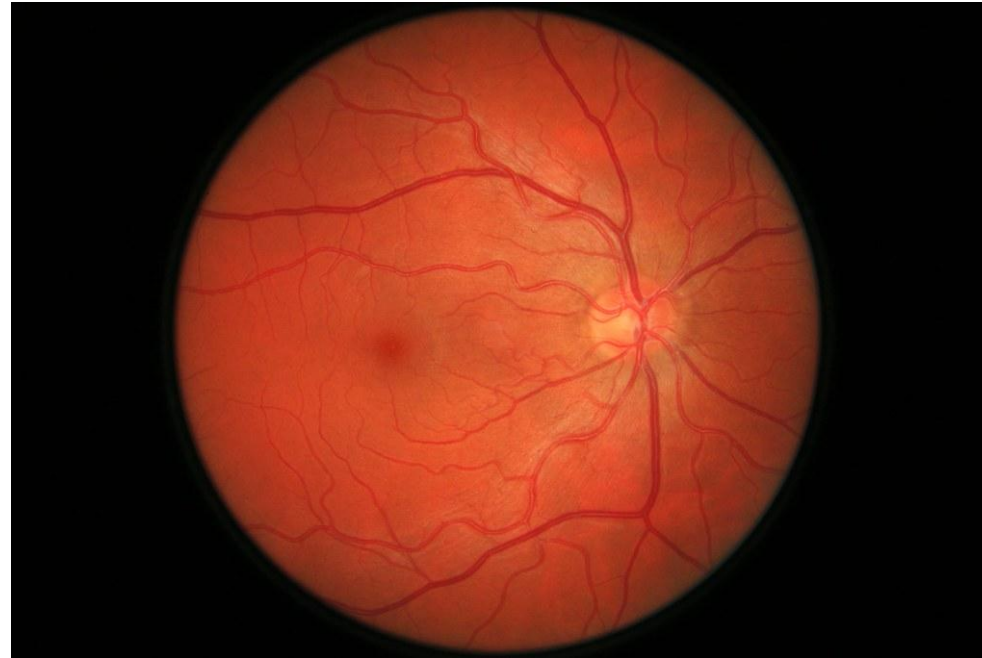


Case Study: Diabetic Macular Edema (DME) Patient Data Processing



APEX Market Research Services LLC
Experience you can trust, savings you can see.

Table of Contents



CONTENTS

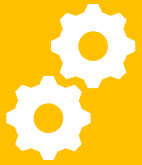
1	Outcome of Project (Slide 3)
2	Study Approach (Slide 4)
3	Conclusions & Recommendations (Slide 5)
4	Sample Analysis (Slides 7-10)

Outcome of Our Project: Product X's Post-Project History



The patient data analysis empowered compelling messaging for our client's long-lasting DME therapy.

Project Description



- Client requested an analysis of ophthalmology patient data captured from nearly 200 retina specialists who submitted their patient interaction data via Electronic Medical Record (EMR) transfer, every month, for over four years..

Objectives



- Client sought to analyze patterns in treatment of diabetic macular edema (DME) patients to better understand how their own long-lasting therapy, **Product X**, could optimize treatment for patients currently receiving alternative medications.

Findings



- The analysis identified that, regardless of patient DME severity, patients began receiving less than the prescribed number of eye injections (anti-VEGF and steroid therapies) starting in Year Two of their treatment with other therapies.
- This pattern could lead to undertreatment of DME patients and represents an opportunity for long-lasting therapies, like **Product X**.

Impact of Project

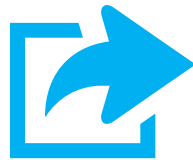


- Client was able to optimize their communication of the benefits of their therapy to treating physicians, leading to an almost 50% increase in annual revenues over the next four years.

