

MarketVue®

# Tardive Dyskinesia

January 2024



# MarketVue®: Tardive Dyskinesia

## UNDERSTAND THE TARDIVE DYSKINESIA MARKET

**MarketVue** market landscape reports combine primary (KOL interviews and survey data) and secondary market research to empower strategic decision-making and provide a complete view of the market.

Every **MarketVue** includes a disease overview, epidemiology (US and EU5), current treatment, unmet needs, pipeline and access and reimbursement chapter.

**Methodology:** Research is supported by 7 qualitative interviews with key opinion leaders (a mix of U.S. Neurologists, Psychiatrists, and Neuropsychiatrists), a quantitative survey with 24 U.S. physicians and secondary research.

**Geographies covered:** United States plus epidemiology for EU5 (France, Germany, Italy, Spain, United Kingdom)

### TOPICS COVERED

**EPIDEMIOLOGY:** Understand prevalence, diagnosed and drug-treated prevalence of the population and key market segments

**CURRENT TREATMENT:** Understand the treatment decision tree and strengths and weaknesses of current on-label and off-label treatment

**UNMET NEEDS:** Identify opportunities to address treatment or disease management gaps

**PIPELINE ANALYSIS:** Compare current and emerging therapy clinical development strategy; their performance on efficacy, safety, and delivery metrics; and their potential to address unmet needs

**VALUE AND ACCESS:** Review the evidence needed to assess and communicate value to key stakeholders (e.g., providers, payers, regulators) and learn what competitors have done or are doing

## Why MarketVue?

- **PMR-Driven** – Insights informed by qualitative interviews and/or quantitative surveys
- **Senior Team** – Experienced team members (10+ years in pharma market research) lead the research
- **Strategic** – Delivered in a concise and strategic report template vetted by pharmaceutical industry professionals
- **Fresh** – New reports or report refreshes delivered in as little as 15 business days



# MarketVue®: Tardive Dyskinesia

UNDERSTAND THE TARDIVE DYSKINESIA MARKET

## COMPANIES MENTIONED

- Teva Pharmaceuticals
- Neurocrine Biosciences
- Luye Pharma Group

## DRUGS MENTIONED

- Deutetrabenazine (Austedo)
- Valbenazine (Ingrezza)
- Clonazepam (Klonopin, Rivotril)
- Botulinum toxin injections (Botox)
- Reserpine (Serpasil)
- Tetrabenazine (Nitoman, Xenazine)
- LY03015
- Acamprosate calcium
- Sarizotan

# MarketVue®: Tardive Dyskinesia

## Table of Contents

<b>1. DISEASE OVERVIEW</b>	<b>4 - 5</b>
A medication-induced neurological disorder causing involuntary, repetitive body movements	4
Figure 1.1 Problematic symptoms of TD	4
Table 1.1 Risk factors for TD	4
The role of dopamine in the disease mechanism of TD	5
Figure 1.2 The role of dopamine in the hypothesized pathogenesis and current treatment of TD	5
<b>2. EPIDEMIOLOGY &amp; PATIENT POPULATIONS</b>	<b>6 - 8</b>
Disease Definition	6
Figure 2.1. Diagnosed prevalent cases of TD by region	6
Table 2.1 Diagnosed prevalence cases of TD in the US and EU51	6
Upper-end estimates of the prevalence of TD in the US	7
Table 2.2 Upper-end estimates of the diagnosed prevalence cases of TD in the US using 2023 MDPS estimates of schizophrenia prevalence	7
Table 2.3. TD diagnosed prevalence estimates in the U.S. using antipsychotic prescription volume	8
Figure 2.1. KOL commentary on increasingly widespread antipsychotic use	8
<b>3. DIAGNOSIS &amp; CURRENT TREATMENT</b>	<b>9 - 16</b>
Diagnosis Overview	9
Figure 3.1. Diagnostic pathway for TD patients	9
Treatment flow for TD involves balance between DRAs and VMAT2 inhibitors	10
Table 3.1. TD treatment goals	10
Figure 3.2. Treatment algorithm for management of TD	10
Severity and patient response to VMAT2 inhibitors	11
Figure 3.3. KOL estimate of diagnosed TD patients receiving drug treatment <sup>1</sup>	11
Comparison of FDA approved treatments for TD	12
Table 3.2. Comparison of FDA approved TD treatments	12
Clinical trial primary endpoint success drove FDA approval for TD therapies	13
Figure 3.4. Austedo and Ingrezza pivotal trial primary outcome results	13
Figure 3.5. Austedo and Ingrezza pivotal trial secondary outcome results	13
Physician perspectives on Austedo and Ingrezza	14
Table 3.3. KOL commentary on Austedo and Ingrezza	14
Table 3.4. Physician perspective on the efficacy of Austedo and Ingrezza	14
Figure 3.6. KOL estimates of current VMAT2 treatment share (n=24)	14

