ENVIRONMENTAL, SOCIAL & GOVERNANCE (ESG) PROGRESS REPORT 2018

MSD
INVENTING FOR LIFE

CONTENTS

This is the Environmental, Social & Governance (ESG) Progress Report 2018 of Merck & Co., Inc., Kenilworth, N.J., U.S.A., which is known as MSD outside the U.S. and Canada. This report is a supplement to our comprehensive online report, available at MSDresponsibility.com.

OUR PURPOSE

Operating responsibly as a business is at the very heart of our ability to deliver sustainable impact — driving long-term value for our company and society.

For more than a century, we have been inventing medicines and vaccines for many of the world's most challenging diseases and we have built a company with the talent, tenacity and strength to take on some of the biggest threats to human and animal health.

Our core product categories include diabetes, cancer, vaccines and hospital acute care. We continue to focus our research on conditions that represent some of today's most significant health challenges — like cancer, HIV, HPV, hepatitis C, cardio-metabolic disease, antibiotic-resistant infection and Alzheimer's disease, and we are on the front lines in the fight against emerging global pandemics, such as Ebola.

Our approach to corporate responsibility is about the health, economic, social and environmental impact we have on individuals and communities around the world. We hold ourselves accountable to our many stakeholders, including patients, employees, customers and shareholders, whose perspectives help to define our corporate responsibility priorities.

LETTER FROM OUR CEO

At MSD, we have been committed to our mission of saving and improving lives for nearly 130 years. Over that time, we have been responsible for some of the most significant scientific advancements and improvements in public health.

Any one individual can make the scientific breakthrough needed to discover a new medicine. I'm reminded of our esteemed former colleague, Maurice Hilleman, the father of modern vaccines, whose centenary we celebrate this year. However, it takes the infrastructure of a company like MSD to translate invention into a product that can help millions of people every day. Operating responsibly as a business is at the very heart of our ability to do so.

Our mission of saving and improving lives means we have an important role to play in achieving the UN Sustainable Development Goals (SDGs).

Our 2018/2019 Corporate Responsibility Report reviews our progress against our four key areas of corporate responsibility: Access to Health, Employees, Environmental Sustainability and Ethics & Values. It represents our commitment to widely recognized reporting frameworks that reflect key environmental, social and governance (ESG) issues, and our support for the 10 universally accepted principles of the UN Global Compact.

Our industry is facing some challenging headwinds, but our commitment to corporate responsibility will not waiver. The number of health care and drug pricing reforms being considered is possibly at an all-time high. Health care costs, especially a patient's out-of-pocket costs, need to be addressed. We want to help find a sustainable solution, and we will continue to work with stakeholders and be transparent about our efforts. We have a history of responsible pricing and publicly disclose information about our prices in the United States. This includes our pledge not to increase our average net prices across our portfolio by more than the rate of inflation annually.

Whatever may come, we remain steadfast in our focus on following the science to see where we can have the greatest impact on patients' lives. After all, R&D is the main source of the biopharmaceutical industry's value to society. As we look to the future, we're making investments in our pipeline and manufacturing capability to help protect one billion more lives by 2030.

We have a legacy of tackling urgent global health challenges. For example, *MSD for Mothers*, our global initiative to reduce maternal mortality around the world, empowers women to make informed choices; equips health care providers; and strengthens health care systems. Working with more than 160 partners, our programs have improved access to quality care and modern contraception for more than nine million women in 48 countries.

I am proud that our investigational vaccine is being delivered and having an impact in areas of Central Africa affected by the Ebola virus. Some may say that investing to develop an Ebola vaccine doesn't make good business sense, but I believe this is the kind of challenge that MSD was designed to tackle.

Corporate responsibility initiatives like *MSD for Mothers* and our investigative Ebola vaccine make us an attractive employer for people who want to change the world. And it adds to the sense of purpose that keeps us going.

That purpose was captured by our modern-day founder, George W. Merck, who said, "Medicine is for the people, not for the profits." For me, only two metrics truly matter — how many people you help, and how much help you give those people.

Promoting enduring social good and securing business success are inextricably linked. While there is always more to do, I would like to thank all our employees, our suppliers and our partners for the work they do every day toward these goals. The activities highlighted in this report are a testament to the incredible impact they are having all around the world.

