



Horizon Pharma plc

August 2018



Isabel M., RAVICTI® Patient

For us, it's personal

Forward-Looking Statements

This presentation contains forward-looking statements, including, but not limited to, statements related to Horizon Pharma's full-year 2018 net sales and adjusted EBITDA guidance, expected growth in net sales of certain medicines, estimated peak annual net sales of teprotumumab, if approved; expected financial performance in future periods; expected timing of clinical trials, including the Phase 3 clinical trial of teprotumumab; expected increases in investment in Horizon Pharma's rare disease medicine pipeline and the impact thereof; potential market opportunity for Horizon Pharma's medicines in approved and potential additional indications; and business and other statements that are not historical facts. These forward-looking statements are based on Horizon Pharma's current expectations and inherently involve significant risks and uncertainties. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of these risks and uncertainties, which include, without limitation, risks that Horizon Pharma's actual future financial and operating results may differ from its expectations or goals; Horizon Pharma's ability to grow net sales from existing products; the availability of coverage and adequate reimbursement and pricing from government and third-party payers; risks relating to Horizon Pharma's ability to successfully implement its business strategies; risks inherent in developing novel medicine candidates, such as teprotumumab, and existing medicines for new indications; risks related to acquisition integration and achieving projected benefits; risks associated with regulatory approvals; risks in the ability to recruit, train and retain qualified personnel; competition, including potential generic competition; the ability to protect intellectual property and defend patents; regulatory obligations and oversight, including any changes in the legal and regulatory environment in which Horizon Pharma operates and those risks detailed from time-to-time under the caption "Risk Factors" and elsewhere in Horizon Pharma's filings and reports with the SEC. Horizon Pharma undertakes no duty or obligation to update any forward-looking statements contained in this presentation as a result of new information.

Horizon Pharma is a Rare Disease Focused Company Well-Positioned for Sustainable and Rapid Growth

- We **excel at commercializing** innovative medicines that address unmet treatment needs for **rare and rheumatic diseases**
- Our **patients-first** culture fuels our drive to build a **pipeline of breakthrough medicines** and explore all potential uses for our **diverse and durable portfolio**
- Our **uniquely strong in-house business development capability, along with strong cash generation and balance sheet**, enable further additions to our portfolio of development-stage programs and commercial products



Our Strategy is to Drive Shareholder Value by Capitalizing on Our Defining Strengths

Proven commercial execution

Example:

KRYSTEXXA
pegloticase



Strong in-house business development

Examples:

Vidara
THERAPEUTICS



HYPERION
THERAPEUTICS

crealta
pharmaceuticals

raptor
pharmaceutical corp.

Building our pipeline

Example:

Teprotumumab



- ✓ High unmet need; no FDA-approved therapies exist
- ✓ Impressive Phase 2 efficacy results ($p < 0.001$)
- ✓ Reached target enrollment of 76 patients for Phase 3 clinical trial, significantly ahead of schedule
- ✓ U.S. Orphan, Fast-Track and Breakthrough Therapy designations

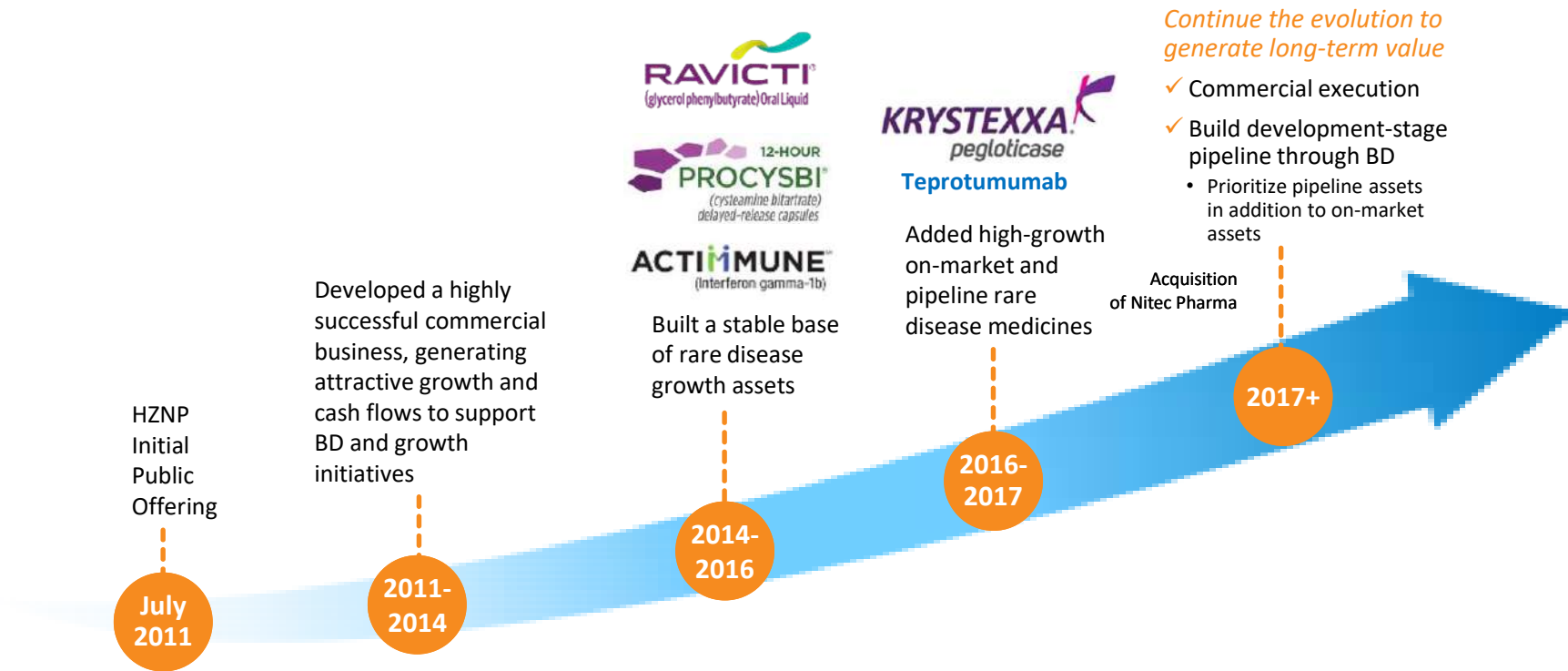
Maximizing our medicines' value

Example:

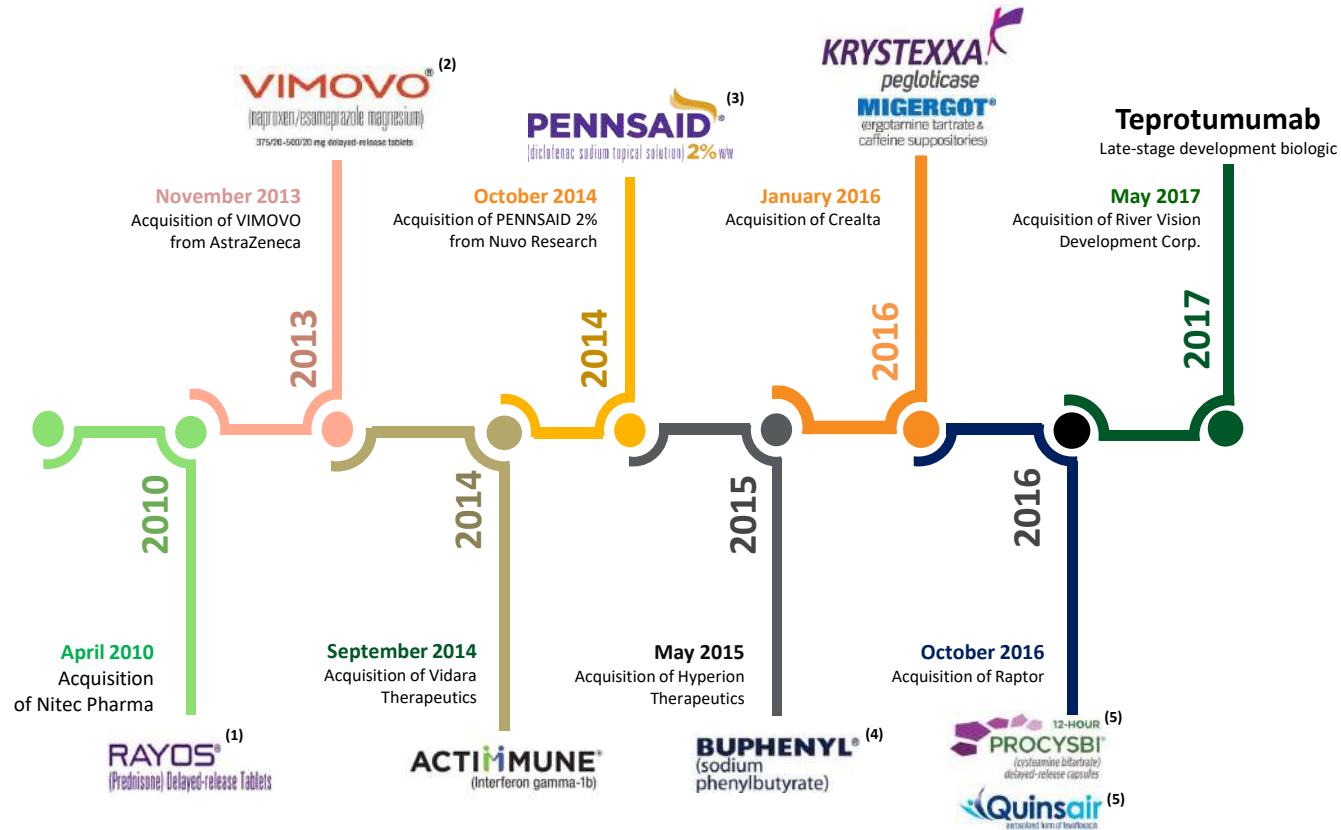
KRYSTEXXA
pegloticase

- Working to enhance KRYSTEXXA response rate with 3 trials:
 - MIRROR
 - RECIPE⁽²⁾
 - TRIPLE⁽²⁾
- Exploring in-house next-generation opportunities

We Have Purposefully and Rapidly Transitioned to a Rare Disease Medicines Company



Supported By Our Strong Business Development Capability



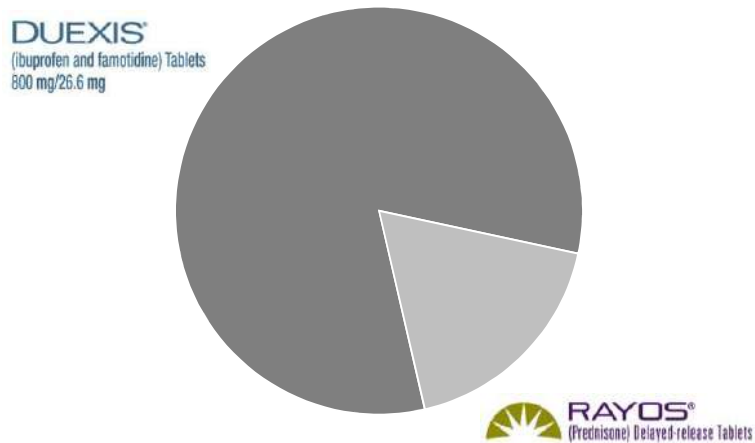
(1) RAYOS is known as LODOTRA outside the United States. (2) VIMOVO was re-launched by Horizon Pharma sales force in January 2014. (3) PENNSAID 2% was re-launched by Horizon Pharma sales force in January 2015. (4) BUPHENYL is known as AMMONAPS outside the United States. (5) Horizon Pharma divested the marketing rights to PROCSYBI and QUINSAIR in Europe, the Middle East and Africa on June 23, 2017. Horizon Pharma retains marketing rights for the two medicines in the U.S., Canada, Latin America and Asia. QUINSAIR is not approved in the United States.

