

# Championing Responsibility

Annual Responsibility Review 2017



# About this report



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## Approach to reporting

Shire's Annual Responsibility Review focuses on the themes and material issues that the Company and our stakeholders consider of greatest importance, highlighting our progress in 2017 and our commitments and goals for 2025. This outlook for the future is articulated in our new Responsibility strategy, with nine commitments aligned to three strategic pillars: Supporting patients, People and culture, and Sustainable operations. The focus throughout: patients and those who care for them, with ethics and integrity woven through everything we do.

This is the first year Shire is using the Global Reporting Initiative (GRI) framework to inform its Responsibility reporting. The scope of this report includes information from January 1, 2017 through December 31, 2017.

 Contact us at [responsibility@shire.com](mailto:responsibility@shire.com) with questions or for more information.



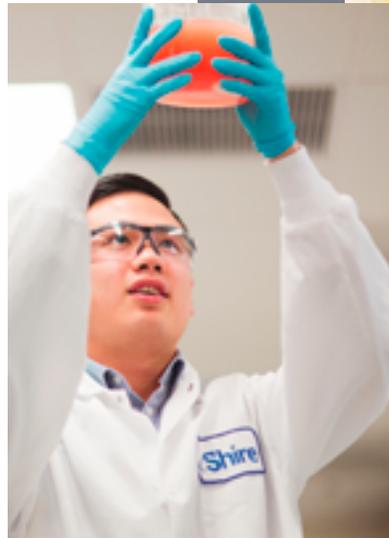
# Our Company Champions for people with rare diseases

## Transforming lives

As the leading global biotech company focused on rare diseases, we strive to develop best-in-class therapies across a range of rare disease areas. Shire's diversified capabilities enable us to reach patients in more than 100 countries who are struggling to live their lives to the fullest. Everything we do across our organization – from engaging our people to operating in a responsible and sustainable way – is to serve patients and those who care for them.

Approximately 350 million people worldwide live with rare diseases,\* which are often misunderstood, under-diagnosed, and potentially life threatening. As a result, these diseases pose a significant medical and economic burden on patients, their families, communities, and healthcare systems.

To meet these complex challenges, we are dedicated to sustaining our leadership across our key therapeutic areas. With our extensive product portfolio, innovative development pipeline, and collaborations with healthcare partners, we strive to reduce delays to diagnosis, advance care, and improve health outcomes.



\* Global Genes. Global Genes Factsheet on Rare Diseases.  
<https://globalgenes.org/rare-diseases-facts-statistics/>

# Chief Executive Officer's Letter

Our focus on patients has never been stronger. In 2017, we supported and strengthened that commitment through the development of our new Responsibility strategy with commitments and long-term goals to be achieved by 2025.

Our Responsibility strategy, focused on patients and those who care for them, was created to have a strong positive impact on our business and society – from serving patients, to supporting our communities, to protecting our environment. Explicitly linked to our Company's strategic drivers, with ethics and integrity woven throughout, the strategy articulates a simple fact: Responsibility is an integral part of our business and helps us serve as champions for patients.

Having a clear plan drives action, strengthens accountability, spurs innovation, and creates opportunities for competitive advantage, differentiation, and cost savings. It is also an expectation of a leading global biotech company, especially as society is increasingly turning to the private sector to help meet broader challenges. As we created the strategy, we considered many important questions about our social purpose and impact including: What role should we play in a global society?

How are we reducing our impact on the environment? How are we helping to create a diverse workforce and professional development opportunities in a changing, technologically-driven marketplace? And more importantly, how can we better serve patients?

With ambitious goals, in 2018 we expect to build on our many accomplishments in 2017 – from our Global Day of Service in which 7,300 employees volunteered 29,000 hours in the community, to the tens of thousands of patients we support through our Patient Assistance Programs, to the launch of a Global Energy Program, designed to improve our use of energy and water, and reduce associated greenhouse gas emissions.

The 2017 Annual Responsibility Review provides more details about these efforts and also lays out our Responsibility goals for the future, including shortening the time for rare disease diagnosis. I invite you to explore this Review to learn more about Shire's enterprise-wide commitment to Responsibility.

**Flemming Ornskov, M.D., M.P.H.**  
Chief Executive Officer



In 2017, Shire remained in the FTSE4Good Index Series, a leading responsibility investment index that recognizes positive environmental, social and governance practices.

# 2017 performance highlights



Global Energy Program launched to reduce energy and water use and associated greenhouse gas emissions.



100%  
timely clinical trial registration/results reporting.



\$1.8 billion  
invested in R&D efforts during 2017.



\$461 million  
spent on small businesses in the U.S. as part of our Supplier Diversity Program.



60,000  
patients supported by U.S. Patient Services.



5,000  
hours of volunteer time to SeriousFun Children's Network camps and programs.



40  
programs in our clinical research and development pipeline as of December 31, 2017.



1.5 million  
patients received financial assistance through our co-pay and Patient Assistance Programs in the United States.



# Q&A with Kim Stratton

## Head of International Commercial and Executive Sponsor, Responsibility Sponsor Network



### As the Executive Sponsor, what does Responsibility at Shire mean to you personally?

We have a significant opportunity to engage and connect with our employees, business partners, and a broad range of stakeholders. We come together to carry out our purpose to serve people with rare diseases, many of whom have been unable to get the help and treatment they need. It's exciting to see how passionate we are about meeting those needs. Everyone wants purpose in their lives, and our long-term commitments, as part of our Responsibility strategy, will enable us to achieve meaningful goals. This is very fulfilling to me, and all of us at Shire.

### Why is Responsibility an important part of the business and industry as a whole?

If every company does its share, the combined effort will have a halo effect on the industry and the business world. Together, we can make a difference in the lives of millions of people and on behalf of the planet we need to protect. This isn't wishful thinking – our strategy and commitments are concrete and achievable. In the process, Shire and other committed companies in the industry will help sustain our future as a viable and responsible force in creating a healthier world.

#### Kim Stratton

Head of International Commercial

“ Our Responsibility initiatives and our business objectives ultimately have the same aim – to support patients. ”

### How would you describe the intersection of Shire's Responsibility initiatives and its business objectives?

Our Responsibility initiatives and our business objectives ultimately have the same aim – to support patients. Think of it as intertwined threads woven into the fabric of our Company – strong, sustainable and important to our future.

### Looking ahead, what do you want to see Responsibility at Shire achieve in the coming years?

I think we will all be proud of our business and financial results in the years ahead. But we will be even prouder of how we achieve these results – from engaging our people with respect and cooperation to operating in a responsible and sustainable way. Over the long term, people will take note of how we serve our patients and those who care for them, address significant unmet needs and transform lives, not just the numbers we put up.

### What's one message you'd like to convey to employees about Shire's Responsibility commitments?

Our employees should feel proud about our commitments and what they will produce. Earlier, I talked about the importance of purpose in our lives. This is not just one Company's purpose, but also, in most cases, the personal purpose of our employees. Our Responsibility strategy and commitments provide a clear roadmap – by making sure these commitments are truly integrated into our business, we have a unique opportunity to make a significant contribution to our patients, our employees and our communities.

# Our Responsibility Strategy

## Committed to Better

### Embracing responsibility in a complex world

Improving the lives of patients with rare diseases and specialized conditions is a significant challenge in medicine today. Our singular focus is to help them – by accelerating accurate diagnoses, developing innovative treatments, and providing care to those patients without access.

But it's also central to our mission to help overcome broader, related challenges. We believe it's our responsibility to reduce our impact on the natural world we all share, create a work environment in which our employees can thrive and grow, and support the local communities that sustain us. By addressing these issues, we are carrying out our rare disease mission to the fullest degree.

In short, we are 'Committed to Better' – better for patients, better for our people and culture, and better for our local and global communities.

### We are inextricably linked

In our interconnected world, we know human health and wellbeing have become inextricably linked to the long-term sustainability of all life on our planet. So it's critical for us to understand these global challenges, manage related risks and opportunities, and find solutions that reinforce our commitment to Responsibility.

Introduced in 2015, the UN's Sustainability Development Goals (SDGs) provide a roadmap for a more sustainable future, which is inspiring more than 150 countries to take action. While the SDGs were designed for nations, the private sector recognizes their unique role in achieving these goals. This is why the SDGs served as an important reference for our own Responsibility strategy.

The SDGs over the next decade are clear: improve access to medicines and reduce health inequality, meet the needs of a changing workforce, protect the planet, and tackle climate change. We all have a role to play to build a more prosperous, equitable, and sustainable world.

In this context, guided by our new Responsibility strategy, we pledge to help expand access to needed medicines and to protect the health and safety of our employees, the environment and the communities in which we operate. In short, we strive to be champions for our patients and champions of responsibility. This is our commitment.

### Focusing on what matters most

Ultimately, responsibility at Shire is a commitment from all of our more than 23,000 employees. This is why, in 2017, we developed our first comprehensive Responsibility strategy, which outlines concrete and detailed commitments and goals leading to 2025 – a roadmap for championing Responsibility at Shire.

Based on extensive stakeholder feedback and our changing business environment, the strategy is designed to help us stay focused on what matters most and where we can have the greatest impact.

### Responsibility Strategic Framework



Shire's 2017 Annual Report includes information regarding Responsibility and risk management, available at:

<http://investors.shire.com/presentations-and-reports/ar-2017.aspx>

Responsibility helps us serve as a champion for patients

## Our Responsibility Strategy continued

Supporting patients

People and culture

Sustainable operations

Our opportunity to deliver positive impacts for patients and those who care for them



Support patients and those who care for them at every stage in their journey



Spearhead efforts to significantly shorten the time to diagnosis for rare diseases



Improve access to our therapies for all



Support employees so they can be at their best for patients



Inspire employees to develop innovative solutions



Provide opportunities for volunteerism and other service opportunities that support patients and our local communities



Manufacture and deliver high-quality medications for patients



Contribute to a healthy world with clean air and water



Reduce our environmental footprint for a sustainable future

Shire is driven by our commitment to serve as champions for patients and those who care for them. Our approach to Responsibility centers on this mission.

# Our Commitments and Goals to achieve by 2025

## Supporting patients

We are committed to shortening the time to diagnosis for patients living with rare diseases. We aim to support patients and their families along their entire journey, including involvement in clinical trials and managing their care with innovative digital technologies.

### Accelerate rare disease diagnosis

Spearhead the effort to dramatically shorten time to diagnosis for rare diseases by co-leading a Global Commission to develop an actionable roadmap to break down barriers and develop solutions. In parallel, advance multiple key initiatives that accelerate diagnosis for rare diseases.