Clinical Data Processing Project Approach



- Over 45,000 records of patient interaction with retina specialists over the course of four years.
- Each record **could have*** included the following types of information:
 - Date of interaction & first DME diagnosis
 - New/Repeat patient
 - Laterality of DME (left or right eye)
 - Visual acuity measures (e.g. BCVA – Snellen, LogMAR, IOP value)
 - Macular edema level
 - Current therapy class
 - Current specific therapy



Macro Level Analysis

- # of DME patient interactions/year overall
- Overall therapy utilization for DME each year
- # of injections, across all severities, by year of treatment across patients
- # of injections, by severity, by year of treatment across patients

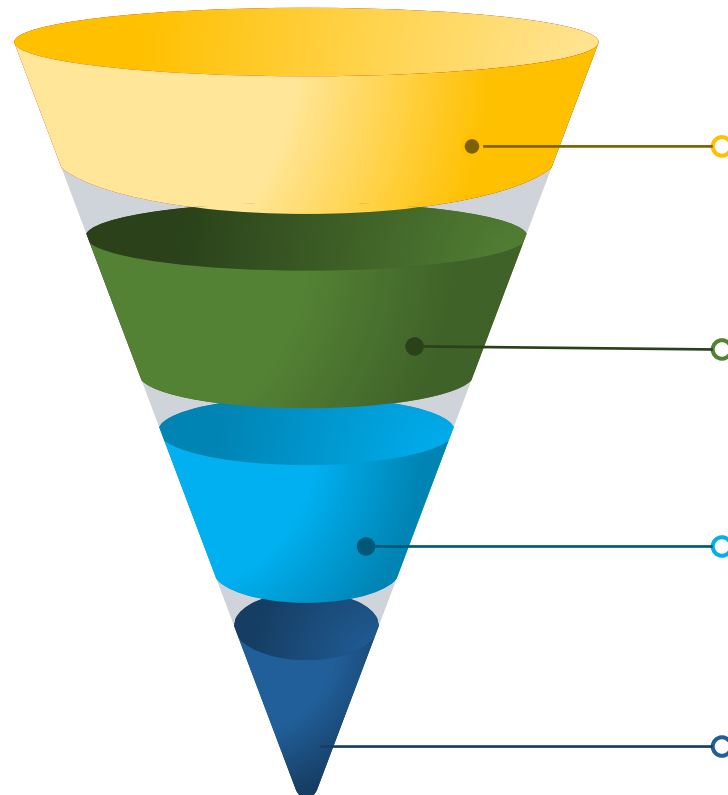


Micro Level Analysis

- Differences in DME therapy utilization by region
- % of retina specialists using a specific therapy by year
- Top retina specialists in terms of number of DME interactions by year

Summary of Our Conclusions & Recommendations

1. **Product X's** long-lasting efficacy with few injections has a significant opportunity since many patients are currently required to receive many injections, especially in the first year.
2. **Product X's** long-lasting efficacy with few injections can also address the current pattern of patients receiving fewer injections by their second year of treatment, regardless of how their current therapy is actually performing.
3. DME patients are also somewhat likely to stop their current treatment altogether, most often in the first six to twelve months of their current therapy. **Product X** lasts longer than one year, so it can help patients avoid this trend.



DME THERAPY USE BY YEAR

- DME market has notably transitioned to Product F from 2014 (4% share) to 2015 (23% share). Meanwhile, Product B shares have declined between 2012 (82%) and 2015 (52%).

OF INJECTIONS/PATIENT BASED ON VISUAL ACUITY

- The avg. # of first year injections increases as baseline BCVA worsens to up to 5 injections for patients with very poor BCVA.

OF INJECTIONS/PATIENT YEAR 1 VS YEAR 2

- Regardless of baseline BCVA or how their injections are performing, patients received fewer anti-VEGF injections in their second year compared to the first year.

WHEN DME THERAPY INJECTIONS ARE TYPICALLY STOPPED

- Regardless of baseline BCVA level, DME patients receiving anti-VEGF injections, and who stop therapy, are most likely to cease therapy 6-12 months after starting.

