

COMPANY PROFILE: NOBLE



Noble®, the leader in onboarding and device training, is a full-service, patient-centred product development and manufacturing company. Noble works closely with the world's leading pharmaceutical and biotechnology companies to develop educational and training solutions designed to provide positive patient onboarding experiences, reduce errors and improve patient outcomes. Cross-disciplinary designers and engineers provide fully customised solutions from the first concept sketch through to production, in both regulated and non-regulated environments. ISO 9001 and ISO 13485 supply chain and manufacturing.

PATIENT ONBOARDING

The first 30-, 60- and 90-days, commonly referred to as onboarding, are the most important regarding patient adherence. This is the time when a patient is expected to self-administer medication based upon prescribed regimen. While a patient's first exposure to a drug delivery device typically consists of training with a healthcare professional onsite at a medical facility, a patient will most often perform their medication administration alone outside of a health care facility and healthcare provider supervision. Nonetheless:

- 45% of patients avoid injections due to anxiety¹
- 93% of patients use their inhaler incorrectly²
- 40-80% of information provided by a HCP is forgotten immediately.³

While many variables contribute to patient adherence and therapy acceptance during onboarding, patient factors including needle anxiety for injections, confidence, memory and understanding correct administration technique (see Figure 1)

can detrimentally influence attitudes and perception toward medications and drug delivery devices, resulting in training gaps and treatment barriers.

INJECTION & RESPIRATORY DEVICE TRAINING

As the number of patients required to self-administer medication increases, so does the need for patient-centric training and education including training devices such as auto injectors (AI), prefilled syringes (PFS), wearable injectors and respiratory platforms.

Noble has developed a wide variety of patient-centric onboarding products to help patients administer correctly and improve adherence and patient outcomes. Noble's offerings range from mechanical training devices to smart error-correcting training platforms, assistive devices and even patient support including travel packs and training instructions for use (IFU).

These devices have been designed to mimic actual commercial drug delivery devices while being a low-cost, reusable solution to onboard users safely and effectively.

"If I am doing it incorrectly,
I would want to know."
– Cynthia

PRODUCT FEATURES

MDI and DPI trainers:

- Off-the-shelf and customisable solutions, including proprietary technologies
- Technologies range from resettable mechanical to smart features, such as sensors, audio and error-correcting

- Trainers designed to mimic actual device characteristics such as: shape and design; inhalation forces; and sequences.

AI and PFS trainers:

- Off-the-shelf and customised solutions, including proprietary technologies
- Technologies range from resettable mechanical to smart features, such as sensors, audio and error-correcting
- Trainers designed to mimic actual device characteristics such as:
 - Shape and design
 - Needle insertion simulation
 - Forces: cap, unlock, actuation, breakout and glide
 - Sound replication
 - Plunger replication
 - Post injection safety.

TRAINING SUPPORT PRODUCTS

Designed to create a complete training program and solution, Noble offers:

- Angle aid tools
- Administration assistive tools
- Smart injection pads
- Smart packaging
- Training packaging
- Training IFU
- Travel assets.

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Figure 1: Noble's offering comprises novel training technologies such as mechanical and smart, error-correcting auto injectors, prefilled syringes and pulmonary delivery devices, angle aid tools, auditory packaging and other multisensory solutions.

DEVELOPMENT & PRODUCTION

Noble's proven repeatable process takes client's needs from concept to distribution. Our team is meticulous in defining a client's needs, working with our clients to develop solutions, and then being able to produce the approved product design with high-volume production.

Our in-house design facilities provide Noble with the ability to produce prototypes and conduct extensive engineering and benchmark testing. Our quality control procedures are in place from development to production, ensuring design requirements and specifications can be efficiently transferred to optimised high-volume manufacturability, with quality assurance involved at every level of a project realisation.

Noble's dedication to delivering quality products extends beyond our corporate headquarters. Our ISO 90001 and 13485 certified global manufacturing partners use a systematic approach to perform in-line functionality testing including 100% verification testing of critical product

features and functionality before delivery.

Noble manufacturing capabilities include:

- Tooling
- Injection molding
- Electronic/PCB assembly
- Assembly
- Packaging.

CHOOSE NOBLE

As the number of patients being required to self-administer medication via drug delivery devices continues to grow, training and education will remain a critical success determinant of a patient's ability to use these devices safely and effectively and adhere to therapy. Novel training technologies such as mechanical and smart, error-correcting auto injectors, prefilled syringes and pulmonary delivery devices, angle aid tools, auditory packaging and other multisensory solutions help empower patients to lead healthier lives (Figure 1).

In the modern era of patient-centric care, products that are able to provide superior onboarding and patient experiences will

be well positioned and benefit by reducing patient errors, while improving patient satisfaction and outcomes.

Noble's focus is to bring value to our clients, driving innovation in onboarding and device training.

REFERENCES

1. Zambanini A, Newson RB, Maisey M, Feber MD, "Injection related anxiety in insulin-treated diabetes". *Diabetes Res Clin Pract*, 1999, Vol46(3), pp 239-246. (Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10624790>).
2. Bonds R, Asawa A, Ghazi A, "Misuse of medical devices: a persistent problem in self-management of asthma and allergic disease". *Annals Asthma, Allergy & Immunol*, 2015, Vol 114(1), pp 74-76(e2). (Retrieved from [www.annallergy.org/article/S1081-1206\(14\)00752-2/fulltext](http://www.annallergy.org/article/S1081-1206(14)00752-2/fulltext)).
3. Kessels RP, "Patients' Memory for Medical Information". *J Royal Soc Med*, 2003, Vol 96(5), pp 219-222. (Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC539473>).
4. "The link between device training and patient compliance". Noble Company Poster at PDA Universe of Prefilled Syringes & Injection Devices Conference, 2015, Vienna, Austria.

STUDIES REINFORCE THE SIGNIFICANCE OF DEVICE TRAINERS⁴

- Patients who use a trainer are more compliant
 - 90% of patients value a trainer 7 or higher
- Patients who use a trainer are less likely to discontinue treatment



Device training happens here.

There's life beyond chronic conditions. Distractions, anxiety and understanding correct administration technique can all affect compliance. Studies suggest 61% of patients don't completely read the IFU¹ and 12% of patients have proficient health literacy.²

Will your patients correctly administer their drug delivery device?



Onboarding and Device Training

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Reference: 1. Noble. (2015, November). The link between device training and patient compliance. Poster session presented at PDA - University of Prefilled Syringes 2015, Vienna, Austria. 2. Kessels, R. P. (2003, May). Patients' Memory for Medical Information. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC539473/>