### Lead in clinical trial transparency

Maintain timely annual disclosure of 100% of applicable clinical trial data.

### Provide the best experience for patients and those who care for them throughout their entire journey

- A. Transform support for patients by launching innovative patient-centric services and precision medicine platforms.
- B. Achieve a >90% patient satisfaction rate for patient services by providing personalized, best-in-class services and support nurses and genetic counselors with training in rare diseases.

## People and culture

Equipping our employees for success is vital to serving our patients and communities. This includes providing a sense of purpose to what we do every day in a safe and inclusive environment that treats all people equally and fairly.

### Engage our employees in our purpose, priorities and commitments

Achieve 100% of employees feeling they are making a meaningful impact on patients, such as by increasing employee participation in volunteerism and other service opportunities that support patients and our local communities.

### Foster a company culture of development and inclusion

- A. Create a learning culture by increasing opportunities and experiences that foster professional learning and development.
- B. Continually strive for workforce equity and living wage for employees in all key regions where Shire operates.

### Establish a culture of best-in-class safety and wellbeing

- A. Drive safety excellence by eliminating serious injury, impact, or fatality events at all Shire facilities.
- B. Create and implement a comprehensive health and wellbeing program that supports all Shire employees so they can be their best for patients.

## Sustainable operations

Managing sustainable operations means sourcing and manufacturing responsibly, delivering safe and effective medicines, and using natural resources carefully. This helps ensure our patients receive the treatments they need to lead healthier lives.

### Reduce our impact on the natural world

- A. Reduce scopes 1 and 2 greenhouse gas (GHG) emissions by 20% relative to 2016 baseline.
- B. Refine scope 3 GHG emissions measurements; influence 90% of strategic suppliers to institute GHG emissions management goals; and reduce GHG emissions from Shire product transport, business travel and employee commuting by 20% relative to 2016.
- C. Reduce operational water consumption normalized to product sales by 40% relative to 2016 baseline.
- D. Divert 100% of operational, non-hazardous waste from landfill.

### Eliminate the use of substances of very high concern

Evaluate and eliminate the use of substances of very high concern (SVHCs), where technically feasible, within Shire's product development and manufacturing processes once they are proposed for addition to the European Chemicals Agency candidate list.

### Ensure supplier commitment to responsibility

Evaluate the social and environmental performance of Shire's strategic suppliers and work with those suppliers to influence performance.

## Our Responsibility Strategy continued

### Management approach to stakeholder engagement

The needs, expectations, ideas and opinions of our key stakeholders not only helped us shape our Responsibility strategy in 2017, but will continue to guide us in the future.

We regularly consult with our stakeholders on a range of Responsibility topics and issues, often through a number of forums and organizations. For example, we are members of the Pharmaceutical Supply Chain Initiative (PSCI) and we participate in the Healthcare Working Group of BSR. And we partner with patient advocacy groups to find out how we can continue to meet critical health needs.

Only by listening to and understanding our stakeholders, and incorporating what we learn into our daily business practices, can we truly make a difference in the lives of our patients, their caregivers and the world we share.

### Responsibility materiality assessment

In 2016 we conducted a materiality assessment that informed the development of our new Responsibility strategy. As part of the assessment, we surveyed employees and engaged external stakeholders, including patient organizations, supply chain experts, investors, policy and media specialists, and industry and non-profit leaders.

Based on this materiality assessment, our comprehensive Responsibility strategy articulates ambitious goals to 2025.

### Shire's engagement with key stakeholder groups



#### Patients and healthcare providers

- Patient and healthcare provider websites
- Patient surveys including patient satisfaction surveys
- Advocacy organizations
- Non-governmental organizations
- Medical grants



#### Employees

- Opportunities through Business Resource Groups
- Employee surveys
- Volunteer opportunities in community and patient organizations
- Code of Ethics
- Ethics Helpline



#### Governments/Payors

- Participate on advisory committees
- Inform public debate based on evidence
- Supplier diversity program
- Public-private partnerships
- Trade association leadership



#### Shareholders

- Analyst/investor presentations
- Earnings releases
- Socially responsible investment surveys



#### Communities

- Employee volunteering
- Board memberships
- Financial support

## Our Responsibility Strategy continued

### Responsibility governance structure

Shire's cross-functional, global Responsibility Sponsor Network consists of 20 senior leaders who play a fundamental role in creating, reviewing, and implementing our Responsibility strategy, goals and policies, including our efforts on environmental sustainability.

The Responsibility Sponsor Network is supported by our core Responsibility team, which manages related working groups, oversees internal and external Responsibility communications, and partners with sponsors and stakeholders to identify risks and opportunities. The Network ultimately reports to Shire's Board of Directors and Executive Committee.

### Ethics and transparency

At Shire, we take pride in operating with the highest standards of ethics and transparency in all we do – from adhering to ethics-based policies and procedures to doing business with integrity every day. Specifically, we:

- Stringently follow our [Code of Ethics](https://www.shire.com/who-we-are/how-we-operate/policies-and-positions) <https://www.shire.com/who-we-are/how-we-operate/policies-and-positions>. New employees are required to read and commit to the Code, and all employees must review and renew their commitment annually.
- Ensure that employees as well as people outside of Shire can easily find our Ethics Helpline, an independent resource available to raise issues about possible company ethics and compliance issues. A Shire colleague can raise a concern at any time, about any issue, without fear of retaliation to his/her work environment.

- Deploy global anti-corruption/anti-bribery measures aligned with our Global Anti-Corruption/Anti-Bribery Policy including training and awareness initiatives and a third-party due diligence program. This requires that our third parties comply with all applicable laws, including the anti-corruption laws of all countries in which we, or third-parties, operate.
- Adhere to the most stringent commercial and medical regulatory requirements and obey industry promotional and non-promotional guidelines for each country in which we operate.
- Comply with industry and government rules and regulations that guide the research and development of innovative new medicines.
- Adhere to the [International Conference on Harmonization of Good Clinical Practice Guidelines](#).
- Have clear ethical standards, principles, and processes governing the necessary use of animals during research, development, and new medicine registration. Shire facilities that work with animals are accredited by the Association for Assessment and Accreditation of Laboratory Animal Care.
- Support the [UN Universal Declaration of Human Rights](#) and commit to the principles of the International Labor Organization's Declaration on Fundamental Principles and Rights at Work.

### Global quality

Product quality, safety, and efficacy are some of the most important aspects of our work. Applying our expertise and technical know-how ensures we maintain the highest levels of performance in these areas. We apply a comprehensive set of measures and controls to meet quality and safety regulations, and other national and international standards. Through these safeguards, we identify and minimize any potential risk of harm from our products to our patients, employees, communities, and local environment.

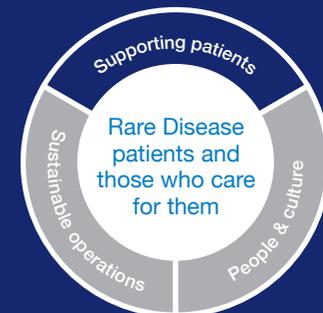




Donna (with her children), living with ADHD

# Supporting patients

Supporting patients is at the heart of being a champion for patients. Beyond discovering and developing medicines, we are committed to dramatically shortening the time to diagnosis for rare diseases. We aim to support patients along the entire patient journey, from conducting clinical trials to managing their care through the use of innovative digital technologies and beyond.



# Supporting patients

## Why it matters

There are more than 7,000 known rare diseases that affect 350 million people worldwide, yet treatments today only exist for five percent of this population.<sup>1</sup> For those with access to care, the mean average length of time from symptom onset to accurate diagnosis is nearly five years<sup>2</sup> – and sometimes significantly longer. That's a long time for people with a rare disease, who may experience poor quality of life and high levels of disability. Overcoming these barriers is both a social and economic imperative.

## Our opportunity

Because rare diseases often hide behind the symptoms of more common illnesses, particularly in children, misdiagnosis is all-too common and time consuming. We are striving to do more for patients by spearheading the effort to significantly shorten the time to diagnose rare diseases. And since many of the conditions for which we develop treatments are not widely understood, we strive to increase understanding and support among all stakeholders.

## Our approach

Essentially, we help patients by focusing on several aspects of patient care:

- **Availability** – developing innovative new medicines and making existing medicines more readily available.
- **Accessibility** – removing healthcare infrastructure and logistical barriers that prevent patients from getting the medicines they need.
- **Affordability** – providing financial assistance programs to help patients afford their treatment.
- **Advocacy** – building strong relationships with patient advocacy groups and providing patients with tools and educational resources so they can better advocate for their own health.

Because we cannot address these challenges alone, we strategically collaborate with patient associations, industry groups, non-profit advocacy organizations, and government health agencies to share knowledge, connect patients with relevant services and networks, and carry out our mission in support of patients with rare diseases.

Shire is aiming to create specific Responsibility goals focused on Access for recommendation in 2018 as part of our Responsibility strategy.

<sup>1</sup> Global Genes. Global Genes Factsheet on Rare Diseases. <https://globalgenes.org/rare-diseases-facts-statistics/>

<sup>2</sup> Miyamoto BE, Kakkis ED. The potential investment impact of improved access to accelerated approval on the development of treatments for low prevalence rare diseases. *Orphanet J Rare Dis* 2011;6:1-13. [page 1]

## Our Commitments through 2025

- Accelerate rare disease diagnosis
- Lead in clinical trial transparency
- Provide the best experience for patients and those who care for them throughout their entire journey

# Access to medicines

We are committed to helping patients get the Shire medicines they are prescribed. The way we help is through our patient services initiatives and worldwide diagnostics and access programs. We also form partnerships to remove educational and infrastructure barriers, train and educate doctors, patients and caregivers to improve standards of care, and develop innovations in research and development (R&D) and clinical trials.

In 2017, our co-payment and [Patient Assistance Programs](#) in the United States provided discounted or free medicines, depending on financial circumstances, to more than 1,500,000 patients. More than 10,000 patients received patient services, including at-home nursing support and home delivery, in our international markets. The goal: Increase patient access to the medicines they need.

## Shire actions for 2018 to provide the best experience for patients and those who care for them throughout their entire journey:

- Measure patient satisfaction with patient services and continuously innovate and improve service delivery.
- Build patient relationship platforms that provide more personalized services and better patient engagement by sharing experiences from around the globe.