For us, it's personal

We Have Rapidly Evolved into a Company Focused on Rare Disease Medicines

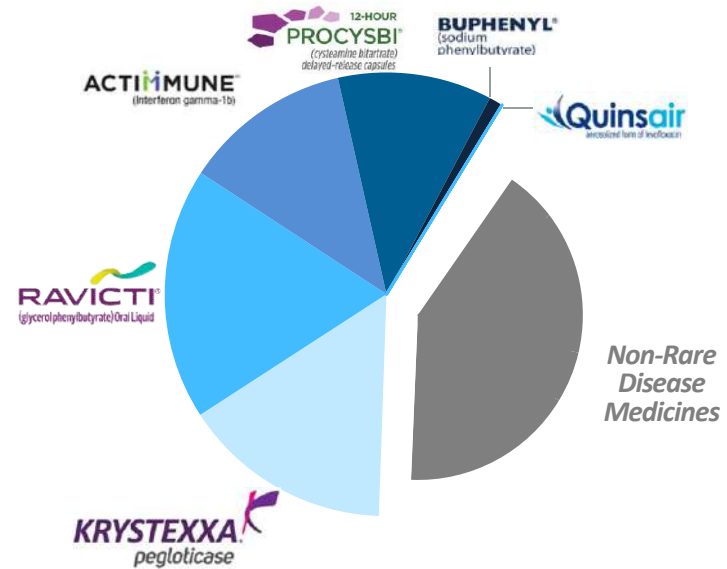
2013: Net sales of \$74 Million

2 Medicines



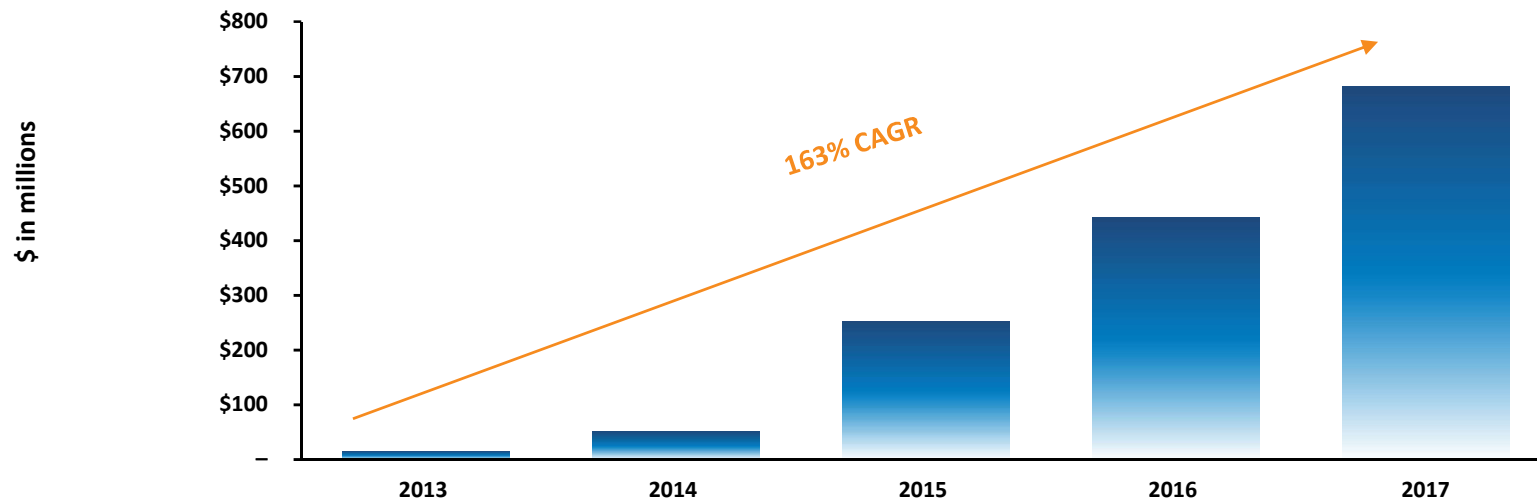
2017: Net sales of \$1.06 Billion

11 Medicines; 6 for Rare Diseases



Orphan and Rheumatology Segment is Generating Strong Net Sales Growth

Orphan and Rheumatology Net Sales



Second-Quarter 2018 and Recent Company Highlights

- **Orphan and rheumatology segment net sales** increased 17 percent; **67 percent** of total net sales
- Implemented **new Company operating structure**; reporting net sales and operating income for strategic growth business, the orphan and rheumatology segment, and the primary care segment
- **KRYSTEXXA®** net sales increased 53 percent; on track for full-year net sales growth of **>65 percent**
- Initiating **new KRYSTEXXA immunomodulation study** conducted by Horizon Pharma using methotrexate; enrollment scheduled to begin in 4Q '18
- **Teprotumumab Phase 3 trial has reached its target enrollment of 76 patients**, significantly ahead of schedule; remaining subjects in screening to randomize over next few weeks
- Continued building our **R&D** capabilities through **important leadership additions**
- **Added two new RAVICTI patents**, with two more expected in August, **resulting in five new patents over 18-month period**; settlement with Lupin with market entrance in 2026
- **Awarded Number One Place to Work** on FORTUNE's "Best Workplaces in Health Care & Biopharma" list; **recognized as one of the 2018 "50 Companies That Care"** by PEOPLE and Great Place to Work®

Second-Quarter 2018 Results

(\$ in millions, except for per share amounts and YOY percent change)

	2Q 2018	2Q 2017	% Change
Net sales ⁽¹⁾	\$302.8	\$289.5	5
Net loss	(32.8)	(209.5)	84
Non-GAAP net income	80.5	68.3	18
Adjusted EBITDA	116.8	127.0	(8)
Net loss per share – diluted	\$(0.20)	\$(1.29)	84
Non-GAAP earnings per share – diluted	0.48	0.41	17

Excluding 2Q 2017 PROCYSBI and QUINSAIR EMEA net sales, YOY net sales growth was 6.3 percent⁽¹⁾

(1) On June 23, 2017, Horizon Pharma completed the divestiture of a European subsidiary that owned the marketing rights to PROCYSBI and QUINSAIR in Europe, the Middle East and Africa to Chiesi Farmaceutici S.p.A. PROCYSBI and QUINSAIR EMEA net sales in the second quarter of 2017 were \$4.5 million. Excluding those sales, growth would have been 6.3 percent. Horizon Pharma retains marketing rights for the two medicines in the United States, Canada, Latin America and Asia.

Note: Non-GAAP net income and adjusted EBITDA are non-GAAP measures; see reconciliation slides at the end of the presentation for a reconciliation of GAAP to non-GAAP measures. YOY: year-over-year.



For us, it's personal

Full-Year 2018 Guidance

- Confirming full-year 2018 net sales guidance
- Increasing full-year 2018 adjusted EBITDA guidance

	New Guidance	Previous Guidance
Net Sales	\$1.170 to \$1.200 Billion	\$1.170 to \$1.200 Billion
Adjusted EBITDA	\$400 to \$420 Million	\$390 to \$415 Million

- Segment assumptions:
 - Orphan and rheumatology segment net sales growth of >20 percent, including KRYSTEXXA net sales growth of >65 percent
 - Primary care segment net sales of >\$350 million

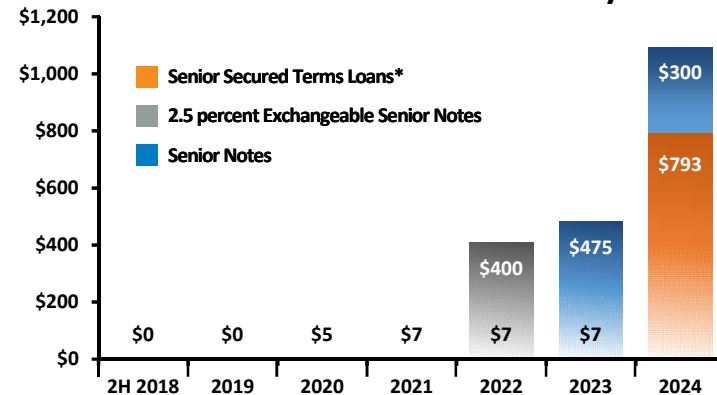
Our Strong Financial Position Supports Our Growth Strategy

Cash and Cash Equivalents of \$710M at June 30, 2018

Cash and Debt as of June 30, 2018
(in millions)

Cash and cash equivalents	\$710
Senior secured term loans – due 2024	818
Senior notes – due 2023	475
Senior notes – due 2024	300
2.5% exchangeable senior notes – due 2022	400
Total principal amount of debt	\$1,993

**Debt Repayment Schedule:
4 Years Until First Maturity**



Net debt to LTM adjusted EBITDA leverage ratio of 3.6 times at June 30, 2018, and estimated at 3.1 times based on full-year 2018 adjusted EBITDA guidance⁽¹⁾

(1) Adjusted EBITDA and net debt are non-GAAP measures; see reconciliation slides at the end of the presentation for a reconciliation of GAAP to non-GAAP measures. LTM: last 12 months ended June 30, 2018.

* Senior Secured Term Loans schedule includes 1 percent annual amortization (\$8.5M of principal) and reflects a mandatory prepayment of \$23.5M made in June 2018 that is applied 1) to prepay the next eight amortization payments from June 30, 2018; and 2) the remaining amortizations on a pro rata basis.