Sincerely,

Kenneth C. Frazier
Chairman and Chief Executive Officer

2018 HIGHLIGHTS

14%
of our purchased electricity comes from renewables

by 2040,
100% will come from renewable sources

41%
of management roles are held by women

$2.1B spent in 2018 with diverse suppliers

MSD for Mothers has reached more than 9 million women in 48 countries

TIME magazine named Ken Frazier, our company's Chairman and CEO, to the 2018 TIME100

FTSE4Good index constituent since 2008

15% reduction of water use since 2015

100%
score on the Human Rights Campaign's Corporate Equality Index

$2.8B total giving in 2018

FINANCIAL INFORMATION	2018
Sales ($M)	$42,294
Pharmaceutical ($M)	$37,689
Animal Health ($M)	$4,212
Other ($M)	$393
R&D expenses ($M)	$9,752
Number of employees (approx.)	69,000

Reflecting our commitment to managing environmental, social and governance (ESG) issues, we continue to focus our approach to corporate responsibility in four primary areas that are of greatest relevance to our business and society.

01

Access to Health

We aspire to improve access to health by discovering, developing and providing innovative products and services that save and improve lives.

02

Employees

We recognize that our ability to excel depends on the integrity, knowledge, imagination, skill, diversity and teamwork of our employees.

03

Environmental Sustainability

A healthy planet is essential to human health and the sustainability of our business.

04

Ethics & Values

Through our unwavering commitment to transparency, we earn the trust and confidence of our stakeholders.

We think globally, but we have to act globally, too.

140
markets around the world

357M
people reached by our programs and partnerships

$1.4B
in product donations outside the U.S.

Note: The 357 million people reached by our major programs and partnerships represent investments by our Office of Social Business Innovation, including our Office of Corporate Responsibility, *MSD for Mothers* and our Foundation.

We work to deliver vaccines, medications, and animal health products that can help millions around the world.

For 32 years we have been fighting river blindness.

River blindness has now been eliminated in Colombia, Ecuador, Guatemala and Mexico, and several countries in Africa are close to elimination.

Our efforts support the United Nations' Sustainable Development Goals (SDGs) through the promotion of health and well-being, gender equality, clean water, climate change and renewable energy, diversity and inclusion, and responsible consumption, among others.

We are driven by our purpose to invent.
Because patients are waiting.

GRI/SASB DISCLOSURES

GENERAL DISCLOSURES

ORGANIZATIONAL PROFILE

GRI 102-1 **Organization name** (Core)

GRI 102-2 **Primary brands, products, and services** (Core)

GRI 102-3 **Headquarters location** (Core)

GRI 102-4 **Location of operations** (Core)

GRI 102-5 **Ownership and legal form** (Core)