## Extending a helping hand

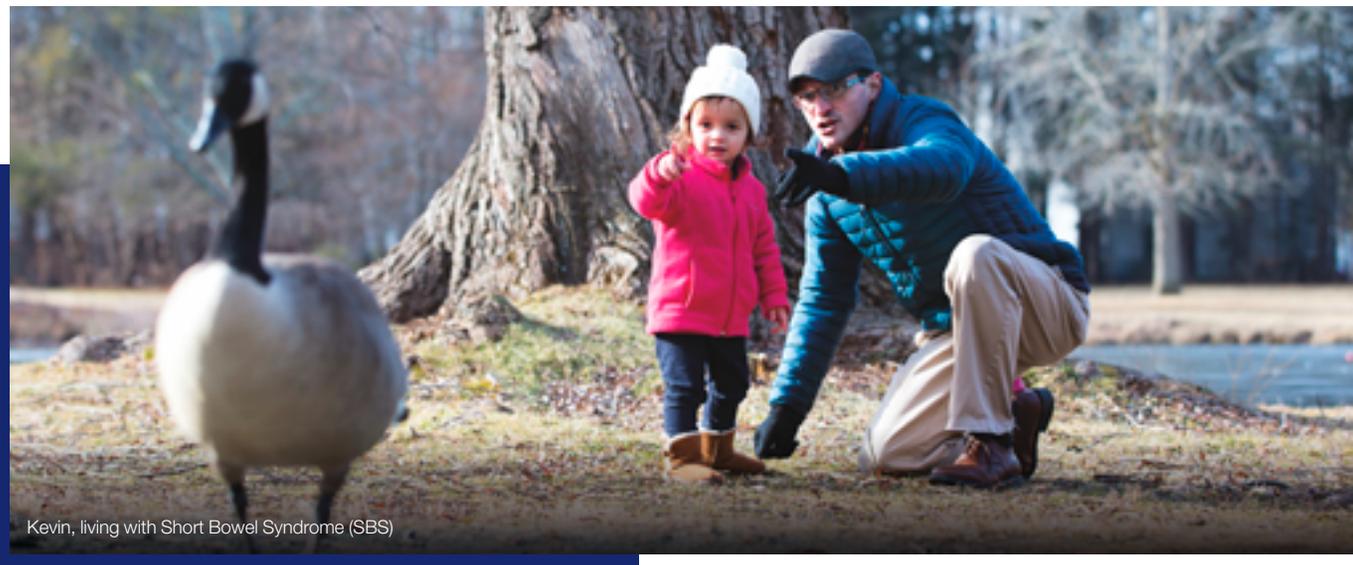
Our patient services initiatives encompass multiple U.S.-focused programs including:

- [OnePath®](#), a product support program that helps patients living with type 1 Gaucher disease, Hereditary Angioedema (HAE), Hunter Syndrome (MPS II), and other conditions such as Short Bowel Syndrome (SBS) and Hypoparathyroidism. Since its inception in 2010, OnePath has helped over 10,500 patients. In 2017, One Path's Patient Support Managers supported patients through more than 260,000 telephone calls to help patients access their prescribed treatment.

Shire also launched the OnePath Patient Portal and Mobile Application, a convenient online tool through which patients can quickly connect with their OnePath Patient Support Manager for product support.

- [MylgSource](#), which provides support from diagnosis onward for patients with primary immunodeficiency (PI). The program includes peer-to-peer emotional support, PI education and resources to help manage PI, including access to co-pay insurance and financial resources, regardless of treatment.

- [Rare Disease Charitable Foundation](#), a U.S. non-profit corporation that helps eligible patients who are uninsured or underinsured by providing insurance information and certain rare disease medicines from Shire at no cost.
- [Shire Cares®](#), a U.S. assistance program for patients with limited financial resources and limited or no prescription insurance. Through Shire Cares, more than 34,500 patients gained access to Shire medications and treatments in 2017 for conditions such as ulcerative colitis, Attention Deficit/Hyperactivity Disorder (ADHD), Adult Binge Eating Disorder (BED), Dry Eye Disease, Epilepsy, and end-stage Renal Disease.
- [Hematology Support Center](#), committed to supporting our hematology patients and their caregivers by helping them overcome obstacles to product access and coverage, as well as providing helpful tools and resources.
- [AATmosphere iINSPIRATION](#), which provides a personalized approach for those living with AAT deficiency. A dedicated AATmosphere iINSPIRATION AlphaNet Coordinator, who is also a patient, guides patients through the steps, resources, and support available to help them build confidence and manage their condition.



Kevin, living with Short Bowel Syndrome (SBS)

## Access to medicines continued

### Worldwide diagnostic and access programs

We have numerous programs to increase access, while helping to build healthcare capacity and support for patients. Shire provides diagnostic services in approximately 50 countries, serving many through outside partners that provide genetic diagnostics for rare hereditary diseases. This need for timely diagnoses and medicines is considerable. In addition:

- Our [charitable access programs](#) improve access to treatment and care for patients with Lysosomal Storage Disorders (LSDs) and hemophilia in Africa, Latin America, and the Middle East/Asia Pacific, where such services are often not available.
- In 2017, Shire joined [Access Accelerated](#), a collective of more than 20 pharmaceutical companies and partners, including the World Bank and the Union for International Cancer Control, to reduce barriers to non-communicable disease care in low and middle-income countries (see In India, right).

Examples of our work to spur diagnosis and treatment internationally:

- [In Argentina](#), we worked with Lab Diel/Lisin, La Plata University to double the number of patients diagnosed with HAE in four years from 183 in 2013 to 385 in 2017.
- [In Brazil](#), our participation in a public-private partnership for factor VIII has expanded hemophilia treatment from zero patients using recombinant factor VIII to more than 5,000, including more than 3,600 on a prophylaxis standard of care.

- [In Italy](#), we have established patient support programs to cover many patient needs, such as home therapy, rehabilitation, home and hospital training and psychological support, serving 333 patients.
- [In India](#), we piloted a successful hemophilia home care model in Mumbai, an Access Accelerated program in partnership with King Edward Medical College, to prevent and reduce bleeds. The learnings of this pioneering program have been disseminated to two other cities. The aim is to bring the standard of home care found in developed economies to persons with hemophilia in India, especially children.

For information on Shire's Responsible Pricing Policy go to: <https://www.shire.com/who-we-are/how-we-operate/policies-and-positions/responsible-pricing>

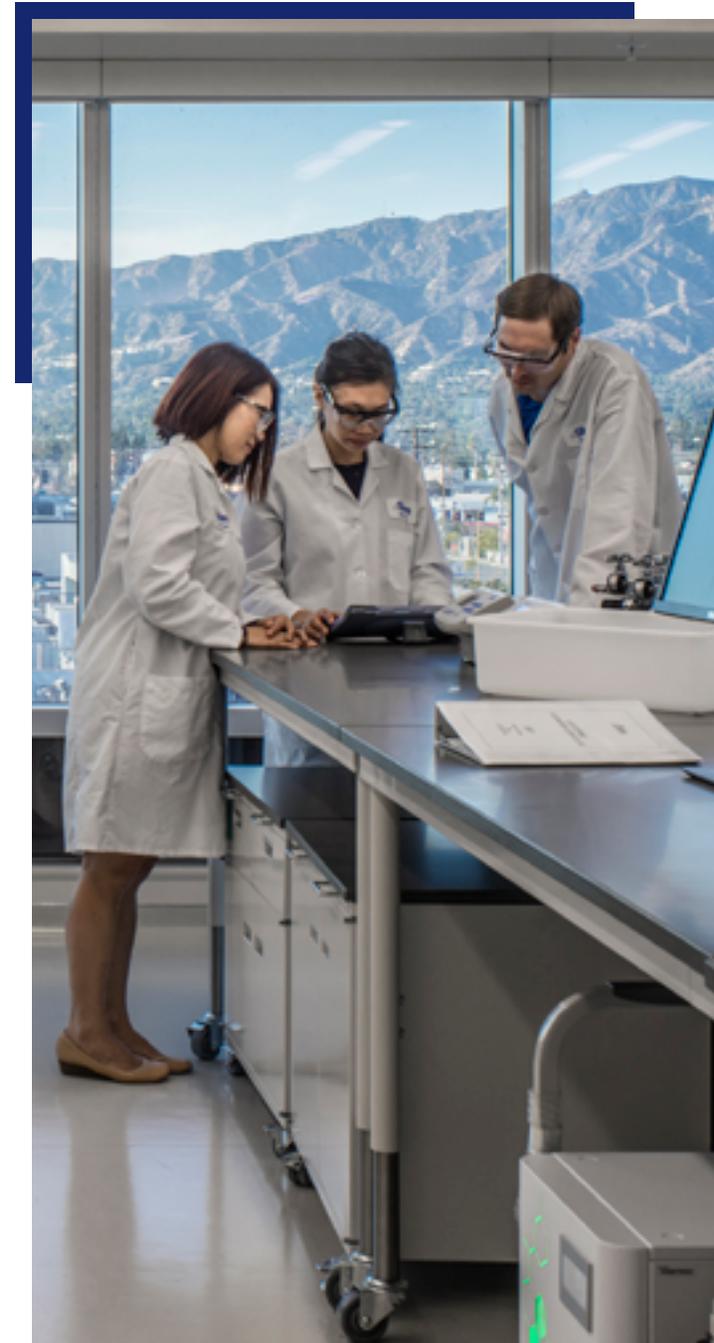


A surgery patient from Trinidad and Tobago benefited from Shire's donation through the WFH Humanitarian Aid Program.

#### Case study

### Donating medicines for vulnerable patients

Through our partnership with the World Federation of Hemophilia (WFH), Shire provides annual donations of clotting factor to support patients in various countries. Shire donated nearly 8 million units in 2017. Late in the year, we began donating 21 MIU of ADVATE to treat patients with hemophilia A in Venezuela, Myanmar and Pakistan. The Shire units are being shipped in three batches in 2018.



## Access to medicines continued

### Patient journey mapping

Many access initiatives are informed by Shire's Patient Journey Excellence framework, which starts with patient journey mapping, an intensive effort that follows natural disease progression, epidemiology, patient flow, pedigree analysis (the study of gene inheritance), patient screening, diagnostics, home care and nurse support.



### Laying the groundwork to improve access

In many regions of the world, improving access to treatment must start with education and collaborations with a range of stakeholders. This activity is linked to UN Sustainability Goal 3, which focuses on ensuring healthy lives and promoting well-being for all at all ages. Examples of Shire's work around the world include:

- **Starting a rare disease working group in Asia-Pacific.** Shire supported the formation of the APEC Rare Disease Working Group and serves as the industry co-chair. Endorsed by the health ministers of the member countries of the Asia Pacific Economic Cooperation (APEC), the Working Group will address barriers to diagnosis and treatment in the region. This commitment represents the first time APEC has chosen to focus on the needs of the rare disease community. A policy action plan is expected in the next year.