Horizon Pharma is Well-Positioned for Sustainable and Rapid Growth

- Durable base of rare disease medicines
- Multiple growth opportunities

High-Growth Opportunities



- **KRYSTEXXA**: estimated peak annual net sales of >\$750M⁽¹⁾
- **Teprotumumab**: estimated peak annual net sales of >\$750M⁽¹⁾

Building a Pipeline for Long-Term Growth



- Additional rheumatology candidates
- Expect to acquire development-stage assets through business-development initiatives

KRYSTEXXA

Flagship Medicine with
Significant Growth Potential



Ed C., KRYSTEXXA Patient

For us, it's personal



KRYSTEXXA Is a Key Growth Driver With Significant Untapped Opportunity

- **KRYSTEXXA indicated for uncontrolled gout⁽¹⁾⁽²⁾, a rare disease**
 - KRYSTEXXA is the first and only biologic for uncontrolled gout patients that rapidly reverses disease progression⁽³⁾
 - U.S. market
 - ~100,000 addressable uncontrolled gout patient population (rheumatology and nephrology)⁽⁴⁾
 - Growth drivers
 - Tapping new areas of opportunity through our nephrology expansion
 - Invest in and capitalize on expansion of commercial organization
 - Invest in education as well as patient and physician outreach, sharing robust safety and efficacy data from Phase 3 trials



(1) Uncontrolled gout is defined as chronic gout refractory (unresponsive) to conventional therapies.

(2) See full prescribing information at www.KRYSTEXXA.com.

(3) Source: Adapted from Klippel 2008. Edwards NL. Gout. A. Clinical features. In: Klippel JH, Stone JH, Crofford LJ, White PH, eds. Primer on the Rheumatic Diseases. 13th ed. New York: Springer; 2008:241-249.

(4) Horizon Pharma estimate.

KRYSTEXXA is the Only Medicine for Uncontrolled Gout That Rapidly Reverses Disease Progression⁽¹⁾

Gout

- Most common form of inflammatory arthritis⁽²⁾
- Results in urate crystal deposits on joints, organs or tissues⁽³⁾

KRYSTEXXA

- **42%** of patients had complete response defined as reduced serum uric acid⁽¹⁾⁽⁴⁾
- **45%** of KRYSTEXXA patients had complete resolution of tophi⁽⁵⁾

Before and After 5 Months of KRYSTEXXA



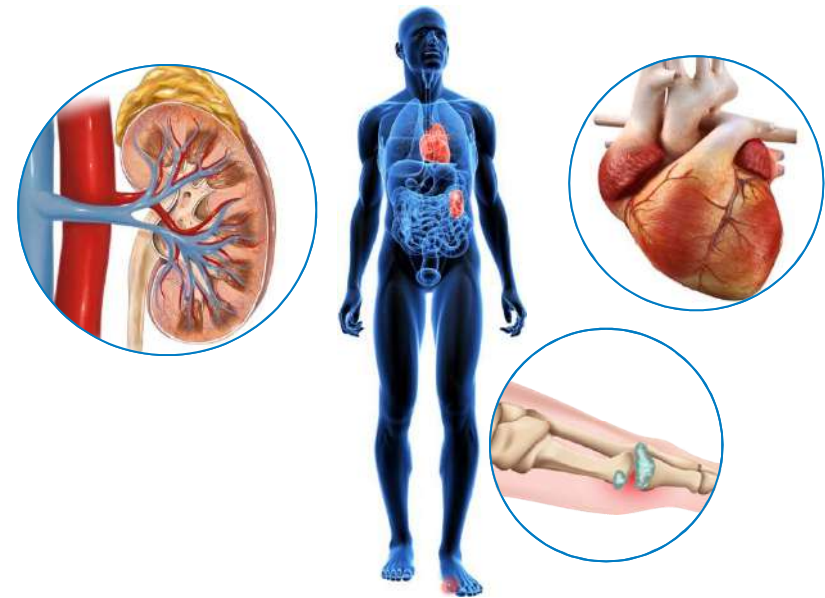
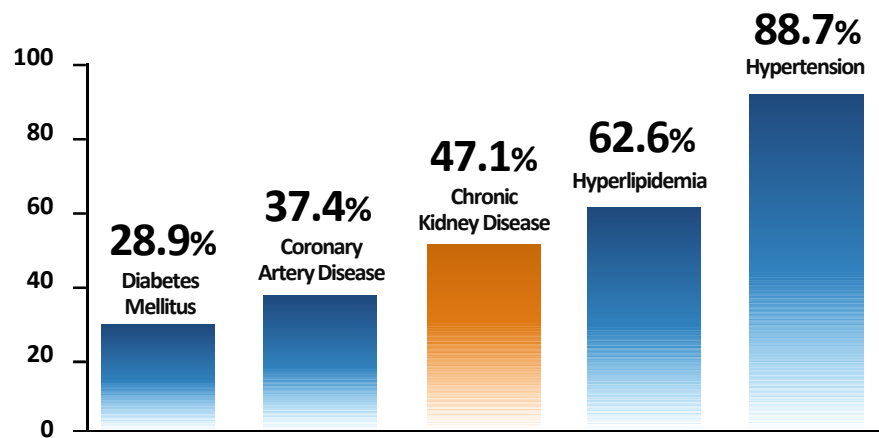
(1) Sundy JS, Baraf HSB, Yood RA, et al. Efficacy and Tolerability of Pegloticase for the Treatment of Chronic Gout in Patients Refractory to Conventional Treatment: Two Randomized Controlled Trials. JAMA. 2011; 306(7):711-720. (2) Zhu Y, Pandya BJ, Choi HK. Prevalence of gout and hyperuricemia in the U.S. general population: the National Health and Nutrition Examination Survey 2007-2008. (3) Neogi 2011, Rees 2014; Schumacher HR. Wolters Kluwer Health. 2008; 1 (1):1-12; Eggebeen AT Amer Fam Physic. 2007; 76 (6):801-808. (4) Complete response defined as serum uric acid levels <6mg/DL and maintained for duration of therapy. (5) Baraf H, et al. Arthritis Res Ther: 2013; 15:R137.

Gout Is Often Associated with Multiple Negative Consequences

Patients with high uric acid levels have multiple comorbidities; **gout patients have an average of four comorbidities**

Uric acid deposits can occur almost anywhere in the body – bones and joints, as well as organs, such as the heart and kidney

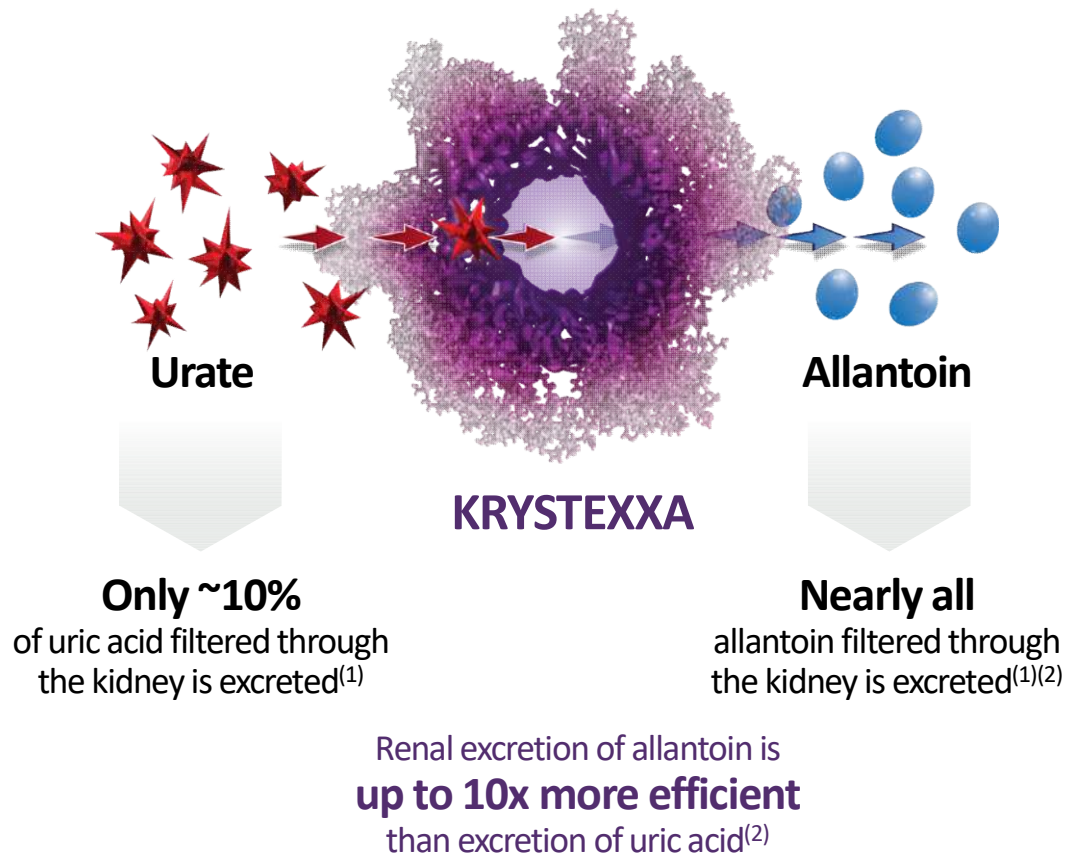
Gout Patients with Comorbidity (%)



KRYSTEXXA: Differentiated Mechanism of Action for Uncontrolled Gout

KRYSTEXXA: PEGylated uricase

- Unlike other gout medicines, KRYSTEXXA **converts** urate, the source of uric acid crystals, into a water-soluble substance, allantoin
- The body can **rapidly and easily eliminate** allantoin
- Current oral urate-lowering therapies target patients' sUA levels by addressing the over production or under excretion of uric acid



The KRYSTEXXA Story Exemplifies Our Commercial Execution

- Under-resourced and poorly marketed prior to acquisition

We **ACQUIRE** under-appreciated medicines through our uniquely strong in-house business development capability

2016

- ✓ >2x pre-acquisition net sales
- ✓ 40% YOY vial growth FY '17

We then **OPTIMIZE** the growth trajectory of our acquired medicines through focused commercial execution