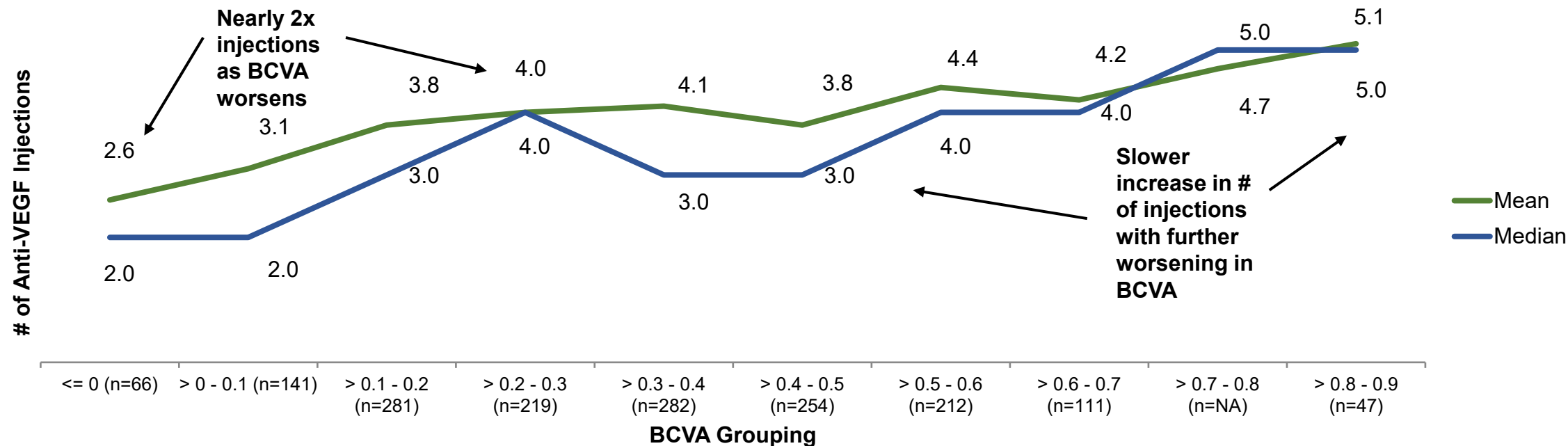
Sample Analyses

Number of DME Anti-VEGF Injections in First Year - by BCVA



- **Product X's** long-lasting efficacy with fewer injections is primed to address the current market pattern of increased first year injections for more severe patients.
- More severe patients (BCVA level >0.2-0.3) received four injections compared to the two injections received by those with slightly better BCVA (0).
- The average and median # of first-year anti-VEGF injections was higher (to up to five injections) for severe patients with BCVA >0.8-0.9.

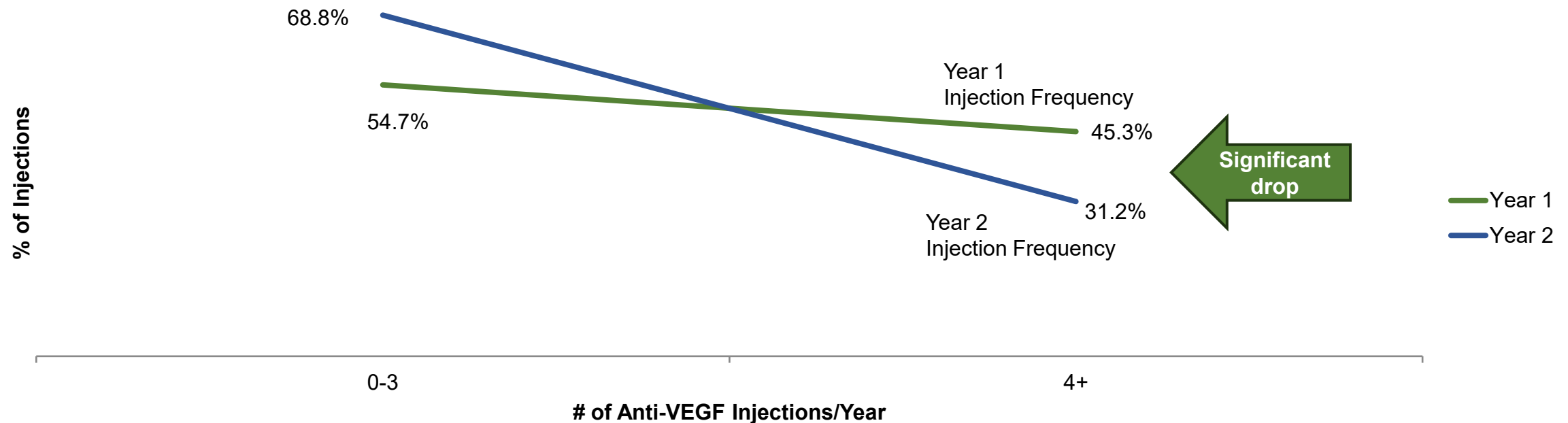
Summary of Anti-VEGF Injections by Baseline BCVA – First Year