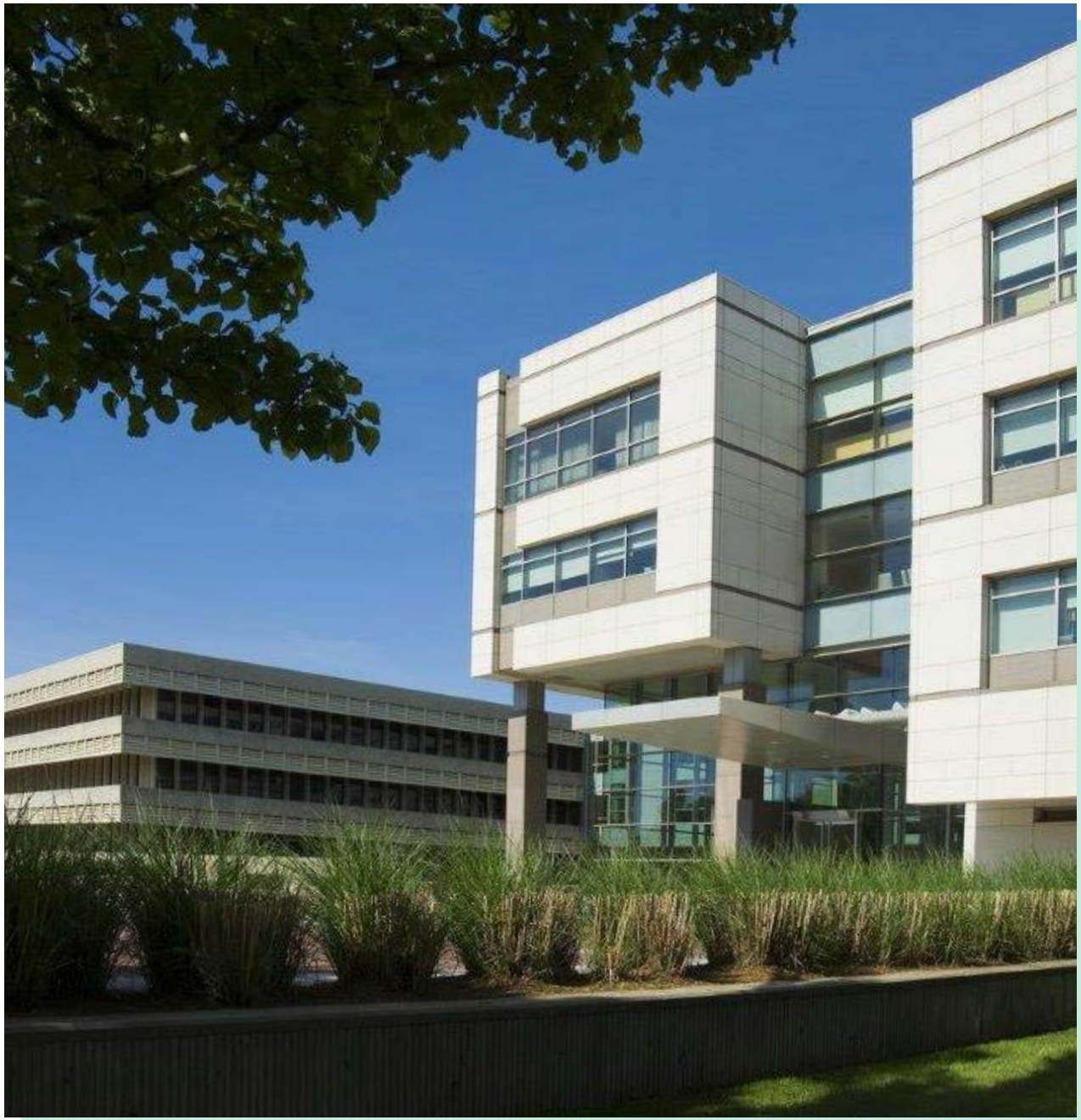
GRI 102-6 **Markets served** (Core)

This is the Environmental, Social & Governance (ESG) Progress Report 2018 of Merck & Co., Inc., Kenilworth, N.J., U.S.A., which is known as MSD outside the U.S. and Canada.

We are a global health care company that delivers innovative health solutions through our prescription medicines, vaccines, biologic therapies and animal health products.

Our operations are principally managed on a products basis and include four operating segments, which are the Pharmaceutical, Animal Health, Healthcare Services and Alliances segments. The Pharmaceutical segment includes human health pharmaceutical and vaccine products. Human health pharmaceutical products consist of therapeutic and preventive agents, generally sold by prescription, for the treatment of human disorders.

We sell these human health pharmaceutical products primarily to drug wholesalers and retailers, hospitals, government agencies and managed health care providers such as health maintenance organizations, pharmacy benefit managers and other institutions.



Human health vaccine products consist of preventive pediatric, adolescent and adult vaccines, primarily administered at physician offices. We sell these human health vaccines primarily to physicians, wholesalers, physician distributors and government entities.

The Animal Health segment discovers, develops, manufactures and markets animal health products, including pharmaceutical and vaccine products, for the prevention, treatment and control of disease in all major livestock and companion animal species, which we sell to veterinarians, distributors and animal producers.

The Healthcare Services segment provides services and solutions that focus on engagement, health analytics and clinical services to improve the value of care delivered to patients.

The Alliances segment primarily includes results from the company's relationship with AstraZeneca LP-related sales of Nexium and Prilosec, which concluded in 2018.

Our U.S. commercial operations are headquartered in Upper Gwynedd, Pennsylvania. The company's U.S. pharmaceutical business is conducted through divisional headquarters located in Upper Gwynedd, Pennsylvania and Kenilworth, New Jersey. Our vaccines business is conducted through divisional headquarters located in Upper Gwynedd, Pennsylvania. Our Animal Health headquarters is located in Madison, New Jersey. Principal U.S. research facilities are located in Rahway and Kenilworth, New Jersey, West Point, Pennsylvania, Palo Alto, California, Boston, Massachusetts, South San Francisco, California and Elkhorn, Nebraska (Animal Health).

Principal research facilities outside the United States are located in Switzerland and China. Our manufacturing operations are headquartered in Whitehouse Station, New Jersey. We also have production facilities for human health products at nine locations in the United States and Puerto Rico. Outside the United States, through subsidiaries, we own or have an interest in manufacturing plants or other properties in Japan, Singapore, South Africa, and other countries in Western Europe, Central and South America, and Asia.