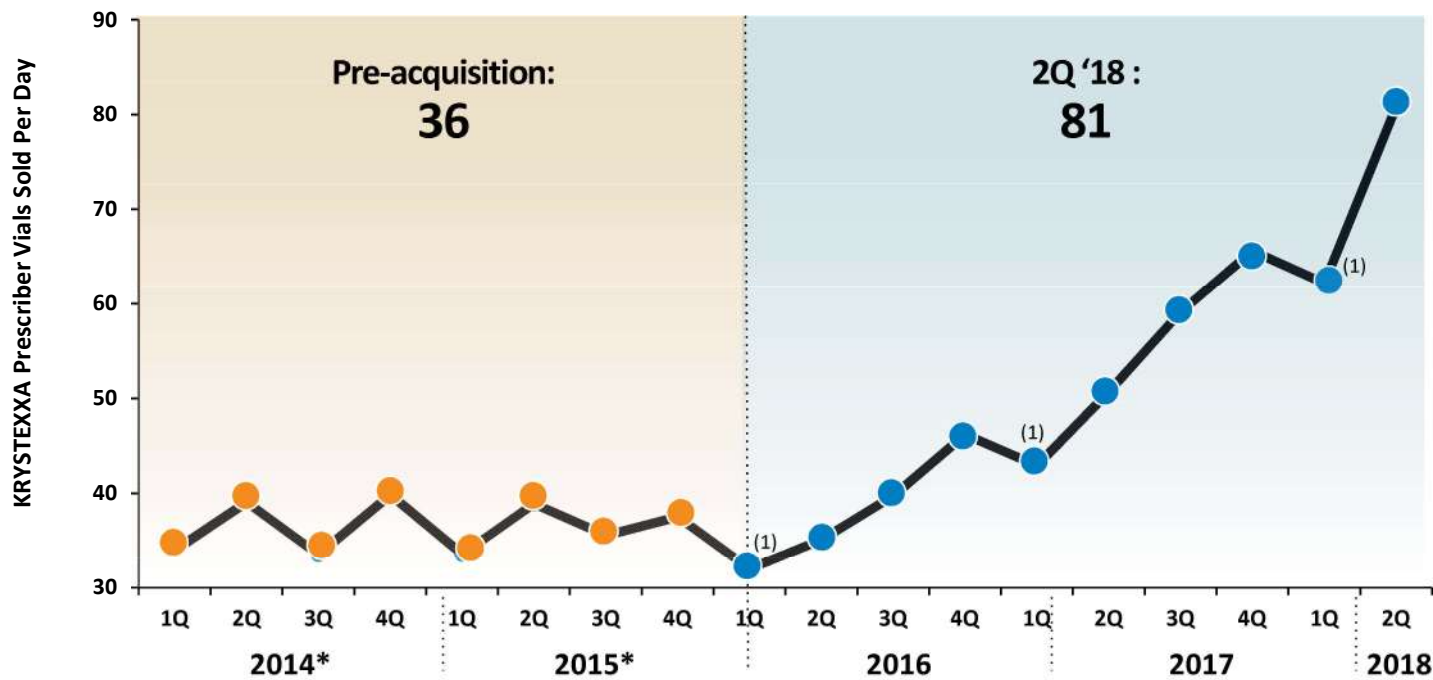
2017

- 100K patient population⁽¹⁾
- Strategy to enhance response rate
- >65% FY '18 expected net sales growth⁽¹⁾
- >\$750M est. peak annual sales⁽¹⁾

Next, we **MAXIMIZE** the value of our medicines through new markets and collaborative research

2018+

Since Acquiring KRYSTEXXA, Average Vials Sold Per Day Has Increased ~125 Percent



(1) Typical seasonality 4Q to 1Q. YOY: year-over-year. Vials are shown on a shipping-day basis versus selling-day basis.

* Representation of vials sold per day pre-acquisition by Horizon Pharma in January 2016; average was 36 vials sold per day.

Nephrology Represents a Significant Opportunity For KRYSTEXXA

Clinical need:

- **25-50%** of Chronic Kidney Disease (CKD) patients have gout⁽¹⁾
- Gout is more prevalent as CKD advances
- Nephrologists have a high sense of urgency to protect the kidney
- Conventional gout therapies place further burden on the kidneys and have significant dosing limitations in CKD patients⁽²⁾⁽³⁾

(1) Nephrologists estimates; based on Horizon Pharma qualitative research.
(2) Gout and Hyperuricemia in Chronic Kidney Disease, National Kidney Foundation. 2015.
(3) Rees F, Hui M, Doherty M. Nat Rev Rheumatol. 2014;10(5):271-283.
(4) Yood RA, Ottery FD, Irish W, Wolfson M. Effect of Pegloticase on Renal Function in Patients with Chronic Kidney Disease: A Post Hoc Subgroup Analysis of 2 Randomized, Placebo-controlled, Phase 3 Clinical Trials. BMC Res Notes. 2014;7:54. doi:10.1186/1756-0500-7-54.



KRYSTEXXA meets the need:

- Mechanism of action is a significant area of differentiation
- Tested and proven effective and safe for uncontrolled gout patients with CKD⁽⁴⁾
- CKD patients can be effectively treated without dose adjustment⁽⁴⁾

Many nephrologists are unaware of KRYSTEXXA

“You’ve given me something in a sea of nothing.”
– Nephrologist Comment,
2017 Blinded Market Research

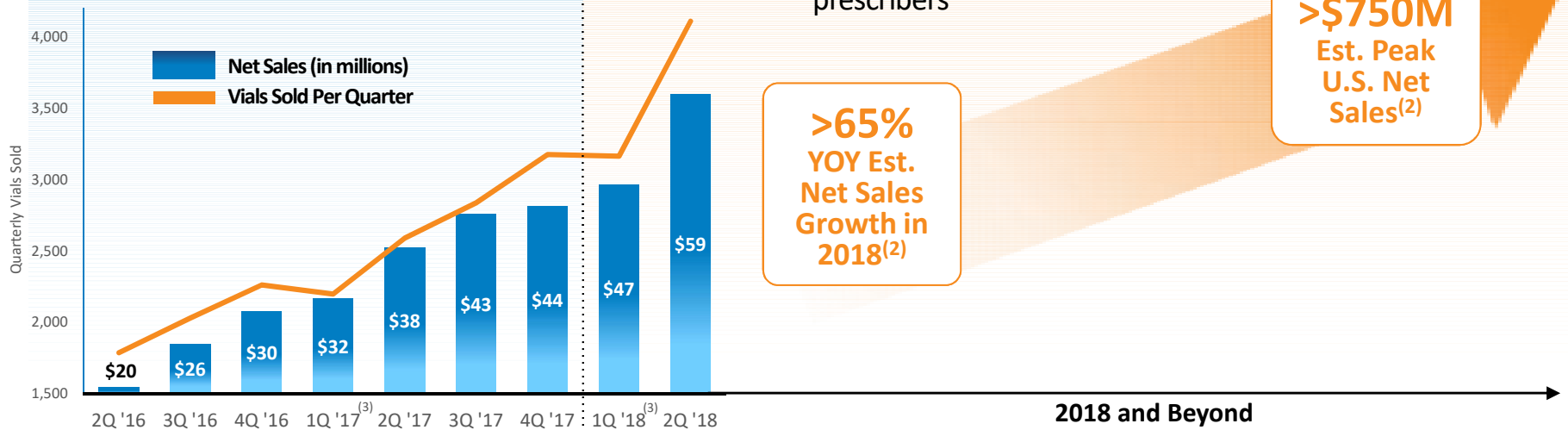
Second-Quarter KRYSTEXXA Growth of 53 Percent Driven by Continued Strong YOY Vial Growth of Nearly 60 Percent

Expansion #1: 2Q 2016

- 50K addressable patients⁽¹⁾
- 100-member commercial team
- Targeted rheumatologists
- Growth from primarily new prescribers

Expansion #2: 2018+

- 100K addressable patients⁽¹⁾
- 200-member commercial team
- Incremental promotional investment
- Targeting rheumatologists and nephrologists
- Growth from both new and existing prescribers



(1) Uncontrolled gout population: ~50K treated by Rheumatologists; ~50K treated by Nephrologists; Horizon Pharma estimate.
 (2) Horizon Pharma estimate; for U.S. net sales only.
 (3) Typical seasonality 4Q to 1Q. YOY: year-over-year.

For us, it's personal

ORPHAN

A Stable Base of Rare Disease
Growth Assets



Liam P., ACTIMMUNE Patient

For us, it's personal



RAVICTI

Increasing Penetration of the Diagnosed Patient Population

- **Indicated for urea cycle disorders (UCDs)**
 - UCDs are rare and life-threatening genetic diseases resulting in body's inability to remove ammonia from the blood stream⁽¹⁾
- **U.S. market**
 - ~2,600 people with UCDs; ~1,000 diagnosed population⁽²⁾
- **U.S. market share**
 - ~52% of diagnosed patients
- **Growth drivers**
 - Increase awareness and diagnosis of UCDs
 - Drive conversion from older-generation nitrogen-scavengers to RAVICTI
 - Increase awareness of label expansion to position RAVICTI as first-line therapy



(1) See full prescribing information at www.RAVICTI.com.
(2) Horizon Pharma estimate.

PROCYSBI

Driving Additional Uptake

- **Indicated for nephropathic cystinosis (NC)**
 - NC is a rare and life-threatening metabolic disorder⁽¹⁾
 - Without cysteamine-depleting treatment, high intracellular cystine concentrations can occur in virtually all organs and tissues, leading to irreversible cellular damage, progressive multi-organ failure and death
- **U.S. market**
 - ~500-600 diagnosed patients; ~400-450 diagnosed patients on cystine-depleting therapy⁽²⁾
- **U.S. market share**
 - ~55% of diagnosed patients
- **Growth drivers**
 - Drive conversion of patients from older-generation therapy
 - Drive uptake of diagnosed but untreated patients
 - Increase awareness of label expansion (>1 year) to position PROCYSBI as first line of therapy
 - Identify undiagnosed patients



ACTIMMUNE

Establishing Role of ACTIMMUNE in Broader Range of CGD Patients

- **Indicated for chronic granulomatous disease (CGD)**
 - CGD is a life-threatening immune disease that leads to recurrent severe bacterial and fungal infections⁽¹⁾
 - Patients have increased susceptibility to severe and recurrent bacterial and fungal infections, along with the formation and development of granulomas in most organs
- **U.S. CGD market**
 - ~1,600 people⁽²⁾
- **Growth drivers**
 - Increase awareness and diagnosis of CGD
 - Increase persistence of and adherence to treatment



