~2M diagnosed chronic urticaria patients based on 12 month US prevalence of 0.78%¹

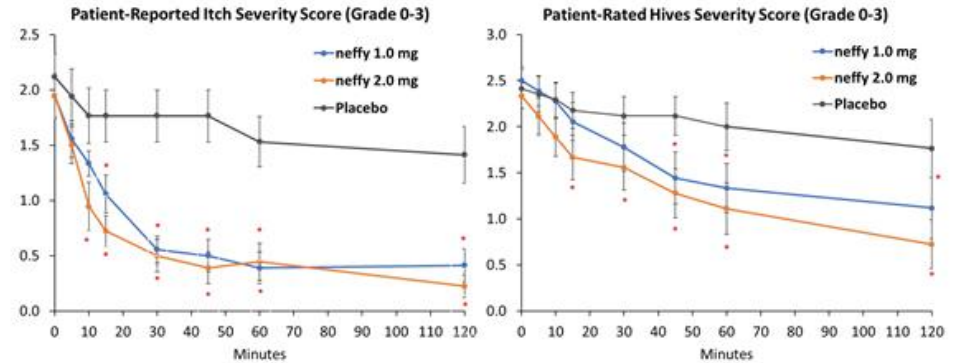


~1M US chronic urticaria patients reported to be treated with Rx medication¹

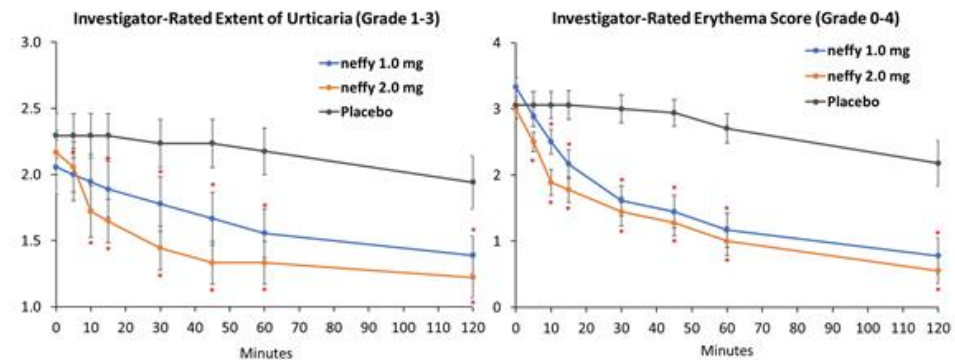
~8-9 HCP visits per year¹
 ~4-5 ER visits per year^{1,2}
 ~50% with angioedema,
 ~7-8 episodes per year³

Significant peak sales opportunity

neffy may provide **episodic relief** of acute flares to improve quality of life without escalating to chronic use of systemic biologics with potentially more side effects or having to visit ER/hospital



* p<0.05 based on pair t-test of 1 mg vs. placebo and 2 mg vs. placebo (n = 17 subjects)



* p<0.05 based on pair t-test of 1 mg vs. placebo and 2 mg vs. placebo (n = 17 subjects)

Significant Ex-US opportunity for *neffy*

<10% TYPE I ALLERGY
MARKET PENETRATION
(LESS THAN HALF OF US
ADOPTION RATES)

Canada EAI Market:
~\$67M TODAY

Europe EAI Market:
~\$169M TODAY

Japan EAI Market:
~\$12M TODAY

China EAI market:
no approved products
Significant Potential

AUS/NZ EAI market:
~\$18M TODAY



alfresa

CSL

Multiple Attributes Contribute to *neffy*'s Potential Best-in-Class Epinephrine Product Profile



Does it work?

- PK/PD response shows onset within 1 minute after dosing
- Rapid efficacy profile in OFC anaphylaxis (100% response rate in first 15 min), as well as treatment-resistant urticaria
- Predictable dose-proportional PK/PD profile within range of approved injection products even under real-world co-morbidities (e.g. rhinitis)
- Only anaphylaxis symptom that may alter PK/dosing is rhinitis, and for *neffy*, no negative impact on PK/PD
- 99.999% reliable sprayer device – tens of millions of units sold annually in US



Is it safe?

- Benign safety profile – mild nasal discomfort (9.7%) and mild headache (6%)
- No risk of injury (no needle) and minimal risk of overdose even with population variability (high bioavailability, low dose)
- Side effects do not mimic anaphylaxis, which could confound clinical monitoring and treatment



Will patients use it?

- Benign safety profile – mild nasal discomfort and headache
- Palatable – no meaningful pain/irritation, no taste/smell
- Small – fits in pocket
- Easy to use – 100% of adults and children can use without training (even passerby's); ability to dose not obstructed by anaphylaxis symptoms

neffy: the first needle-free way to administer epinephrine



Rapid, reliable delivery



Small and easy to carry



Place and Press administration



Well-tolerated in extensive trials

AVOIDS ALL NEEDLE-RELATED ADVERSE EVENTS