- **Improving hemophilia care in Vietnam.** In Vietnam, a lack of funding, access, and medical data has thwarted progress in treating patients with rare diseases. Over the past five years, however, Shire has partnered with two of the leading hemophilia centers of excellence in Vietnam to elevate standards of care and improve outcomes for roughly 6,000 hemophilia patients. So far, more than 120 doctors have been trained since 2012, 12 hemophilia treatment centers have been established, and a registry will be piloted to track clinical outcomes.
- **Launching a national registry in India.** Shire co-sponsored India's first National Initiative on Rare Disorders Conference (NIRD) in April 2017 and joined forces with the India Council of Medical Research and the All India Institute of Medical Sciences to help develop and launch the country's first National Registry for Rare Diseases. The NIRD Conference was a ground breaking event that brought together key stakeholders from government, science, medicine, patient associations, and life sciences, designed to achieve consensus on a national rare disease policy and a systematic inclusion of all rare disease patients into the National Rare Disease Registry.

### Shire actions for 2018 to accelerate rare disease diagnosis:

- Co-chair a Global Commission of multidisciplinary experts to create actionable solutions for shortening time to diagnosis for rare diseases.
- Pilot digital diagnostic approaches such as electronic medical record (EMR) screening and artificial intelligence.



## Access to medicines continued

### Innovating through R&D and clinical trials

We are committed to developing breakthrough therapies as quickly as possible. At the end of 2017, we had 40 programs in our clinical R&D pipeline.

### Shire medicine and R&D recognized by industry

Shire received the 2017 Prix Galien for REVESTIVE<sup>®</sup> in the Medicines for Rare Diseases category. REVESTIVE<sup>®</sup> is a treatment for patients with SBS (Short Bowel Syndrome). The Prix Galien is the highest distinction awarded each year to pharmaceutical research.

### Data transparency

We take special care with clinical trials to demonstrate appropriate data transparency while ensuring patient privacy.

- **Providing comprehensive information.** By voluntarily expanding our disclosure standards, we exceeded baseline pharmaceutical industry transparency requirements in the U.S. and Europe. We also piloted trials through which we engaged patients as partners in our clinical development programs, part of a collaboration with the Center for Information & Study on Clinical Research Participation (CISCRP). This patient-driven non-profit organization also helps us prepare and include plain language summaries, for study participants and the general public, on our clinical trials information hub, [Shiretrials.com](http://Shiretrials.com).
- **Protecting privacy.** With a focus on small rare disease studies, where patient confidentiality is even more critical, we further improved methods for data anonymization so that we can disclose appropriate data while mitigating the risk of patient identification.

### Shire actions for 2018 to maintain timely annual disclosure of 100% of applicable clinical trial data:

Continue to exceed disclosure requirements by:

- sharing more data and results on historical studies
- identifying best practices and optimizing systems to make clinical trial data more easily understandable
- enhancing convenient clinical trial data accessibility on [Shiretrials.com](http://Shiretrials.com)
- completing implementation of an automated centralized data tracking tool for all studies registered/disclosed/redacted/published across the organization.





# Patient advocacy and awareness

Fueling broad-based support for our patients beyond diagnosis and long-term care, we strive to raise disease awareness among key stakeholders and the public at large, and raise funds to extend services where they're needed most. The goal: Empower patients and make sure their needs are known.

## Sponsoring fundraising walks

In 2017, Shire was once again the [National Presenting Sponsor of the National Hemophilia Foundation \(NHF\) Walks](#), which include sponsoring 40 NHF Walks around the country. Since 2008, Shire has invested over \$4 million, which the NHF has used for educational programs, summer camps and more.

Shire was also the [National Presenting Sponsor of the Immune Deficiency Foundation \(IDF\) Walks](#), which include sponsoring 16 individual walks. The IDF Walk for Primary Immunodeficiency diseases (PI) has raised over \$3 million since 2013, used to fund vital IDF programs that are helping people with PI lead better lives.

## Engaging and championing patients

To provide the most effective services possible, we continually engage rare disease patients directly to learn about their experiences and support them around the world. We also help educate nurses and geneticists who work in different ways to improve the patient experience.

- [Connecting patients on the Rare2Aware portal](#). This Shire social media platform places the patient experience at the center of the discussion. It's designed to start conversations and share stories, and to provide connections, support and advice for people living with a rare disease. The portal has accumulated 40,000 followers, including more than 5,000 customer interactions.
- [Integrating the patient experience into R&D](#). In 2017, we launched the Patient Advocacy Drug Development Education Committee. The Committee includes both internal and external stakeholders and is designed to advance rare disease R&D by integrating the patients' points of view. Objectives include increasing the speed of patient recruitment and retention for clinical trials, supporting patient group engagement with the FDA, and improving clinical trial designs.
- [Ending the diagnostic odyssey for children](#). The newly formed Global Commission to End the Diagnostic Odyssey for Children with a Rare Disease is a prestigious multidisciplinary group of experts, led by Shire, Microsoft and EURORDIS. The task is to produce a roadmap for rare diseases with a focus on eliminating core barriers that prevent the timely diagnosis of children. Launched in early 2018, the Commission is expected to publish its first report by February 2019.
- [Training new geneticists](#). Our continued partnership with the ACMG Foundation for Genetic and Genomic Medicine helps to address a shortage of medical geneticists who will play a crucial role in diagnosing and treating patients with rare diseases. To commemorate Shire's 30th anniversary in 2016, we committed \$1.8 million (2016-2018) to fund 10 fellowships and clinical residencies.

## Partnerships with non-governmental organizations and advocacy groups

In addition to hundreds of disease-specific and local advocacy organizations around the world, Shire professionals support and work with the following organizations that advocate for patients with rare diseases.

- [EURORDIS](#), a non-profit alliance of 765 rare disease patient organizations from 69 countries working together to improve the lives of people living with a rare disease in Europe.
- [EveryLife Foundation](#), a science-based advocacy organization working to bring lifesaving treatments to the 30 million Americans with rare diseases, with a focus on educating and activating the patient community.
- [Rare Disease Legislative Advocates \(RDLA\)](#), a program of the EveryLife Foundation that supports the advocacy of all rare disease patients and organizations.
- [Genetic Alliance](#), the world's largest nonprofit health advocacy organization network, including more than 1,200 disease-specific advocacy groups, as well as thousands of universities, private companies, government agencies, and public policy organization.
- [Global Genes](#), one of the leading rare disease patient advocacy organizations in the world.
- [NORD](#), a patient advocacy organization (including more than 260 patient organization members) committed to identifying, treating, and curing rare disorders through programs of education, advocacy, research, and patient services.

Across the U.S., there is a significant shortage of medical geneticists. To advance and improve expertise in medical genetics in the U.S., we committed \$1.8 million to fund 10 fellowships and clinical residencies.



# Patient communities

People with rare diseases and their families around the world are part of a growing network of communities where patients and their families can find information, support and common ground. Through several programs, we support these communities by extending social and educational opportunities for children and young adults. The goal: Help patients live the life they deserve.

## Enriching and protecting lives, expanding opportunities

Having the opportunity to learn and have fun helps patients with rare diseases feel less isolated and more like everyone else.

- **Supporting SeriousFun Children's Network.** This network, a global community of independent, not-for profit camps, provides children living with serious illnesses and their families with transformative experiences to which they might not otherwise have access due to the financial considerations, limitations or needs related to their illness. Studies have shown that children who attend a SeriousFun camp demonstrate improved confidence, higher self-esteem, a greater sense of independence and increased interest in social activities.



2017 marked the second year of our partnership with SeriousFun Children's Network and its 30 camps and programs around the world. Shire's \$3 million commitment, \$1 million annually for three years, enables nearly 1,000 children to attend these life-changing camps. In addition, this year Shire employees dedicated over 5,000 hours to volunteering with SeriousFun at different camps. And during our Global Day of Service, over 250 employees volunteered their time to work on enhancing the sites of seven SeriousFun camps. We were also proud to sponsor two rare disease family weekends, allowing 38 families to spend quality time together at camp.

- **Providing an educational advantage.** Education Advantage is a Shire scholarship program designed to help students with a bleeding disorder (hemophilia A or B, hemophilia with inhibitors, or von Willebrand disease) pay for college, community college or technical school. Since 2010, the program has awarded more than 200 scholarships to eligible students, amounting to \$1.5 million. In 2017, we awarded 14 new scholarships and 38 scholarship renewals.
- **Shire's ACES scholarship program** awards students with certain rare diseases partial scholarships to attend undergraduate college or vocational school. Since starting the program in 2012, Shire has committed over \$250,000 for rare disease scholarships.
- **The Coalition to Prevent ADHD Medication Misuse (CPAMM).** Shire continues to be involved in an educational campaign encouraging parents, caregivers, physicians, college administrators, athletic coaches, and trainers to take action and speak with students about the dangers and consequences of the non-medical use of ADHD medication. Learn more at [cpamm.org](http://cpamm.org).
- **Providing scholarships for students with ADHD.** In 2017, Shire also awarded 55 Michael Yasick ADHD Scholarships, including 50 nationally based scholarships and five employee-related scholarships. Since the start of the program in 2011, we have awarded 393 national scholarships and 30 employee scholarships. Each recipient receives \$2,000 in tuition assistance and one year of weekly ADHD coaching services, provided by the Edge Foundation, to help ease the transition to a less structured higher education environment.



## Disaster Relief: Shire responds to those in need

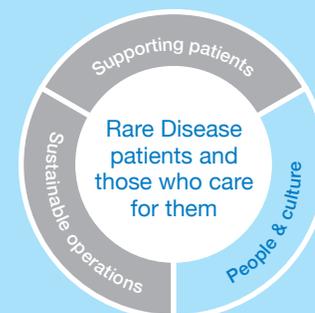
Major disasters tend to generate significant healthcare needs for medical resources and services to care for people affected. In 2017, we supported the relief effort following the hurricanes in Texas, Florida, Puerto Rico, and throughout the Caribbean, as well as the earthquakes in Mexico and fires in California. In addition to donating product to patients in affected areas, our employees worked diligently with physician offices and patients to help ensure treatment was available in alternative locations to those affected by natural disasters.

We continue in our role as a board member of the Partnership for Quality Medical Donations (PQMD), a global alliance of non-profit and corporate organizations that aims to enhance access to healthcare in underserved communities and areas affected by disasters.



# People and culture

To serve our patients and communities effectively, Shire employees must feel empowered and inspired, knowing their efforts are having a meaningful impact within a workplace that provides opportunities for professional success and fulfillment. To support them, we nurture a sense of purpose to what we do every day, in a safe and inclusive environment in which all people are treated equally and fairly.