OUR PIPELINE



For us, it's personal



Our Pipeline

MEDICINE / CANDIDATE	DESCRIPTION	PRE-CLINICAL	PHASE 1	PHASE 2	PHASE 3	PHASE 3b / 4
● KRYSTEXXA®	Immunomodulation Studies: <ul style="list-style-type: none"> MIRROR: KRYSTEXXA + methotrexate RECIPE*: KRYSTEXXA + mycophenolate mofetil TRIPLE*: KRYSTEXXA + azathioprine 					●
RAYOS®	<ul style="list-style-type: none"> RIFLE trial: lupus* 					●
● RAVICTI®	<ul style="list-style-type: none"> Label expansion: birth to 2 months 					●
● HZN-001 (teprotumumab) ⁽¹⁾	<ul style="list-style-type: none"> OPTIC trial: Phase 3 OPTIC-X trial: Phase 3 extension 				●	●
● HZN-003	<ul style="list-style-type: none"> Optimized uricase and optimized PEGylation for uncontrolled gout 	●				
● PASylation ⁽²⁾	<ul style="list-style-type: none"> Optimized uricase and PASylation for uncontrolled gout 	●				

● = rare disease

* Investigator-initiated trial

(1) Teprotumumab is a fully human monoclonal antibody (mAb) IGF-1R inhibitor for moderate-to-severe thyroid eye disease (TED). (2) Collaboration agreement. MIRROR: Methotrexate to Increase Response Rates in Patients with Uncontrolled GOut Receiving KRYSTEXXA. MIRROR is scheduled to start enrollment in 4Q '18. RECIPE: REduCing Immunogenicity to PegloticasE. TRIPLE: Tolerization Reduces Intolerance to Pegloticase and Prolongs the Urate Lowering Effect. RIFLE: RAYOS (delayed release prednisone) Inhibits Fatigue in Lupus Erythematosus. OPTIC: Treatment of Graves' Orbitopathy (Thyroid Eye Disease) to Reduce Proptosis with Teprotumumab Infusions in a Randomized, Placebo-Controlled, Clinical Study.



For us, it's personal

Shao-Lee Lin, M.D., Ph.D., EVP, Head of R&D and CSO

Transforming our R&D Organization

Shao-Lee Lin, M.D., Ph.D., EVP, Head of R&D and CSO

- Joined Horizon Pharma in January 2018
- 20+ years as pharma executive, physician and scientist
- Immunologist, rheumatologist, allergist and internist
- Most recently at AbbVie, where she oversaw immunology, virology, neuroscience, general medicine and international development; prior to that at Gilead and Amgen
- Development programs under her leadership:



New Key Leadership Roles: Bolstering Our R&D Capabilities

- Head of Development Sciences:
 - Leading critical development functions, including clinical pharmacology, statistics, toxicology and biomarkers
- Head of External Research and Development:
 - Leading R&D efforts in identifying, evaluating and executing transactions in partnership with commercial, business development and other key functions
- Orphan / Rheumatology Therapeutic Area Heads:
 - Leading the respective therapeutic areas' clinical development strategies and portfolio management

Dr. Lin is driving Horizon Pharma's next transformation in building a robust pipeline of medicines for sustainable long term growth

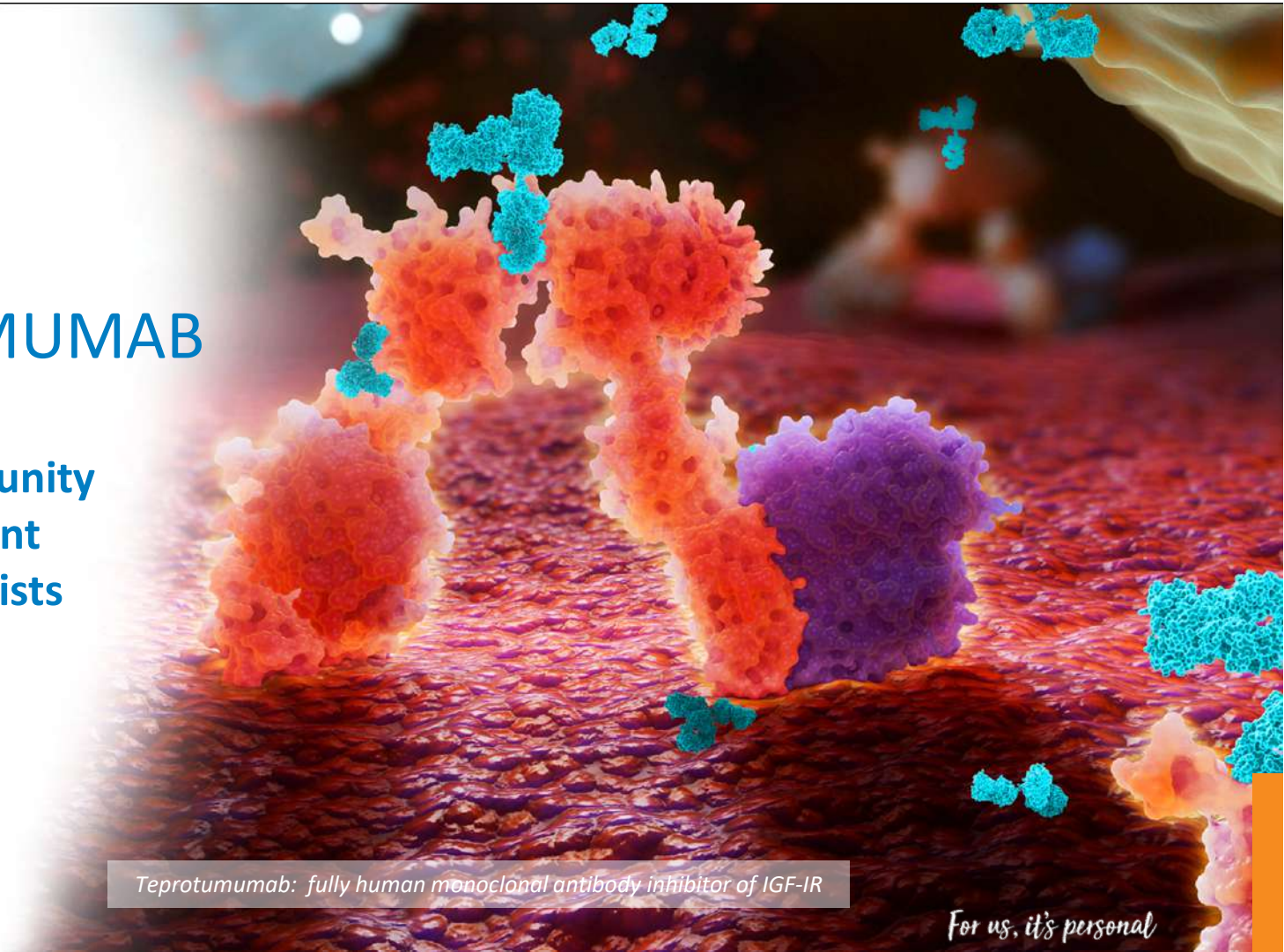
TEPROTUMUMAB

Meaningful
Growth Opportunity
Where Significant
Unmet Need Exists



Teprotumumab: fully human monoclonal antibody inhibitor of IGF-1R

For us, it's personal



Teprotumumab Exemplifies the Next Phase of Our Strategy – Building a Pipeline for Sustainable Long-Term Growth

Pipeline Candidate Criteria

Teprotumumab

High unmet need with preference for rare diseases	<ul style="list-style-type: none"> ✓ No FDA-approved therapies exist for thyroid eye disease ✓ Standard of care proven ineffective; safety concerns ✓ Surgery is invasive, complex and often ineffective
Viable market opportunity	<ul style="list-style-type: none"> ✓ 15K-20K annual patient population⁽¹⁾ ✓ >\$750M U.S. peak sales potential⁽¹⁾
Compelling clinical trial data or proof of concept	<ul style="list-style-type: none"> ✓ Impressive Phase 2 results published in <i>The New England Journal of Medicine</i> ✓ Phase 3 trial target enrollment completed ahead of schedule
Key regulatory designations	<ul style="list-style-type: none"> ✓ U.S. Orphan; Fast-Track; Breakthrough Therapy
Compelling IP	<ul style="list-style-type: none"> ✓ Potential exclusivity: 12-year biologic; 7-year orphan

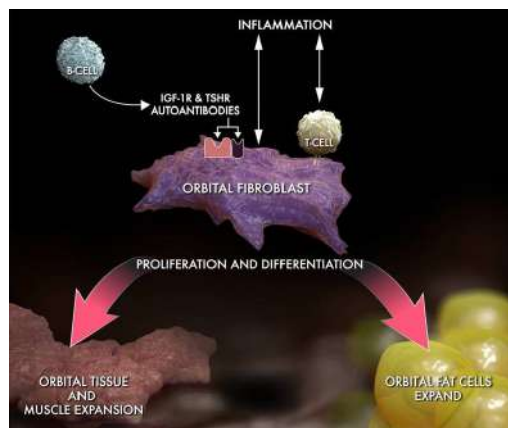
Teprotumumab meets ALL criteria and has potential to be first therapy for moderate-to-severe thyroid eye disease (TED)



(1) Horizon Pharma estimate. Teprotumumab is an investigational candidate, and safety and efficacy have not been established.

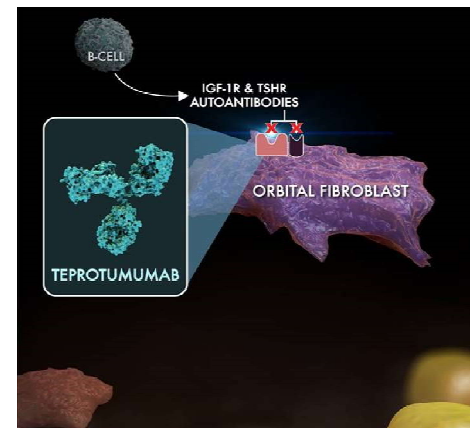
Pathology of Thyroid Eye Disease (TED) and Mechanism of Action of Teprotumumab in TED

TED Pathology



- Rare, painful and debilitating autoimmune disease
- The body **attacks its own orbital cells, overexpressing IGF-1R** in orbital and immune cells, and **forming a signaling complex** with TSHR
- Leads to **severe inflammation** and expansion of tissue, muscle and fat cells behind the eye
- **Causes proptosis** (bulging of the eyes) and optic nerve compression

Teprotumumab MOA⁽¹⁾



- Fully human monoclonal antibody inhibitor of IGF-1R
- **Binds to the IGF-1R/TSHR signaling complex**
- **Blocks autoantibodies** and **turns off IGF-1R/TSHR signaling** at source of the disease
- **Reduces inflammation** and **prevents excessive cell growth behind the eye**