Distribution of # of Anti-VEGF Injections Across All Baseline BCVA Levels

- The long-lasting efficacy of **Product X** is also poised to address the **current** pattern of patients receiving **fewer injections** in Year 2.
- Across all BCVAs levels, 54.7% of DME patients in the first year receive three injections or less, while 45.3% received four or more injections.
- The percentage of high-frequency injection patients went down in Year 2, as 68.8% of patients received 3 injections or less, while only 31.2% received four or more injections.

Distribution of Anti-VEGF Injections/Eye Treatments Across All Baseline BCVA Levels



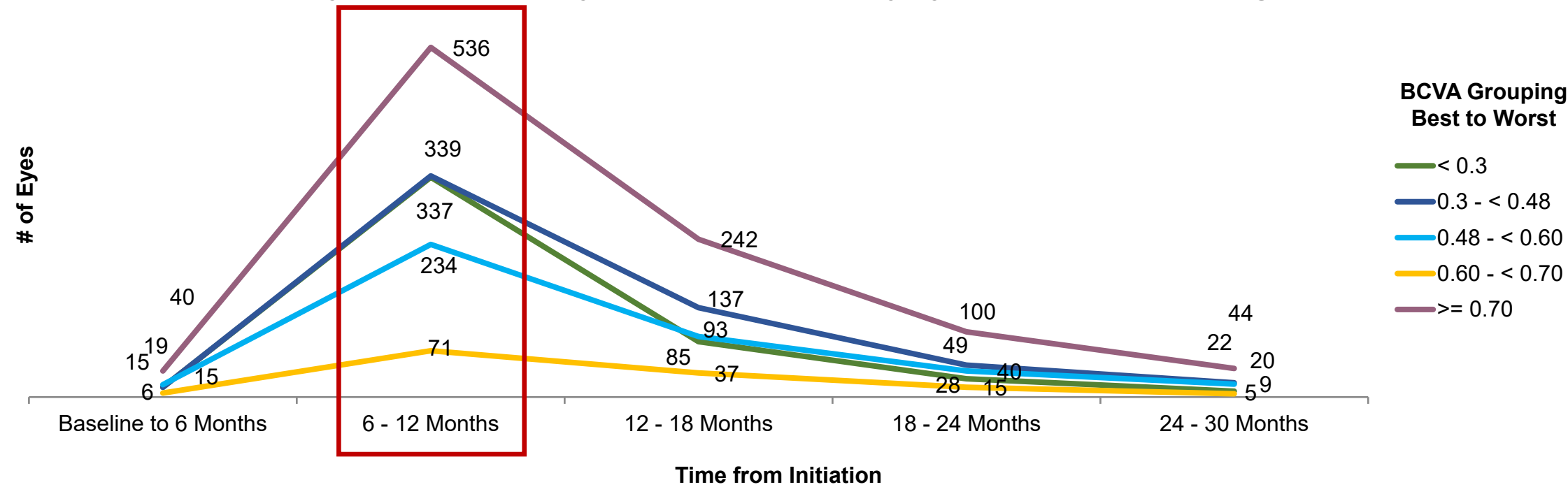
Number of Eyes That Have Stopped DME Therapy