# People and culture

## Why it matters

A changing global workforce increasingly seeks aligned values, transparency and equal opportunities where they work. In this environment, employee engagement, the emotional commitment each employee brings to the organization and its goals, is fundamental to our success. Without it, we would not be able to advance our primary goal: to meet the needs of our patients and patient communities.

## Our opportunity

Only by nurturing and developing our employee's talents and sense of wellbeing can we truly be champions for patients and grow our business. We understand our success depends on the aspirations and wellbeing of our people.

## Our approach

To support and develop our people, we focus on key areas: providing a sense of purpose to what we do every day, sustaining a diverse and inclusive workforce, and providing a safe and healthy workplace.

 Information about Shire's policies on such topics as human rights can be found at: <https://www.shire.com/who-we-are/how-we-operate/policies-and-positions>.

## Our Commitments through 2025

- Engage our employees in our purpose, priorities and commitments
- Foster a company culture of development and inclusion
- Establish a culture of best-in-class safety and wellbeing



# Continuous learning, expanding diversity and inclusion

An environment that values continuous learning and growth sustains a highly motivated workforce. Providing the right training and resources helps improve employee engagement and retention, while fostering a culture of inclusion. The goal: A talented and engaged Shire team committed to championing the needs of our patients.

## Providing tools for professional growth

From interns looking to launch their careers to experienced leaders who need to improve their skills in changing times, Shire's broad and growing range of programs enables employees to learn and grow at every stage. In addition to annual performance reviews, we encourage ongoing conversations throughout the year to provide constructive feedback, reflect on accomplishments, and have meaningful development discussions.

- **Introducing the WeLearn portal.** To help employees achieve their professional development goals, we launched WeLearn in 2017, an online platform that offers easily accessible and consumable learning opportunities. Topics on WeLearn include team leadership, accountability, coaching to excellence, optimizing business performance, and presentation skills. We also expanded our mentoring programs and leadership effectiveness toolkits for new and current leaders.
- **Partnering with academia to train employees.** Shire also forges partnerships with academia to train our employees. Since 2015, we have trained employees in a range of advanced manufacturing disciplines at the Georgia BioScience Training Center near our manufacturing facility in Georgia. The center features custom-made technology

that simulates some of our bio manufacturing processes. With the evolving nature of biotechnology manufacturing, we actively seek out educational institutions – non-profits, vocational technical schools, community colleges and research institutions – to develop the next generation of biotech employees. A case in point is our work with Quincy College's Biotechnology Program, in Quincy, Massachusetts. Here we helped design a biotechnology laboratory to industry specifications and provided guidance on the curriculum. We also hosted Quincy students and faculty to share best practices and real work experiences.

- **Guiding aspiring talent.** Our Early Talent Development Programs provide aspiring professionals with the opportunity to develop their skills and gain cross-functional knowledge of our business. Over the two-to-three year timeframe, early professionals take on a variety of assignments to identify specific roles they enjoy and may want to pursue. Programs are available in finance, information technology, and operations development, and include senior leader mentorships and career planning.

### Attracting early talent

In October 2017, Shire was ranked one of '20 Cool Companies Hiring Interns Now' by Glassdoor, a leading job-search site. One Shire intern said, "Chances to meet so many talented people, the culture of the company is, in general, positive and encouraging to students."

### Shire actions for 2018 to foster a culture of development and inclusion:

- Continue to provide all employees access to a variety of learning experiences, including more virtual and people manager development opportunities.
- Pilot Global Day of Learning.
- Develop an integrated strategy for building inclusion and belonging.
- Investigate best practice in the area of living wages to inform a future-state roadmap.

## Strengthening diversity and inclusion

Our collective differences in race, ethnicity, gender and sexual orientation have made us a stronger and more innovative and responsive company, which has contributed to our sector-leading position. To build on this foundation, we foster a positive and inclusive culture and a supportive work environment that values diverse opinions and experiences.

- **Supporting Business Resource Groups (BRGs).** Shire's BRGs are a valued part of the company's infrastructure and culture. Our BRGs help us attract, develop, and retain talent and build diverse teams; engage in meaningful community outreach; and, bring new ideas, experiences, and energy to our business. Each of our eight BRGs is employee-driven (participation is voluntary) and focused on a unique community of our employees: B-Equal (LGBT+), Black Leadership Council, Building Asian Leaders, Early Career Professionals, EnAbles (Disability/Caregivers), Impacto (Latino), Veterans, and Women@Shire.
- **Sustaining a culture of inclusion.** To strengthen our culture of inclusion, we focused on the following in 2017:
  - **Hiring fairly.** We implemented an enhanced talent acquisition system with controls that assure a fair hiring process for internal and external candidates. We also launched a global module called Empowering Managers Training with Diversity & Inclusion and Interviewing Best Practices. All of our external recruiting partners are certified in inclusive selection and interview processes.
  - **Advancing women leaders.** We use internal and external events, such as International Women's Day, to sponsor and showcase female leaders and engage male champions of gender diversity. We also deployed a global mentoring framework, which creates opportunities for women to build relationships with, and receive guidance and support from, senior leaders.
  - **Learning to manage diversity.** We introduced new internal learning platforms with gender diversity resources and inclusive leadership content, and we have plans to launch an anti-harassment training program for employees and managers in 2018. We're also evaluating unconscious bias training programs, which can help employees recognize and minimize discriminatory blind spots.

## Continuous learning, expanding diversity and inclusion continued

### Improving our responsiveness to employees

Employee satisfaction is of the utmost importance to Shire. The newly formed [Employee Experience Network](#) is a group of Shire employees from across the globe who provide insights, test strategies, and identify specific recommendations to improve the employee experience and help drive culture change at Shire. In November 2017, approximately 400 volunteers joined the network with focus group sessions to gather data.

We are in the late stages of a significant corporate transformation, having integrated Baxalta and its 16,000 employees, as we further evolve into the global leader in rare diseases. In July 2017, Shire conducted its first global Employee Engagement Survey since the integration, with a subsequent 'pulse' survey in November of 2017. Our internal engagement scores remain solid, and we continue working to build the best organization for our employees, patients and shareholders.

#### Shire actions for 2018 to engage employees in purpose, priorities and commitments:

- Evaluate survey data to identify trends in employee perceptions about making a meaningful impact on patients.
- Finalize Shire's volunteering policy and service guidelines.

### Volunteering in force

Giving back as a volunteer not only helps our communities thrive, but it also strengthens employee teamwork and our mission of service. Our Global Day of Service is an integral component of our employee and community engagement program.

- **Delivering results on our Global Day of Service.** On October 13, 2017, Shire hosted its third annual Global Day of Service when more than 7,300 employees volunteered 29,000 hours, partnering with more than 250 charities in 300 global locations. From Singapore to Cambridge, Massachusetts, and points in between, teams set out to meet community needs, many of which focused on children overcoming challenges – from refurbishing classrooms in city schools to packaging meals for the homeless, from cleaning up conservation hiking trails to repairing playground equipment.
- **Honoring World Environment Day.** Shire joined the global community in honoring World Environment Day, the United Nations' flagship day for encouraging worldwide awareness and action. Given the connection between human health and the health of the planet, Shire, working with The Arbor Day Foundation, sponsored tree plantings in the U.S., the UK and Ireland.

Many Shire employees planned local events to celebrate the day, from teaching children how to separate and recycle waste at our Vienna, Austria, location to recycling electronics, planting an honorary tree and beautifying a local park in Exton, Pennsylvania. Other sites held vendor fairs, environmental movie screenings, recycling collection events, nature walks, lunch-and-learns, art contests, and habitat restorations.



# Employee wellbeing and safety

Providing resources that help our employees stay healthy, physically, socially, and mentally is an important objective at Shire. The goal: An empowered and motivated workforce.

## Moving from wellness to wellbeing

Over the years, wellness initiatives at Shire, often based on local site funding, have ranged from flu shot campaigns to weight reduction and fitness programs. In 2017, we began to take the idea of wellness to a new level for the entire company: to support the total wellbeing of employees, including nutrition, disease prevention, emotional support, stress management, and even financial planning.

Through a company-wide program called Thrive, we will provide market-competitive and innovative wellbeing programs for all employees, establish a core global wellbeing framework that allows for local customization, and make sure programs are enjoyable and personalized to individual needs. Fostering a culture of wellbeing, the program will start with a complete inventory of global programs to identify gaps and opportunities.

## Setting the tone on safety

Striving for an injury-free work environment is a strategic and business imperative. Because senior leaders set the tone for a safety culture, we introduced a Safety Leadership Program designed to show how safety and organizational performance are connected and how safety impacts the company's culture, strategy and vision.

The program highlights practices that all corporate and site leaders can adopt to visibly demonstrate their personal commitment to safety, which, in turn, influences the behaviors of all employees. After completing the training, leaders must be prepared to make a personal commitment to safety improvement and select two practices they will adopt to drive the safety initiative. Plans are in place to further develop this training, starting with a new two-day Environment, Health and Safety (EHS) Leadership Development program that was piloted at the Los Angeles site in January 2018. This interactive program is designed for all site leadership teams.

## Reducing injuries

In 2017, we also introduced two important safety programs through our EHS organization:

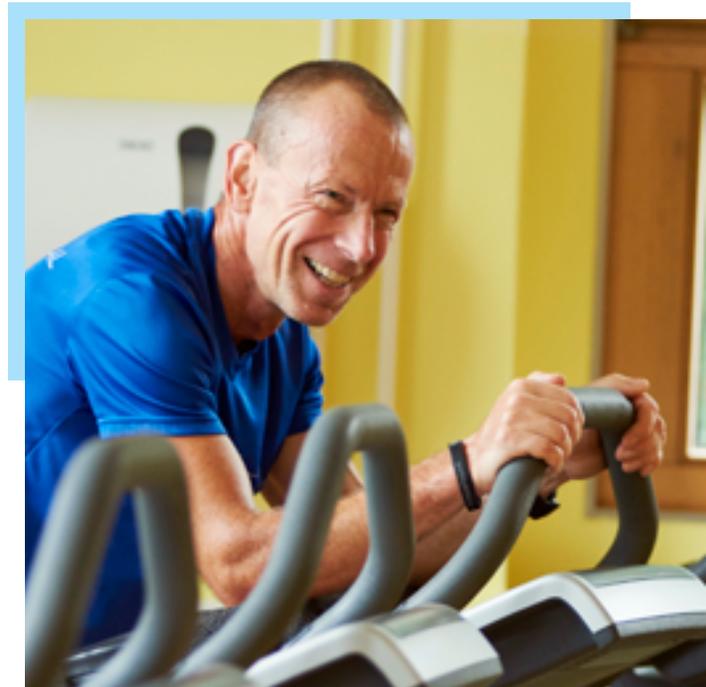
- The Serious Injury, Impact and Fatality (SIF) program identifies potential issues, investigates and shares learnings from incidents, and introduces a new method for assessing and controlling high-risk activities to significantly reduce serious injuries.
- Our new Contractor EHS Management Program, a new risk-management approach, focuses on prequalifying, selecting, on-boarding and managing our contracted partners. Developed collaboratively with various internal groups, such as Engineering, Facilities Management, Procurement and site EHS teams, the program will start to be rolled out at each Shire location in early 2018.