Moderate-to-Severe TED

- **Debilitating** autoimmune condition associated with Graves' disease
- Painful, **sight-threatening**, disfiguring and emotionally debilitating
- Begins as **treatable (active) phase** and moves to inactive phase

Orbital Inflammation & Swelling



Proptosis

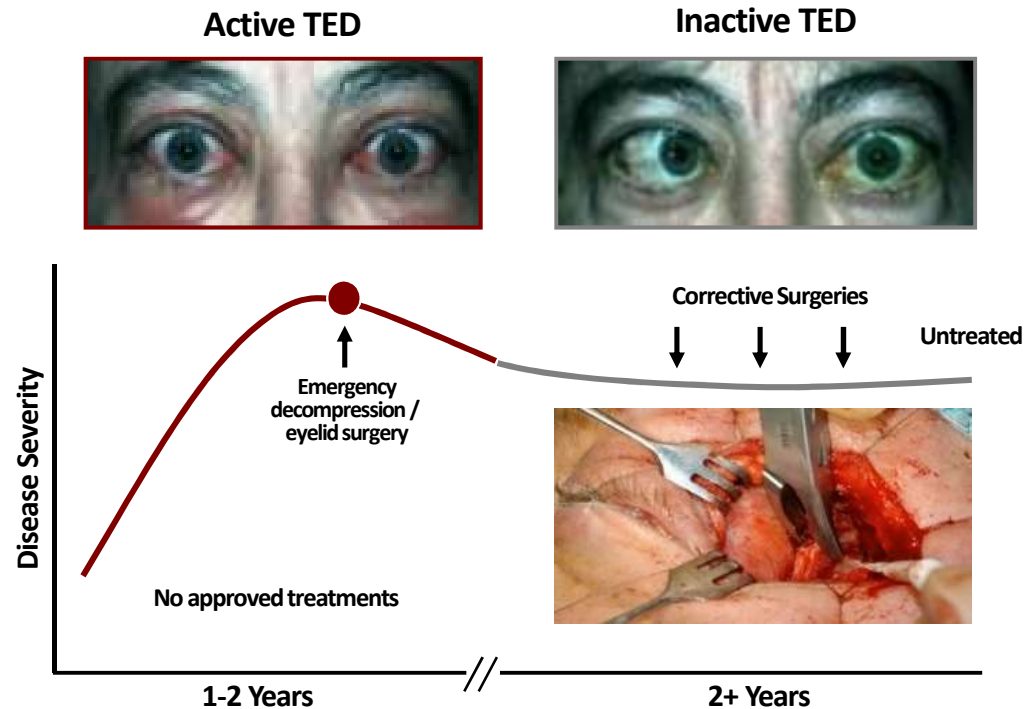


Corneal Ulceration



How is TED Treated Today?

- No FDA-approved therapies
- Once TED reaches the inactive phase, long-term damage is done
- Surgery becomes only option⁽¹⁾
 - Complex with mixed results
 - ~3-5 surgeries per eye
 - While corrective for some, can result in permanent cross-eyedness, double vision, lazy eye or blindness



Potential of Teprotumumab in TED

Active TED

Inactive TED

Patient not treated with teprotumumab



- No FDA approved treatments for active phase; off-label modalities do not affect the underlying disease
- Once TED progresses to the inactive phase, damage is irreversible and surgery is the only option

Patient treated with teprotumumab⁽¹⁾

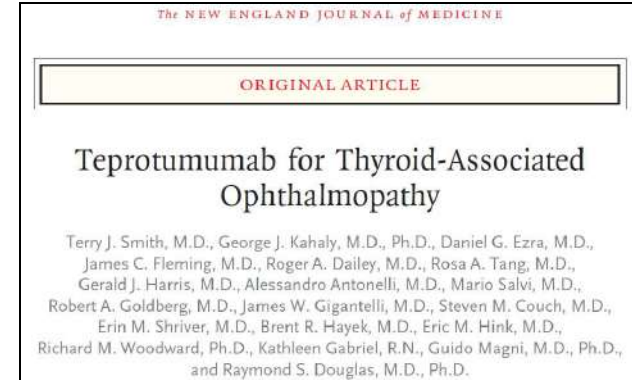


- Patient treated with teprotumumab: eight infusions over a 6-month period during active TED phase⁽¹⁾
- Teprotumumab “may result in a disease-modifying reduction in the volume of orbital fat, muscle or both”⁽²⁾
- Surgery may be able to be avoided

Teprotumumab Clinical Development

Phase 2 Trial Showed Unprecedented Clinical Efficacy in TED

- Double-blind, randomized, placebo-controlled with 88 patients
- Met its primary endpoint with statistically significant results
 - 69% of teprotumumab patients and 20% placebo patients were responders at Week 24 ($p < 0.001$)
- Well-tolerated; 700-patient safety database exists from prior clinical program
- Results published in *The New England Journal of Medicine* in May 2017
- 71% of the teprotumumab patients achieved ≥ 2 mm reduction in proptosis ($p < 0.001$)⁽¹⁾



"In conclusion, a 24-week course of teprotumumab therapy provided clinical benefit in patients with active, moderate-to-severe thyroid-associated ophthalmopathy by reducing proptosis and the Clinical Activity Score and by improving the patients' quality of life."⁽²⁾

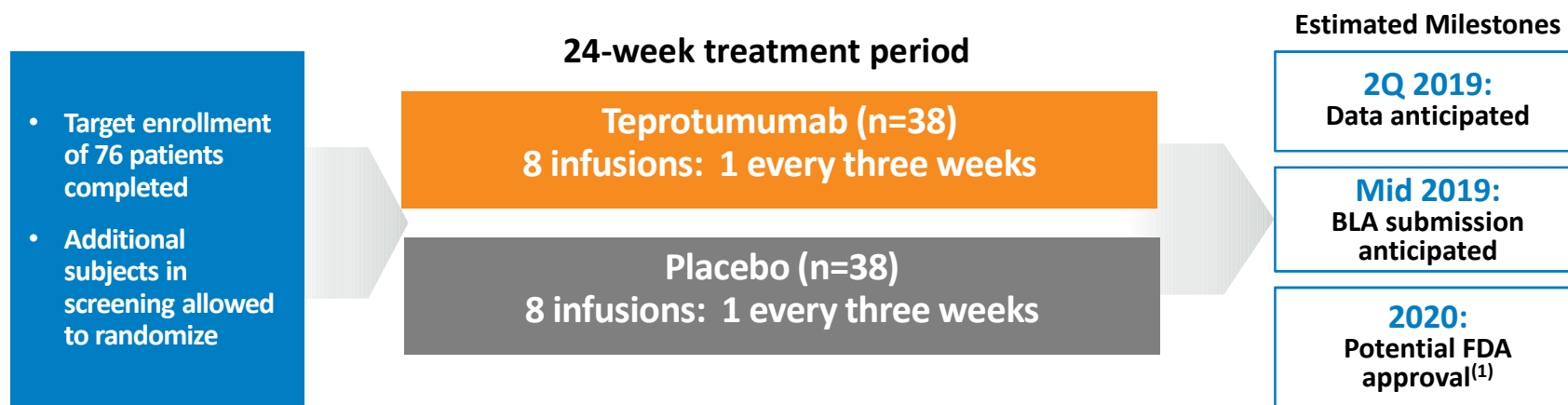


(1) Company data on file. (2) Smith Terry J, Hegedus Laszlo., Graves' disease, The New England Journal of Medicine; 375 July 3, 2016, p. 1552-1565. Clinical Activity Score (CAS): a 7-point scale that measures change in orbital inflammation and pain; a score of >3 indicates active TED. Teprotumumab is an investigational candidate, and safety and efficacy have not been established.

For us, it's personal

Teprotumumab Phase 3 Clinical Trial (OPTIC)

Target Enrollment Completed, Well Ahead of Schedule



Primary endpoint at Week 24

- Proptosis responder rate defined as percentage of participants with ≥ 2 mm reduction in study eye without deterioration (≥ 2 mm increase) in fellow eye
 - Proptosis selected as primary endpoint because it is objective, measurable and agreed upon by the FDA

Secondary endpoints at Week 24

- Percentage of participants with ≥ 2 point reduction in Clinical Activity Score (CAS) AND ≥ 2 mm reduction in proptosis (Phase 2 primary endpoint)
- Percentage of participants with CAS of 0 or 1
- Mean change in proptosis from baseline
- Mean change in QoL questionnaire overall score from baseline

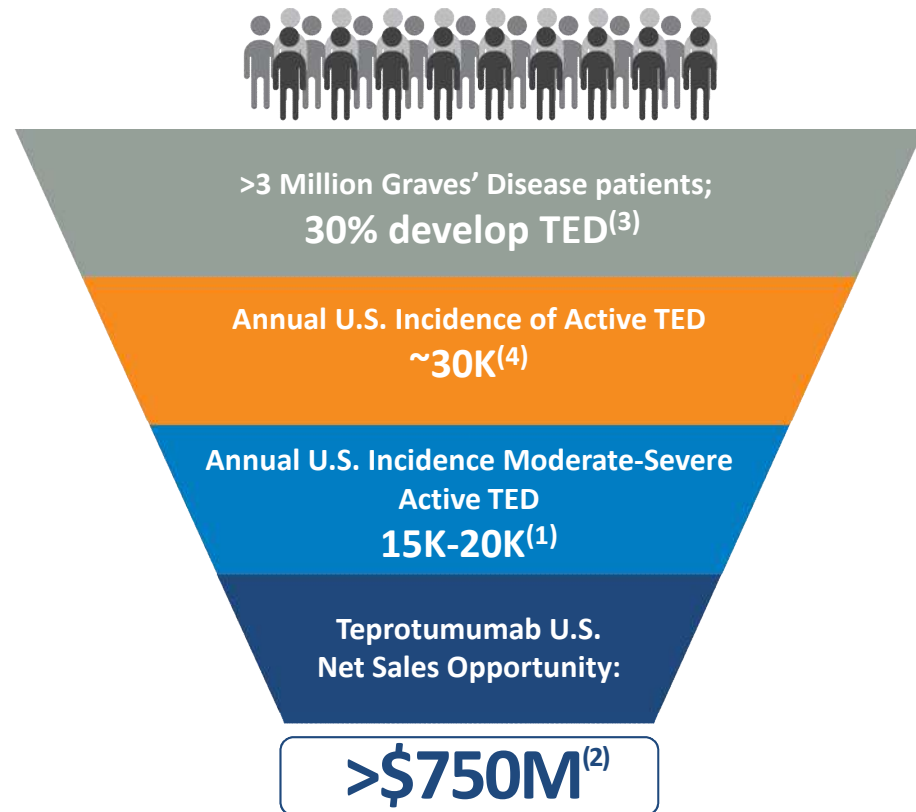
(1) Assuming positive data and assuming priority review given fast-track designation.