- Since one injection lasts longer than a year, **Product X** can help retina specialists address the pattern of patients' stopping therapy within their first year of treatment.
- Regardless of baseline BCVA level, DME patients receiving anti-VEGF injections, and who stop therapy, are most likely to stop 6-12 months after starting.

- Eye must have received at least one Anti-VEGF injection in their history to be included.
- Eye must have been flagged as 'Stopped Therapy' within the timing bucket.

Summary for Number of Eyes Stopped** Therapy by Worst BCVA Groupings



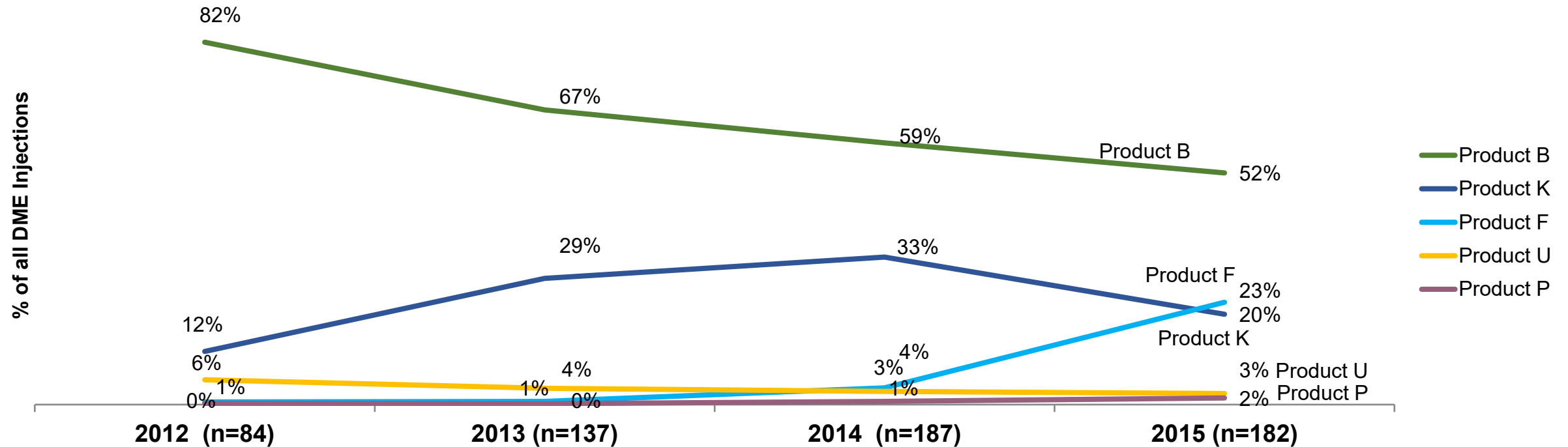
* Hypothetical data.
**Stopped Therapy is defined as not receiving any Anti-VEGF treatment for a period of 8 months

DME Therapy Use by Year



- **Product X** will need to address how the DME market has significantly transitioned to Product F from 2014 (4% share) to 2015 (23% share).
- Product B shares have declined between 2012 (82%), 2013 (67%), 2014 (59%), and 2015 (52%).
- Product K lost more than a third of its DME share between 2014 (33%) and 2015 (20%).

Summary of DME Market Share – Injections Used for DME by Year





Market Research Services LLC

Experience you can trust, savings you can see.

- **Want to learn more about APEX Market Research Services?**
 - www.apex-mrs.com
 - **Email:** eric.john@apex-mrs.com

Thank you for your time!