### Shire actions for 2018 to establish a culture of wellbeing:

- Initiate and complete an inventory of global programs and identify any gaps.
- Develop a wellbeing program plan, governance model and components.
- Develop a global evaluation and measurement strategy.
- Evaluate new supporting programs and vendors for maternity support; mental and emotional health; physical activity; and financial education.

### Shire actions for 2018 to establish a culture of safety:

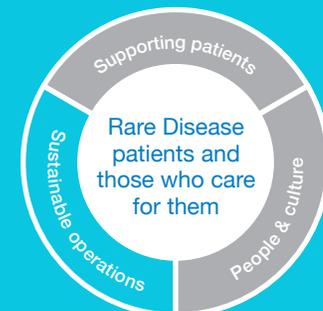
- Identify, develop and prioritize actions, tools and information to enhance existing management systems/processes with the purpose of eliminating severe incidents.
- Fully implement new incident management approach.
- Roll out new incident management software at all Shire locations.
- Fully implement SIF Risk Management Program.
- Identify high-hazard activities.





# Sustainable operations

Managing sustainable operations – from sourcing and manufacturing responsibly, to delivering safe and effective medicines, to using our natural resources carefully – helps ensure that our patients receive the treatments they need to lead healthier lives.



# Sustainable operations

## Why it matters

Climate change, access to water, waste management, natural resource consumption, and the use of chemicals in production have significant impacts on the environment and human health. As a global company, we focus on these challenges to help protect our environment and our communities for future generations.

## Our opportunity

We believe there's a clear relationship between operating sustainably at a time of significant environmental and social change and being a responsible, global leader in developing breakthrough therapies.

## Our approach

With our commitment to the sustainable and efficient use of natural resources, we work to minimize adverse environmental and social impacts and risks that may be associated with our products, facilities and operations.

We're also committed to responsible product stewardship, which includes life-cycle assessments, packaging and waste reductions, as well as responsible sourcing. This means we evaluate the social and environmental performance of our strategic suppliers, business partners and contractors and encourage them to adopt responsible and sustainable practices.

## Our Commitments through 2025

- Reduce our impact on the natural world
- Eliminate the use of substances of very high concern
- Ensure supplier commitment to responsibility

# Environmental management

We strive to use natural resources as sustainably and efficiently as possible, with specific goals for reducing greenhouse gas emissions, water use and waste sent to landfill. The goal: To reduce our impact on the natural world.

EHS performance, and a new approach to identify and prioritize major EHS risks, including incident management, categorization, reporting, escalation, investigation, and mitigation.

## Sustainable performance

Shire received a performance score of A- for climate and a B for water in the 2017 CDP, improvements over Shire's previous performance scores. The CDP is a global non-profit organization that encourages companies to disclose and manage their environmental impacts. In 2017, over 5,600 corporations earned an average climate performance score among all participants of C and an average water score of B.



## Reducing risks

Our Environment, Health and Safety (EHS) Management Program is designed to identify, manage, and reduce EHS risks in our operations, assure compliance with related regulations, and support continual improvement. Applying the same management approach and policies to all our facilities worldwide, we are working to develop cross functional programs, policies and governance structures that will help us achieve our new Responsibility commitments and goals.

- **Maintaining global standards.** Nearly all of our manufacturing sites are certified to the ISO 14001 Environmental Management System Standard and the Occupational Health and Safety Assessment Series (OHSAS) 18001 Standard. Remaining manufacturing sites are pursuing certifications in 2018. Shire maintains a robust compliance audit program in addition to the management systems certifications. The frequency of each site's audit is based on risk and past performance. All findings are tracked to closure, and metrics are in place for reporting to executive management.
- **Monitoring and measuring performance.** Shire is currently developing and implementing a new risk and governance framework that incorporates proactive and reactive capabilities. The framework will include a comprehensive risk portfolio, new ways to monitor and measure



## Environmental management continued

### Introducing a Global Energy Program

Recognizing the connection between energy and water consumption and GHG emissions, we rolled out our Global Energy Program in 2017. The program is an integrated energy and sustainability initiative expected to significantly improve operational efficiencies in our manufacturing facilities, which will in turn contribute to our 2025 Responsibility goals.

The program is designed to achieve continual improvement in our use of energy and water, reduce associated GHG emissions, increase the use of renewable energy, and lower utility expenses and related costs at our manufacturing facilities, tracked against targets and goals. Through collaboration with energy managers at each manufacturing site, we have also developed an energy assessment program to ensure alignment with applicable regulatory requirements and to accelerate the identification of energy and water conservation opportunities.

- **Coordinating actions at each manufacturing site.**

One pillar of the program is the formation of a site Energy Manager Network through which we have identified and implemented more than 65 resource conservation measures (RCM) that are expected to result in over \$1.5 million in cost savings and a reduction of 3,500 metric tons of CO<sub>2</sub> equivalent emissions in 2018. These measures include reducing the use of water and energy in key manufacturing processes, and utilizing software programs and devices that monitor equipment status and quickly signal non-optimal performance.



Other RCMs include the installation of high-efficiency equipment, such as boilers, compressors, cooling towers, chillers and distribution pumps, as well as high-efficiency LED lighting systems, which reduce electrical consumption by 50% compared to conventional lighting.

**100%** of Shire's European manufacturing sites source electricity generated from renewable sources.

- **Pursuing renewable electricity purchase agreements.** Energy managers and the Global Procurement team continue to make headway in sourcing electricity from renewable energy sources to support our GHG reduction goals. In Italy, Shire entered into renewable power purchase agreements in 2016 for its operations in Rieti and Pisa, helping to reduce GHG emission at these locations. Manufacturing facilities in Belgium, Switzerland and Austria have also entered into similar agreements to purchase electricity generated from renewable power sources.



## Environmental management continued

### Reducing packaging and medical waste

- In 2017 we **eliminated the use of shrink wrapping** (and the high temperatures the process requires) used to ship Gammagard Liquid in the U.S.
- We started **reusing shipping materials** to transport bulk albumin between our Los Angeles, Calif., and Round Lake, Ill. facilities. In 2017, this project saved 204 cubic meters (7,215 cubic feet) of materials going to landfill.
- A Shire Global Distribution Solutions team introduced a pilot program in the U.S. to **reclaim insulated container systems** used to transport refrigerated products during distribution. When the program is fully implemented across the U.S. and Europe in 2018, we expect to eliminate 671 cubic meters (23,729 cubic feet) of insulating material per year.
- We are **converting some of our regulated medical waste** into a benign, reusable plastic lumber product through an outside contractor. In 2017 this effort has repurposed more than 160 metric tons of regulated medical waste at our Lexington, Mass. site.

**100%** Our Lessines, Belgium facility diverts 100% of its waste from landfill.

### Achieving LEED certification

To promote energy efficient buildings and healthier workspaces, we have incorporated green building design principles at many of our facilities. As a result, several have achieved certification by the U.S. Green Building Council Leadership in Energy and Environmental Design (LEED), including locations in Los Angeles, California; Cambridge and Lexington, Massachusetts; Exton, Pennsylvania; Vienna, Austria; and Rieti, Italy.

#### Shire actions for 2018 to reduce our impact on the natural world:

- Complete rollout of the Global Energy Program to Shire manufacturing operations.
- Refine measurement of and develop strategy toward our Scope 3 GHG emissions goal.
- Further define zero-waste methodology and identify potential opportunities for waste reduction and improved recycling at Shire sites.

### Collaborating with Responsibility organizations

Shire is involved in the following organizations that help to forward our Responsibility commitments:

- **Business for Social Responsibility (BSR) Healthcare Working Group**, which seeks to accelerate sustainable business practices in the healthcare sector including action on climate change.
- **The European Federation of Pharmaceutical Industry and Associations (EFPIA)**, which recently produced a white paper on climate change and supports the industry's commitment to preventing climate disruption.
- **The National Association for Environmental Management (NAEM)**, a professional association that empowers corporate leaders to advance environmental stewardship, creates safe and healthy workplaces, and promotes global sustainability.
- **Science Based Targets initiative**, an organization that works with companies to set emission reduction targets consistent with global efforts to limit warming to below 2 degrees Celsius. Shire has committed to set science-based emissions reduction targets.



# Product stewardship, quality and safety

Effective product stewardship at Shire means ensuring the safety and integrity of our products, from development through life-cycle management. This includes our continued compliance with stringent quality and safety regulations and reducing their impact on the environment. The goal: Continue to produce high-quality sustainable products.



## Raising the standards

In 2017, we continued to enhance our product stewardship processes by:

- Establishing a Product Stewardship Working Group to drive cross-functional communication, awareness and coordination on various product stewardship topics.
- Developing and implementing product stewardship requirements to [review drug products and devices](#) through their stages of development, including changes to existing or inclusion of new materials used in our products.
- [Incorporating EHS-product stewardship requirements](#) in supplier agreements/contracts and in the Supplier Code of Conduct.
- Implementing a product compliance software system to [collect supplier product stewardship data](#). With this system, we can obtain material compliance information when we review and select materials used in product manufacturing, track new and updated global regulations and lists of restricted and prohibited substances by country or jurisdiction, and streamline data sharing. Full implementation is expected to be completed in 2018.
- Developing a companywide conflict minerals position statement as well as a process to [evaluate compliance for conflict minerals](#) in the products we sell. We submitted a conflict minerals report to the SEC.
  - <https://www.shire.com/who-we-are/how-we-operate/policies-and-positions/conflict-minerals-position-statement>.

## Eliminating substances of very high concern (SVHCs)

The European REACH regulation, enforced through the European Chemical Agency and member states, identifies substances of very high concern that may be dangerous to human health or the environment. As of July 2017, the number of SVHCs on the list for inclusion in the REACH regulation is up to 174 substances. The list is updated at least every six months.