# MarketVue®: Tardive Dyskinesia

## Table of Contents

<b>3. DIAGNOSIS &amp; CURRENT TREATMENT CONT.</b>	<b>9 - 16</b>
Key treatment dynamics that will shape disease management and drug use in TD	15
Table 3.5. Must-know TD market dynamics	15
No significant changes are anticipated to disrupt the TD market in the foreseeable future	16
Figure 3.7. Important dynamics of TD market evolution	16
<b>4. UNMET NEED</b>	<b>17 - 18</b>
Overview	17
Figure 4.1. Top unmet needs in TD	17
Figure 4.2 Physician-reported high unmet need patient types1	17
Physician perspectives on unmet needs in TD	18
<b>5. PIPELINE</b>	<b>19 - 20</b>
Overview	19
Table 5.1 Summary of Phase 1 trial of LY03015	19
Physician perspectives on diagnostic and therapeutic developments in TD	20
<b>6. VALUE &amp; ACCESS</b>	<b>21 - 22</b>
Overview	21
Table 6.1. Comparison of treatment pricing, U.S.	21
Table 6.2. Typical U.S. commercial payer coverage	21
Despite support programs, existing TD drugs still have barriers to access	22
Figure 6.1. Resources offered by Teva and Neurocrine to help facilitate patient access	22
Figure 6.2. KOL reported barriers to patient access1	22
<b>7. METHODOLOGY</b>	<b>23 - 26</b>
Primary Market Research Approach	23
Epidemiology Methodology	24
Epidemiology methodology: schizophrenia prevalence model	24
Epidemiology methodology: antipsychotic prescription volume model	25
Table 7.1 Epidemiology references	26

# Meet the REACH Team



**DANIELLE DRAYTON, PhD.**, Dr. Drayton is CEO and Founder of REACH Market Research. She is a seasoned business leader and pharmaceutical market researcher. Prior to founding REACH, Dr. Drayton led the Biopharma Market Assessment business at Decision Resources Group (DRG) comprised of market research, RWD analytics, and consulting business lines. In her 14 years at DRG, she worked with 48 of the top 50 pharmaceutical companies and countless biotech companies that involved exhaustive evaluation of unmet need, target product profiles, commercial potential and new product adoption, and company competitiveness. She also has extensive experience conducting product and market opportunity assessments, portfolio analysis, product and therapeutic area strategy, product valuation and sales forecasting, and pre-launch planning. Dr. Drayton completed a postdoctoral fellowship at the Harvard Medical School, received a Ph.D. in Immunobiology from Yale University, and earned a B.S. in Microbiology and Immunology from the University of Miami (Florida).



**MELISSA CURRAN** is the Director of Product Management at REACH. Melissa has over 10 years of life sciences market research and consulting experience spanning from bespoke strategy consulting to syndicated market research product development and management. Prior to joining REACH, she worked at Decision Resources Group (DRG) for 7 years assisting pharmaceutical and biotechnology commercial teams across the product lifecycle to inform strategic decision making. Melissa is particularly passionate about new product planning and portfolio management, especially in the rare disease space where data can be scarce, and decision-making can be challenging. Specific types of strategic assessments Melissa specializes in include market landscape assessments, commercial opportunity assessment, patient journey mapping, product positioning and TPP optimization, portfolio prioritization, and competitive intelligence. She also has extensive experience working across various market research methodologies including qualitative interviews, quantitative surveys, patient chart audits, real world claims and EHR data, conjoint analysis and secondary research. Melissa received her bachelor's degree in Biology and minor in Business from Providence College.



**MICHAEL HUGHES, MSc, Ph.D.**, Dr. Hughes is the Director of Research at REACH. He has worked in academia, regulatory affairs (NICE) and in RWE and epidemiology consultancies, leading the global epidemiology team at Clarivate (previously Decision Resources Group) for many years. Over that period, he has built numerous new approaches to epidemiological forecasting and imputation, which now form industry best-practice. He has built syndicated and custom epidemiological models and forecasts for many blockbuster drugs across many therapeutic areas, often using a hybrid approach sourcing data from multiple types of dataset and primary market research. He has recently worked on projects in prostate cancer, amyloidosis, anaphylaxis and multi-drug resistant UTIs, among others. He has supported the needs of both big pharma, including Novartis, GSK and Johnson and Johnson, as well as smaller companies and biotechs.

# Meet the REACH Team



**TYLER JAKAB, MPH** is an analyst at REACH Market Research. He is responsible for conducting both primary and secondary market research regarding rare disease therapies to be integrated into market research reports for life science clients. Tyler is a recent graduate of Boston University School of Public Health where he obtained an MPH in Epidemiology of Biostatistics. Prior to joining REACH, he held roles in which he was responsible for health policy analysis, tobacco control research, and health communication. He has extensive experience in data analysis, as well as manuscript and report writing. Tyler also earned a BS in Psychology and Anthropology from the University of North Carolina at Chapel Hill.



**BAYLEY KOOPMAN** is a Research Associate at REACH Market Research. At REACH, Bayley supports both primary and secondary market research through literature reviews and working with qualitative data. He recently graduated from Tufts University with a B.S. in Biology where he studied the interdisciplinary OneHealth approach for public health and the environment. During this time, Bayley founded an early-stage consumer product startup, which became a finalist team in two consecutive Tufts University Entrepreneurship Pitch Competitions. Prior to joining REACH, Bayley also held roles in regulatory affairs in the rare-disease pharmaceutical industry and veterinary practice.



**BRIANA MULLINS** is a current PhD student At NYU School of Medicine studying the immunological progression of disease in psoriatic arthritis. She currently does both laboratory research and computational biology. Previously she earned her undergraduate degree in Biochemistry at New York University (NYU) and worked in the Blaser Lab studying the human microbiome. She also received an MSc. in Population Health at the University College London (UCL) and conducted antibiotic prescription research using the UK THIN Database. Before starting her PhD Briana worked at Decision Resources Group as an Associate Epidemiologist.