OPTIC: Treatment of Graves' Orbitopathy (TED) to reduce Proptosis with Teprotumumab Infusions in a randomized, placebo-controlled Clinical study.

BLA: Biologic License Application. Clinical Activity Score (CAS): a 7-point scale that measures change in orbital inflammation and pain; a score of >3 indicates active TED. Teprotumumab is an investigational candidate, and safety and efficacy have not been established.

We Expect Annual Addressable TED Patient Population of 15K to 20K⁽¹⁾ and U.S. Peak Net Sales Potential of >\$750M⁽²⁾

- **U.S. incidence**
 - 15K-20K patients eligible for treatment⁽¹⁾
 - Active phase lasts for 1 to 2 years
- **Prescribing physicians**
 - Endocrinologists, ophthalmologists and oculoplastic surgeons
 - Shift to primarily endocrinologists over time
- **Commercial infrastructure**
 - Orphan model
 - Leverage extensive experience
- **Potential upside exists**
 - Approval in additional geographies
 - Similar patient population in Europe



(1) Company analysis of claims data and market research.

(2) Horizon Pharma estimate.

(3) Bahn RS, Current Insights into the Pathogenesis of Graves' Ophthalmopathy, Horn Metab Res; 47.

(4) Based on 16:100,000 females, 2.9:100,000 males. Bartley GB. Trans Am Ophthalmol Soc. 1994;92:477-588. Teprotumumab is an investigational candidate, and safety and efficacy have not been established.

Rheumatology Development Programs

Enhancing KRYSTEXXA and Our Leadership in Uncontrolled Gout

1 KRYSTEXXA immunomodulation trials

- MIRROR: Horizon Pharma-initiated trial expected to begin enrollment in 4Q '18
- RECIPE and TRIPLE: two investigator-initiated trials
- All three trials are evaluating immunomodulators familiar to rheumatologists

2 HZN-003 (optimized uricase and optimized PEGylation)

- Potential subcutaneous dosing

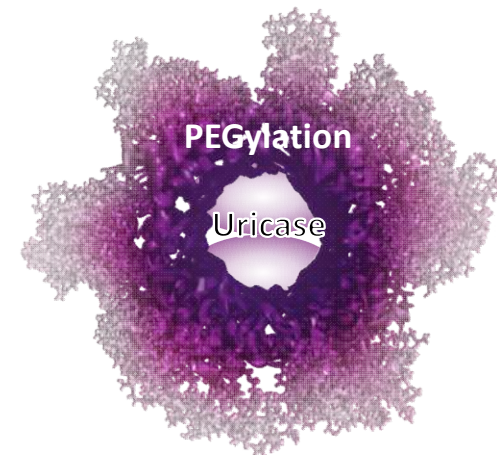
3 PASylated uricase technology

- Evaluating PASylation technology as a biological alternative to synthetic PEGylation
- Potential subcutaneous dosing

To improve patient response rate and dosing convenience



MIRROR: Methotrexate to Increase Response Rates in Patients with Uncontrolled GOut Receiving KRYSTEXXA.
RECIPE: REduCing Immunogenicity to PegloticasE.
TRIPLE: Tolerization Reduces Intolerance to PegloticasE and Prolongs the Urate Lowering Effect.



- **Uricase: uric-acid-specific enzyme**
- **PEGylation or PASylation: technology used to extend the uricase half-life**

For us, it's personal

Progression of Potential Catalysts

2018	2019	2020 and beyond
<ul style="list-style-type: none"> ✓ RAVICTI sNDA submission birth to two months ✓ KRYSTEXXA RECIPE trial start ✓ KRYSTEXXA TRIPLE trial immunomodulation arm start ✓ Teprotumumab Phase 3 target enrollment completed • KRYSTEXXA MIRROR trial start • RAVICTI sNDA approval • PASylation lead candidate decision <p>✓ Milestone met</p>	<ul style="list-style-type: none"> • Teprotumumab Phase 3 trial data • Teprotumumab BLA submission 	<ul style="list-style-type: none"> • Teprotumumab BLA decision and launch⁽¹⁾ • HZN-003 (optimized uricase and optimized PEGylation) Phase 1 trial start

(1) Assuming positive data and assuming priority review given fast-track designation. Teprotumumab and HZN-003 are investigational candidates, and safety and efficacy have not been established. MIRROR: Methotrexate to Increase Response Rates in Patients with Uncontrolled GOut Receiving KRYSTEXXA. MIRROR is scheduled to start enrollment in 4Q 2018. RECIPE: REduCing Immunogenicity to PegloticasE. TRIPLE: Tolerization Reduces Intolerance to Pegloticase and Prolongs the Urate Lowering Effect. sNDA: Supplement New Drug Application.



ADDITIONAL PRODUCT INFORMATION

Primary Care Business Unit Provides Cash Flow to Further Diversify

- **Managing the Primary Care business unit for cash flow to further diversify into rare disease medicines**
- **Four medicines:**
 - DUEXIS[®] and VIMOVO[®]: indicated for treatment of osteoarthritis (OA) and rheumatoid arthritis (RA)
 - PENNSAID[®] 2%: indicated for treatment of OA of the knee⁽¹⁾
 - MIGERGOT[®]: indicated for treatment of migraines

PENNSAID^{®(1)}
(diclofenac sodium topical solution) 2% w/w







DUEXIS[®]
(ibuprofen and famotidine) Tablets
800 mg/26.6 mg

VIMOVO[®]
(naproxen/esomeprazole magnesium)




MIGERGOT[®]
(ergotamine tartrate & caffeine suppositories)

Our Portfolio is Supported by Our Intellectual Property Expertise and Long-Life Protected Patents

Orphan and Rheumatology

 <p>RAVICTI[®] (glycerol phenylbutyrate) Oral Liquid</p>	<ul style="list-style-type: none"> 9 OB listed patents extending to 2032; 2 additional patents scheduled to be issued in August 2018 Orphan Drug Exclusivity to 2020/2024 Settled Lupin litigation by granting a right to market no sooner than July 1, 2026
 <p>⁽¹⁾ PROCYSBI[®] (cysteamine bitartrate) delayed-release capsules</p>	<ul style="list-style-type: none"> 5 OB listed patents extending to 2034 3 new patents issued in March 2018, extending to 2027 Orphan Drug Exclusivity: U.S. 2020/2022; E.U. 2023
 <p>ACTIMUNE[®] (interferon gamma-1b)</p>	<ul style="list-style-type: none"> 2 U.S. patents extending to 2022
 <p>⁽¹⁾ Quinsair[®] (sensitized form of levofloxacin)</p>	<ul style="list-style-type: none"> 7 U.S. patents, 4 Canadian patents; not approved in U.S.
 <p>KRYSTEXXA[®] pegloticase</p>	<ul style="list-style-type: none"> 25 U.S. patents extending to 2030, including 1 new patent issued in 3Q '18 Biologic Exclusivity to 2022
 <p>RAYOS[®] (Prednisone) Delayed-release Tablets</p>	<ul style="list-style-type: none"> 8 OB listed patents extending to 2028 Settled Actavis (first-filer) litigation with right to market Dec. 23, 2022

Primary Care

 <p>PENNSAID[®] (diclofenac sodium topical solution) 2% w/v</p>	<ul style="list-style-type: none"> 19 OB listed patents extending to 2030 Settled Teligent, Amneal, Paddock (Perrigo), Taro and Lupin litigations by granting a right to market no sooner than Oct. 17, 2027 In May 2017, U.S. District Court upheld '913 patent (extends to 2027) in case against Actavis
 <p>DUEXIS[®] (bupropion and famotidine) Tablets 800 mg/26.6 mg</p>	<ul style="list-style-type: none"> 6 OB listed patents extending to 2026 Settled Par (first-filer) litigation with right to market Jan. 1, 2023
 <p>VIMOVO[®] (naproxen/esomeprazole magnesium)</p>	<ul style="list-style-type: none"> 14 OB listed patents (including esomeprazole patents) extending to 2031 11 OB listed patents (excluding esomeprazole patents) and 1 process patent In June 2017, U.S. District Court upheld both '285 patent (extends to 2022) and '907 patent (extends to 2023) in case against Dr. Reddy's Laboratories, Mylan and Lupin



RECONCILIATIONS OF GAAP TO NON-GAAP MEASURES

Note Regarding Use of Non-GAAP Financial Measures

EBITDA, or earnings before interest, taxes, depreciation and amortization, and adjusted EBITDA are used and provided by Horizon Pharma as non-GAAP financial measures. Horizon Pharma provides certain other financial measures such as non-GAAP net income, non-GAAP diluted earnings per share, non-GAAP gross profit and gross profit ratio, non-GAAP operating expenses, non-GAAP operating income, non-GAAP tax rate, non-GAAP operating cash flow and net debt, each of which include adjustments to GAAP figures. These non-GAAP measures are intended to provide additional information on Horizon Pharma's performance, operations, expenses, profitability and cash flows. Adjustments to Horizon Pharma's GAAP figures as well as EBITDA exclude acquisition and/or divestiture-related expenses, charges related to the discontinuation of ACTIMMUNE development for Friedreich's ataxia, gain from divestiture, an upfront fee for a license of a patent, litigation settlements, loss on debt extinguishment, costs of debt refinancing, drug manufacturing harmonization costs, restructuring and realignment costs, as well as non-cash items such as share-based compensation, depreciation and amortization, royalty accretion, non-cash interest expense, long-lived asset impairment charges, impacts of contingent royalty liability remeasurements and other non-cash adjustments. Certain other special items or substantive events may also be included in the non-GAAP adjustments periodically when their magnitude is significant within the periods incurred. Horizon maintains an established non-GAAP cost policy that guides the determination of what costs will be excluded in non-GAAP measures. Horizon Pharma believes that these non-GAAP financial measures, when considered together with the GAAP figures, can enhance an overall understanding of Horizon Pharma's financial and operating performance. The non-GAAP financial measures are included with the intent of providing investors with a more complete understanding of the Company's historical and expected 2018 financial results and trends and to facilitate comparisons between periods and with respect to projected information. In addition, these non-GAAP financial measures are among the indicators Horizon Pharma's management uses for planning and forecasting purposes and measuring the Company's performance. For example, adjusted EBITDA is used by Horizon Pharma as one measure of management performance under certain incentive compensation arrangements. These non-GAAP financial measures should be considered in addition to, and not as a substitute for, or superior to, financial measures calculated in accordance with GAAP. The non-GAAP financial measures used by the Company may be calculated differently from, and therefore may not be comparable to, non-GAAP financial measures used by other companies. Horizon Pharma has not provided a reconciliation of its full-year 2018 adjusted EBITDA outlook to an expected net income (loss) outlook because certain items such as acquisition/divestiture-related expenses and share-based compensation that are a component of net income (loss) cannot be reasonably projected due to the significant impact of changes in Horizon Pharma's stock price, the variability associated with the size or timing of acquisitions/divestitures and other factors. These components of net income (loss) could significantly impact Horizon Pharma's actual net income (loss).