Shire continues to review and evaluate such substances as part of its product development processes, as well as for its presence in the manufacture of commercial products. For substances on the authorized list, as applicable, our subject matter experts work with a cross-functional group to evaluate alternatives substances, identify and implement processes to minimize and/or eliminate the use of SVHCs, and apply for authorisation, as necessary, to minimize disruption of products to patients.

### Shire actions for 2018 to eliminate the use of substances of very high concern:

- Establish a process for communicating and evaluating the SVHCs and ongoing updates across the product development functions.
- Develop a feasibility evaluation criteria and process for evaluating alternatives to SVHCs throughout the R&D, product development and manufacturing stage gate processes.



## Product stewardship, quality and safety continued

### Responsible Manufacturing and Sourcing

As noted in our new Responsibility strategy, we want all Shire suppliers to uphold our high sustainability and ethical standards, which will strengthen our combined commitment to Responsibility. The first step is to ensure that our suppliers are committed to the same objectives, which can lead to collaborative opportunities and innovations.

- **Launching the Supplier Code of Conduct.** Ethical business practices are at the heart of our new Supplier Code of Conduct. Our goal is to make sure we purchase goods and services that are in line with our highest standards and sustainability practices. Suppliers are expected to operate with integrity and fair competition and comply with accepted standards on such issues as animal welfare, the human rights of workers, health and safety, and environmental responsibility, among many others.

#### Shire actions for 2018 to ensure supplier commitment to responsibility:

- Establish roadmap on data collection and analysis process to evaluate the social and environmental performance of Shire's strategic suppliers.

The Supplier Code of Conduct is based on Shire's Code of Ethics, as well as the Pharmaceutical Supply Chain Initiative's (PSCI) Pharmaceutical Industry Principles, the United Nations Universal Declaration of Human Rights, and the International Labour Organization's 'Declaration on Fundamental Principles and Rights at Work.'

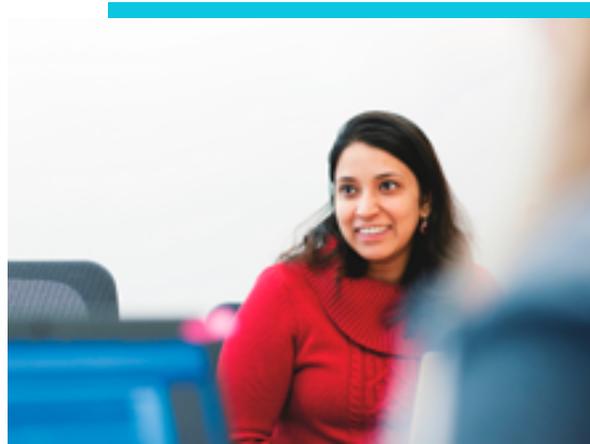
- **Improving supplier diversity and inclusion.** In the U.S., our Supplier Diversity and Inclusion Program is designed to ensure a fair and equal opportunity for awarding contracts to minority-owned, women-owned, veteran-owned and service-disabled veteran-owned small businesses, businesses located in historically underutilized business zones (HUBZone), and small disadvantaged businesses. In 2017, 13% of our spend with US-based suppliers was directed to businesses in our Supplier Diversity Program, equating to \$461.2 million.
- **Fostering procurement excellence.** With our Procurement Center of Excellence team – a 'best-practices-based-support' organization – we can establish controls to effectively manage our supply base, use analytics and performance reporting to leverage our global scale, manage risk and mitigation, lead Supplier Diversity & Inclusion and sustainability improvements, and develop professional sustainable procurement capabilities across the organization.



### Participating in industry sourcing groups

Shire executives are involved in the following industry organizations that promote environmental sustainability and supplier diversity:

- **The Pharmaceutical Supply Chain Initiative**, a group of pharmaceutical and healthcare companies that share a vision of better, social, environmental and economic outcomes in the communities where we buy.
- **Institute of Supply Management Supplier Diversity Pharma Forum**, a group of pharmaceutical and healthcare companies working to promote diverse suppliers within their organizations.
- **Diversity Alliance for Science**, which provides a platform to identify, attract, and develop small and/or diverse businesses to strengthen inclusive procurement practices within the life science and healthcare industries.
- **Women's Business Enterprise National Council**, the largest third-party certifier of businesses owned, controlled, and operated by women in the United States.
- **National Minority Supplier Development Council**, which advances business opportunities for certified minority business enterprises and connects them to corporate members.



# Environment, Health and Safety (EHS) Performance Data\*

Category / Metric	2017 Data
<b>Air Emissions</b>	
NOx / SOx (Metric Tons)	43
<b>Energy</b>	
Energy Consumption – Electricity (Trillion Joules)	1,458
Energy Consumption – Fuel Excluding Mobile Sources (Trillion Joules)	1,996
Energy Consumption – Company Operated Vehicles (Trillion Joules)	328
Renewable Energy, Purchased + Grid	41%
Renewable Energy, Purchased	30%
<b>Greenhouse Gas Emissions</b>	
Scope 1 Emissions (Thousand Metric Tons CO <sub>2</sub> e)	149
Scope 2 Emissions – location-based method (Thousand Metric Tons CO <sub>2</sub> e)	111
Scope 2 Emissions – market-based method (Thousand Metric Tons CO <sub>2</sub> e)	131
Scope 3 Emissions – Business Travel (air travel and rental cars), Employee Commuting and Waste from Operations (Thousand Metric Tons CO <sub>2</sub> e)	64

Category / Metric	2017 Data
<b>Water</b>	
Total Water Consumption <sup>1</sup> (Thousand cubic meters)	4,218
Water Consumption in Areas With Scarce Water Resources (Thousand cubic meters)	219
Water Consumption in Areas With Stressed Water Resources (Thousand cubic meters)	1,970
Water Consumption in Areas With Sufficient Water Resources (Thousand cubic meters)	1,816
Water Consumption not classified by sufficiency (Thousand cubic meters)	212
Water Consumption by Source (municipal supplied water) (Thousand cubic meters)	3,914
Water Consumption by Source (on-site groundwater extraction) (Thousand cubic meters)	304
<b>Waste<sup>2</sup></b>	
Total Waste (Metric Tons)	23,970
Regulated Waste (Metric Tons)	6,970
Non-Regulated Waste (Metric Tons)	17,000

\* Bureau Veritas North America has verified and provided limited assurance for the Environmental, Health, and Safety data in this report (see verification statement).

<sup>1</sup> Water availability data were not available or determined for a number of sites with a total consumption of 212,000 cubic meters.

<sup>2</sup> For both regulated and non-regulated waste a breakdown by the following management methods where applicable: Reuse, Recycling, Composting, Recovery including energy recovery, Incineration, Landfill, other.

## Environment, Health and Safety (EHS) Performance Data continued

Category / Metric	2017 Data
Total Waste not included in corporate total (Metric Tons – wastewater treatment sludge, construction waste, remediation waste)	1,500
<b>Waste Disposition</b>	
Recycled	43%
Recycled with Energy Recovery	17%
Landfilled	33%
Incinerated	3%
Other Disposal	4%
<b>Non-Regulated Waste Disposition</b>	
Recycled	42%
Recycled with Energy Recovery	22%
Landfilled	33%
Incinerated	1%
Other Disposal	2%
<b>Regulated Waste</b>	
Recycled	46%
Recycled with Energy Recovery	5%
Landfilled	33%

Category / Metric	2017 Data
Incinerated	9%
Other Disposal	7%
<b>Reportable Spills and Releases</b>	
Number of reportable spills and releases	9
Number of NOV/Citations	8
Total Number and Volume of Significant Spills (GRI 306-3)	0
<b>Health &amp; Safety</b>	
Total Recordable Incident Rate (TRIR)	0.68
Lost Time Incident Rate (LTIR)	0.1

# Independent assurance statement

## Introduction and objectives of work

Bureau Veritas North America, Inc. (BVNA) was engaged to conduct an independent assurance of environmental, health and safety (EHS) data to be reported by Shire for the calendar year 2017. This Assurance Statement applies to the related information included within the scope of work described below.

## Scope of work

The scope of our work was limited to assurance over the following EHS Data included within Shire's Annual Responsibility Review ('the Report') for the period 2017 (the 'Selected Information'):

- Air Emissions (NOx and SOx emissions from stationary equipment);
- Energy (consumption and renewable energy);
- Greenhouse Gas Emissions (Scope 1 emissions; Scope 2 emissions; and Scope 3 emissions from waste from operations, employee commuting and business travel including air travel and rental cars);
- Water consumption;
- Waste generation and disposition;
- Reportable spills and releases; and
- Health and safety data.

## Reporting Criteria

The Selected Information needs to be read and understood together with the Global Reporting Initiative (GRI) Standards and the World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD) Greenhouse Gas (GHG) Protocol Corporate Accounting and Reporting Standard used by Shire as the basis of their reporting.

## Limitations and Exclusions

Excluded from the scope of our work is any assurance of information relating to:

- Data outside the defined assurance period, the calendar year of 2017.
- Any financial data (e.g., revenues) previously audited by an external third party.

## Responsibilities

The preparation and presentation of the Selected Information in the Report are the sole responsibility of the management of Shire.

BVNA was not involved in the determination of the Selected Information. Our responsibilities were to:

- obtain limited assurance about whether the Selected Information has been prepared in accordance with the Reporting Criteria;
- form an independent conclusion based on the assurance procedures performed and evidence obtained; and
- report our conclusions to Shire's management.

## Assessment Standard

We performed our work in accordance with International Standard on Assurance Engagements (ISAE) 3000 Revised, Assurance Engagements Other than Audits or Reviews of Historical Financial Information (effective for assurance reports dated on or after December 15, 2015), issued by the International Auditing and Assurance Standards Board.

## Summary of work performed

As part of BVNA's limited assurance, BVNA undertook the following activities:

1. Assessing the appropriateness of the Reporting Criteria for the Selected Information;
2. Conducting interviews with relevant Shire personnel responsible for collecting and reporting EHS performance data. These interviews included discussions with staff members responsible for contributing data within the scope of this assurance;
3. Reviewing the data collection and consolidation processes used to compile Selected Information, including assessing assumptions made, and the data scope and reporting boundaries;
4. Reviewing documentary evidence produced by Shire to support EHS data within the scope of this assurance;
5. Comparing a selection of the Selected Information to the corresponding source documentation;
6. Reviewing Shire data and information systems used for collection, aggregation, analysis and review of the Selected Information;
7. Assessing the disclosure and presentation of the Selected Information to ensure consistency with assured information.
8. Conducting other verification activities including:
  - a. carrying out site visits, selected on a risk based basis to manufacturing sites located in Lexington, Massachusetts and Los Angeles, California.
  - b. conducting remote review of data from manufacturing sites located in Singapore and Lessines, Belgium;
  - c. reperforming a selection of aggregation calculations of the Selected Information
  - d. reperforming greenhouse gas emissions conversions and calculations;
  - e. comparing the Selected Information to the prior year amounts taking into consideration changes in business activities, acquisitions and divestitures; and
  - f. evaluating the design of internal systems, processes and controls to collect and report the Selected Information.