GAAP to Non-GAAP Reconciliation

EBITDA and Adjusted EBITDA – Three and Six Months Ended June 30

(\$ in thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
GAAP net loss	\$ (32,836)	\$ (209,536)	\$ (190,164)	\$ (300,106)
Depreciation	1,551	1,755	3,104	3,561
Amortization, accretion and step-up:				
Intangible amortization expense	66,989	69,776	134,344	139,453
Accretion of royalty liabilities	14,797	12,735	29,515	25,694
Amortization of deferred revenue	-	(207)	-	(411)
Inventory step-up expense	53	33,895	17,129	74,490
Interest expense, net (including amortization of debt discount and deferred financing costs)	31,030	31,608	61,484	63,591
Expense (benefit) for income taxes	3,962	(1,767)	3,596	(49,320)
EBITDA	\$ 85,546	\$ (61,741)	\$ 59,008	\$ (43,048)
Other non-GAAP adjustments:				
Acquisition/divestiture-related costs	1,775	153,385	5,686	163,424
Restructuring and realignment costs	7,039	5,193	10,381	5,193
Litigation settlements	4,250	-	4,250	-
Impairment of long-lived assets	-	22,270	37,853	22,270
Remeasurement of royalties for medicines acquired through business combinations	-	-	(2,151)	(2,944)
Share-based compensation	30,721	27,768	58,554	56,237
Charges relating to discontinuation of Friedreich's ataxia program	272	(3,103)	1,222	(3,103)
Drug substance harmonization costs	475	745	1,279	5,044
Upfront and milestone payments related to license agreements	-	-	90	-
Fees related to term loan refinancing	15	(45)	42	4,098
Loss on debt extinguishment	-	-	-	533
Gain on divestiture	-	(5,856)	-	(5,856)
Royalties for medicines acquired through business combinations	(13,259)	(11,622)	(25,780)	(22,939)
Total of other non-GAAP adjustments	31,288	188,735	91,426	221,957
Adjusted EBITDA	\$ 116,834	\$ 126,994	\$ 150,434	\$ 178,909



For us, it's personal

GAAP to Non-GAAP Reconciliation

EBITDA and Adjusted EBITDA – Full-Years 2017 and 2016

(\$ in thousands)

	Twelve Months Ended December 31,	
	2017	2016
EBITDA and Adjusted EBITDA:		
GAAP net loss	\$ (410,526)	\$ (166,834)
Depreciation	6,631	4,962
Amortization, accretion and inventory step-up:		
Intangible amortization expense	276,784	216,875
Accretion of royalty liabilities	51,263	40,616
Amortization of deferred revenue	(860)	(836)
Inventory step-up expense	119,151	71,137
Interest expense, net (including amortization of debt discount and deferred financing costs)	126,523	86,610
Expense Benefit for income taxes	(102,749)	(61,251)
EBITDA	\$ 66,217	\$ 191,279
Other non-GAAP adjustments:		
Remeasurement of royalties for medicines acquired through business combinations	21,774	386
Acquisition/divestiture-related costs	177,035	52,874
Restructuring and realignment costs	4,883	-
Gain on divestiture	(6,267)	-
Loss on debt extinguishment	978	-
Fees related to term loan refinancings	5,220	-
Share-based compensation	121,553	114,144
Litigation settlement	-	65,000
Reversal of pre-acquisition reserve upon signing of contract	-	(6,900)
Impairment of in-process research and development	-	66,000
Charges relating to discontinuation of the Friedrich's ataxia program	22,509	23,513
Upfront and milestone payments related to license agreements	12,186	2,000
Drug substance harmonization costs	10,651	-
Royalties for medicines acquired through business combinations	(47,003)	(37,593)
Total of other non-GAAP adjustments	323,519	279,424
Adjusted EBITDA	\$ 389,736	\$ 470,703



For us, it's personal

GAAP to Non-GAAP Reconciliation

Operating Income

(\$ in thousands)	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
GAAP Operating Income (Loss)	\$ 1,814	\$ (185,667)	\$ (125,494)	\$ (291,050)
Non-GAAP adjustments:				
Acquisition/divestiture-related costs	1,775	153,385	5,686	163,424
Restructuring and realignment costs	7,039	5,193	10,381	5,193
Litigation settlements	4,250	-	4,250	-
Amortization, accretion and step-up:				
Intangible amortization expense	66,989	69,776	134,344	139,453
Accretion of royalty liabilities	14,797	12,735	29,515	25,694
Inventory step-up expense	53	33,895	17,129	74,490
Impairment of long-lived assets	-	22,270	37,853	22,270
Remeasurement of royalties for medicines acquired through business combinations	-	-	(2,151)	(2,944)
Share-based compensation	30,721	27,768	58,554	56,237
Depreciation	1,551	1,755	3,104	3,561
Charges relating to discontinuation of Friedreich's ataxia program	272	(3,103)	1,222	(3,103)
Drug substance harmonization costs	475	745	1,279	5,044
Upfront and milestone payments related to license agreements	-	-	90	-
Fees related to term loan refinancings	15	(45)	42	4,098
Royalties for medicines acquired through business combinations	(13,259)	(11,622)	(25,780)	(22,939)
Total of non-GAAP adjustments	114,678	312,752	275,518	470,478
Non-GAAP Operating Income	\$ 116,492	\$ 127,085	\$ 150,024	\$ 179,428
Orphan and Rheumatology Segment Operating Income	70,609	64,662	113,713	114,386
Primary Care Segment Operating Income	45,883	62,423	36,311	65,042
Total Segment Operating Income	\$ 116,492	\$ 127,085	\$ 150,024	\$ 179,428
Amortization of deferred revenue	-	(207)	-	(411)
Foreign exchange (loss) gain	(5)	151	(115)	(108)
Other income, net	347	(35)	525	-
Adjusted EBITDA	\$ 116,834	\$ 126,994	\$ 150,434	\$ 178,909

GAAP to Non-GAAP Reconciliation

Net Loss and Non-GAAP Net Income

(\$ in thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
GAAP net loss	\$ (32,836)	\$ (209,536)	\$ (190,164)	\$ (300,106)
Non-GAAP adjustments:				
Acquisition/divestiture-related costs	1,775	153,385	5,686	163,424
Restructuring and realignment costs	7,039	5,193	10,381	5,193
Litigation settlements	4,250	-	4,250	-
Amortization, accretion and step-up:				
Intangible amortization expense	66,989	69,776	134,344	139,453
Accretion of royalty liabilities	14,797	12,735	29,515	25,694
Amortization of debt discount and deferred financing costs	5,691	5,206	11,187	10,629
Inventory step-up expense	53	33,895	17,129	74,490
Impairment of long-lived assets	-	22,270	37,853	22,270
Remeasurement of royalties for medicines acquired through business combinations	-	-	(2,151)	(2,944)
Share-based compensation	30,721	27,768	58,554	56,237
Depreciation	1,551	1,755	3,104	3,561
Gain on divestiture	-	(5,856)	-	(5,856)
Charges relating to discontinuation of Friedreich's ataxia program	272	(3,103)	1,222	(3,103)
Drug substance harmonization costs	475	745	1,279	5,044
Upfront and milestone payments related to license agreements	-	-	90	-
Fees related to term loan refinancings	15	(45)	42	4,098
Loss on debt extinguishment	-	-	-	533
Royalties for medicines acquired through business combinations	(13,259)	(11,622)	(25,780)	(22,939)
Total of pre-tax non-GAAP adjustments	120,369	312,102	286,705	475,784
Income tax effect of pre-tax non-GAAP adjustments	(7,015)	(34,272)	24,668	(72,375)
Other non-GAAP income tax adjustments	-	-	(35,893)	-
Total of non-GAAP adjustments	113,354	277,830	275,480	403,409
Non-GAAP Net Income	\$ 80,518	\$ 68,294	\$ 85,316	\$ 103,303

GAAP to Non-GAAP Reconciliation

Loss per Share – Diluted and Non-GAAP Earnings per Share – Diluted

(\$ in thousands, except for per share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Non-GAAP Earnings Per Share:				
Weighted average ordinary shares - Basic	165,536,826	162,931,930	164,921,722	162,486,946
Non-GAAP Earnings Per Share - Basic:				
GAAP loss per share - Basic	\$ (0.20)	\$ (1.29)	\$ (1.15)	\$ (1.85)
Non-GAAP adjustments	0.69	1.71	1.67	2.49
Non-GAAP earnings per share - Basic	\$ 0.49	\$ 0.42	\$ 0.52	\$ 0.64
Weighted average ordinary shares - Diluted				
Weighted average ordinary shares - Basic	165,536,826	162,931,930	164,921,722	162,486,946
Ordinary share equivalents	3,820,913	2,033,141	3,678,249	2,499,409
Weighted average shares - Diluted	169,357,739	164,965,071	168,599,971	164,986,355
Non-GAAP Earnings Per Share - Diluted				
GAAP loss per share - Diluted	\$ (0.20)	\$ (1.29)	\$ (1.15)	\$ (1.85)
Non-GAAP adjustments	0.69	1.71	1.67	2.49
Diluted earnings per share effect of ordinary share equivalents	(0.01)	(0.01)	(0.01)	(0.01)
Non-GAAP earnings per share - Diluted	\$ 0.48	\$ 0.41	\$ 0.51	\$ 0.63

GAAP to Non-GAAP Reconciliation

Net Debt

(\$ in thousands)	As of	
	June 30, 2018	December 31, 2017
Long-term debt-current portion	\$ -	\$ 10,625
Long-term debt, net of current Exchangeable notes, net	1,562,013 323,105	1,576,646 314,384
Total Debt	1,885,118	1,901,655
Debt discount	97,737	108,054
Deferred financing fees	10,171	11,041
Total Principal Amount Debt	1,993,026	2,020,750
Less: cash and cash equivalents	710,211	751,368
Net Debt	\$ 1,282,815	\$ 1,269,382



Horizon Pharma plc

August 2018



Isabel M., RAVICTI® Patient

For us, it's personal