# Independent Assurance Statement

continued

## Conclusion

On the basis of our methodology and the activities described:

- Nothing has come to our attention to indicate that the Selected Information is not fairly stated in all material respects;
- It is our opinion that Shire has established appropriate systems for the collection, aggregation and quantitative analysis of EHS data within the scope of this assurance.

A summary of the Selected Information within the scope of this assurance is attached.

Statement of Independence, Integrity and Competence  
Bureau Veritas is an independent professional services company that specialises in quality, environmental, health, safety and social accountability with over 185 years history. Its assurance team has extensive experience in conducting verification over environmental, social, ethical and health and safety information, systems and processes.

Bureau Veritas operates a certified<sup>1</sup> Quality Management System which complies with the requirements of ISO 9001:2008, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Bureau Veritas has implemented and applies a Code of Ethics, which meets the requirements of the International Federation of Inspections Agencies (IFIA)<sup>2</sup>, across the business to ensure that its employees maintain integrity, objectivity, professional competence and due care, confidentiality, professional behaviour and high ethical standards in their day-to-day business activities.

No member of the assurance team has a business relationship with Shire, its Directors or Managers beyond that required of this assignment. We have conducted this verification independently, and there has been no conflict of interest.



**Lisa S. Barnes, Lead Verifier**  
Principal Sustainability Consultant  
Sustainability and Climate Change Services  
Health, Safety and Environmental Services



**John A. Rohde, Technical Reviewer**  
Practice Line Leader  
Sustainability and Climate Change Services  
Health, Safety and Environmental Services

Bureau Veritas North America, Inc.  
Lakewood, Colorado  
February 14, 2018



<sup>1</sup>Certificate of Registration FS 34143 issued by BSI Assurance UK Limited

<sup>2</sup>International Federation of Inspection Agencies – Compliance Code – Third Edition

# GRI Standards

ARR = Annual Responsibility Review  
AR = Annual Report

GRI Standard	Disclosure	Disclosure Title	Location/Explanation
<b>GRI 100 Universal Disclosures</b>			
<b>GRI 102 General Disclosures</b>			
GRI 102	<b>102-1</b>	Name of the organization	ARR: p. 2
GRI 102	<b>102-2</b>	Activities, brands, products, and services	AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	<b>102-3</b>	Location of headquarters	AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	<b>102-4</b>	Location of operations	AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	<b>102-5</b>	Ownership and legal form	AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	<b>102-6</b>	Markets served	AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	<b>102-7</b>	Scale of the organization	AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	<b>102-8</b>	Information on employees and other workers	AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	<b>102-9</b>	Supply chain	AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	<b>102-10</b>	Significant changes to the organization and its supply chain	AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	<b>102-11</b>	Precautionary Principle or approach	ARR: p. 26
GRI 102	<b>102-12</b>	External initiatives	ARR: p. 10, 13-18, 22, 28, 30 AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	<b>102-13</b>	Membership of associations	ARR (throughout) AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	<b>102-14</b>	Statement from senior decision-maker	ARR: p. 3
GRI 102	<b>102-16</b>	Values, principles, standards, and norms of behavior	ARR: p. 3-10 AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	<b>102-17</b>	Mechanisms for advice and concerns about ethics	ARR: p. 10 AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	<b>102-18</b>	Governance structure	ARR: p. 10 AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	<b>102-20</b>	Executive-level responsibility for economic, environmental, and social topics	ARR: p. 5, 10 AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	<b>102-21</b>	Consulting stakeholders on economic, environmental, and social topics	ARR: p. 9

## GRI Standards continued

ARR = Annual Responsibility Review  
AR = Annual Report

GRI Standard	Disclosure	Disclosure Title	Location/Explanation
<b>GRI 102 General Disclosures</b>			
GRI 102	102-25	Conflicts of interest	AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	102-29	Identifying and managing economic, environmental, and social impacts	ARR: p. 6-10
GRI 102	102-31	Review of economic, environmental, and social topics	ARR: p. 6-10
GRI 102	102-40	List of stakeholder groups	ARR: p. 9
GRI 102	102-42	Identifying and selecting stakeholders	ARR: p. 6, 9-10
GRI 102	102-43	Approach to stakeholder engagement	ARR: p. 9-10
GRI 102	102-44	Key topics and concerns raised	ARR: p. 9-10
GRI 102	102-45	Entities included in the consolidated financial statements	AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 102	102-46	Defining report content and topic Boundaries	ARR: p. 2-10
GRI 102	102-47	List of material topics	ARR 2016: <a href="https://www.shire.com/who-we-are/responsibility">https://www.shire.com/who-we-are/responsibility</a> ARR: p. 8
GRI 102	102-48	Restatements of information	ARR: p. 31-32
GRI 102	102-49	Changes in reporting	ARR: p. 1
GRI 102	102-50	Reporting period	Jan. 1, 2017-Dec 31, 2017
GRI 102	102-51	Date of most recent report	March 2017
GRI 102	102-52	Reporting cycle	Annually
GRI 102	102-53	Contact point for questions regarding the report	<a href="mailto:responsibility@shire.com">responsibility@shire.com</a>
GRI 102	102-54	Claims of reporting in accordance with the GRI Standards	This is the first year Shire is using the Global Reporting Initiative (GRI) framework to inform its Responsibility reporting.
GRI 102	102-55	GRI content index	ARR: p. 35
GRI 102	102-56	External assurance	ARR: p. 33-34

## GRI Standards continued

ARR = Annual Responsibility Review  
AR = Annual Report

GRI Standard	Disclosure	Disclosure Title	Location/Explanation
<b>GRI 200 Economic</b>			
<b>Ethics</b>			
GRI 103	103-1	Explanation of the material topic and its Boundary	ARR: p.11-18
GRI 103	103-2	The management approach and its components	ARR: p.11-18
GRI 103	103-3	Evaluation of the management approach	ARR: p.11-18
GRI 201	201-2	Financial implications and other risks and opportunities due to climate change	AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 205	205-2	Communication and training about anti-corruption policies and procedures	AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
<b>GRI 300 Environment</b>			
<b>Environmental management: Emissions, water and waste</b>			
GRI 103	103-1	Explanation of the material topic and its Boundary	ARR: p. 24-30
GRI 103	103-2	The management approach and its components	ARR: p. 24-30
GRI 103	103-3	Evaluation of the management approach	ARR: p. 24-30
GRI 302	302-1	Energy consumption within the organization	ARR: p. 31-32
GRI 302	302-3	Energy intensity	ARR: p. 31-32
GRI 302	302-4	Reduction of energy consumption	ARR: p. 31-32
GRI 303	303-1	Water withdrawal by source	ARR: p. 31-32
GRI 303	303-2	Water sources significantly affected by withdrawal of water	ARR: p. 26-32
GRI 303	303-3	Water recycled and reused	ARR: p. 26-32
GRI 305	305-1	Direct (Scope 1) GHG emissions	ARR: p. 31-32
GRI 305	305-2	Energy indirect (Scope 2) GHG emissions	ARR: p. 31-32
GRI 305	305-3	Other indirect (Scope 3) GHG emissions	ARR: p. 31-32
GRI 305	305-4	GHG emissions intensity	ARR: p. 31-32 AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>
GRI 305	305-5	Reduction of GHG emissions	ARR: p. 31-32

## GRI Standards continued

ARR = Annual Responsibility Review  
AR = Annual Report

GRI Standard	Disclosure	Disclosure Title	Location/Explanation
<b>Environmental management: Emissions, water and waste</b>			
GRI 305	305-6	Emissions of ozone-depleting substances (ODS)	ARR: p. 31-32
GRI 305	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	ARR: p. 31-32
GRI 306	306-1	Water discharge by quality and destination	ARR: p. 26-32
GRI 306	306-2	Waste by type and disposal method	ARR: p. 31-32
GRI 306	306-3	Significant spills	ARR: p. 31-32
GRI 306	306-4	Transport of hazardous waste	ARR: p. 26-32
GRI 307	307-1	Non-compliance with environmental laws and regulations	ARR: p. 31-32
<b>GRI 400 Social</b>			
<b>Employee wellbeing, health and safety, diversity and inclusion, learning and development</b>			
GRI 103	103-1	Explanation of the material topic and its Boundary	ARR: p. 19-23
GRI 103	103-2	The management approach and its components	ARR: p. 19-23
GRI 103	103-3	Evaluation of the management approach	ARR: p. 19-23
GRI 403	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	ARR: p. 23
GRI 404	404-2	Programs for upgrading employee skills and transition assistance programs	ARR: p. 21-22
GRI 404	404-3	Percentage of employees receiving regular performance and career development reviews	ARR: p. 21-22
GRI 405	405-1	Diversity of governance bodies and employees	AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a>

## GRI Standards continued

ARR = Annual Responsibility Review  
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GRI Standard	Disclosure	Disclosure Title	Location/Explanation
<b>Access to medicines, patient advocacy awareness, and patient communities</b>			
GRI 103	103-1	Explanation of the material topic and its Boundary	ARR: p. 11-13
GRI 103	103-2	The management approach and its components	ARR: p. 11-13
GRI 103	103-3	Evaluation of the management approach	ARR: p. 11-13
<b>Governance</b>			
GRI 103	103-1	Explanation of the material topic and its Boundary	ARR: p. 10
GRI 103	103-2	The management approach and its components	ARR: p. 10
GRI 103	103-3	Evaluation of the management approach	ARR: p. 10
GRI 415	415-1	Political contributions	<p>We respect all local, federal and national political customs everywhere we operate, and we comply with applicable laws, regulations and industry standards governing these contributions. Shire's political action committee (Shire PAC) focuses our political engagement and policies, and our public affairs team maintains clear rules and procedures governing these activities. In 2017, Shire PAC made political contributions totaling \$69,250 to candidates in the U.S., funds that are generated from voluntary contributions from eligible Shire employees.</p> <p>AR: <a href="http://investors.shire.com/presentations-and-reports/ar-2017.aspx">http://investors.shire.com/presentations-and-reports/ar-2017.aspx</a></p>

# Championing Responsibility

Annual Responsibility Review 2017

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## Your feedback counts

We welcome your feedback on this review or on any aspect of our Responsibility performance.

Please contact us at:  
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