The principal market for trading of our Common Stock is the New York Stock Exchange (NYSE) under the symbol MRK. As of January 31, 2019, there were approximately 115,320 shareholders of record of the company's Common Stock.

For more information, please see our 2018 Form 10-K (pages 1–3).

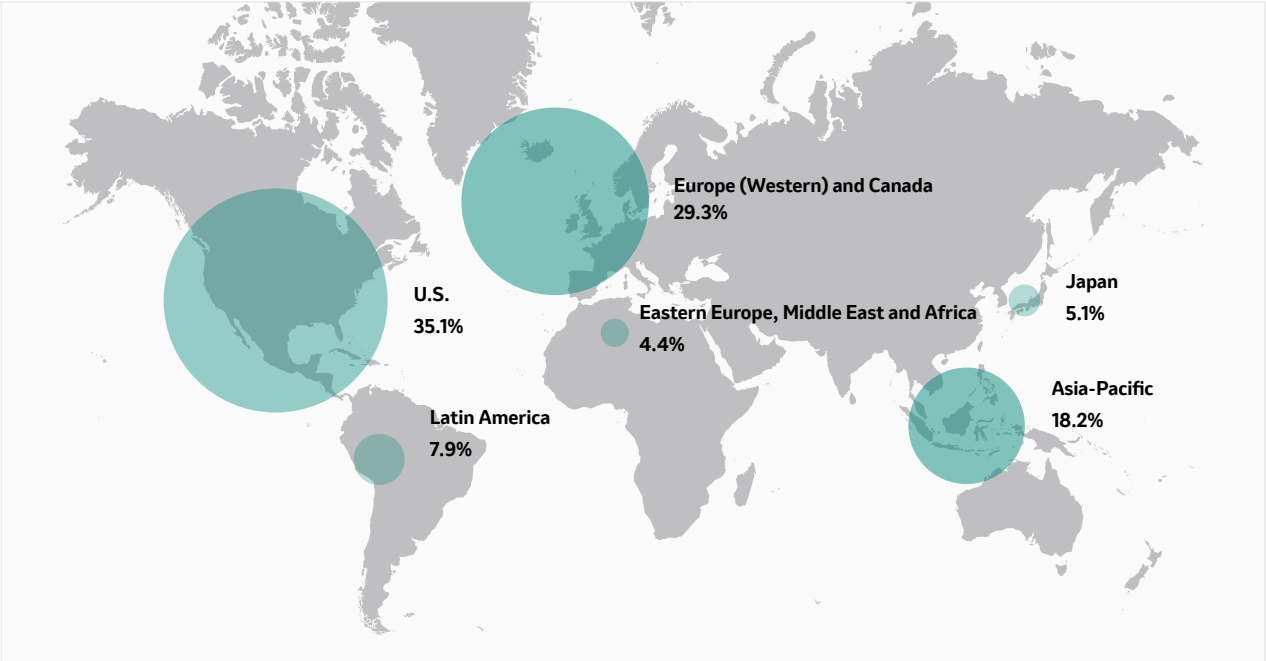
GRI 102-7 **Scale of the organization** (Core)

GRI 102-8 **Information on employees and other workers** (Core)

SASB 000.A **Patients treated** (#)

For more information on our global impact, please visit the Social Investments page on our Corporate Responsibility website.

EMPLOYEES BY REGION



WORKFORCE

	2014	2015	2016	2017	**2018**
Number of employees as of December 31, 2018 (approximate)	70,000	68,000	68,000	69,000	**69,000**
People reached through major programs & partnerships (in millions)[1]	267	188	293	311	**357**

[1] Represents investments by our Office of Social Business Innovation, including our Office of Corporate Responsibility, *MSD for Mothers* and our Foundation.

GRI 102-9 **Supply chain** (Core)

SASB 260a.1 **Methods and technologies used to maintain traceability of products throughout the supply chain**

We manufacture, package and distribute products to more than 140 markets around the world. Our facilities, along with our external contractors, suppliers and partners, make up an integrated, interdependent global manufacturing network that is committed to delivering compliant, reliable supply to customers and patients on time, all the time, and every time.

Today we have 144 external manufacturing sites, 35 Corporate Alliances and 98 Regional Alliances that we engage with to provide access to our products.

In 2018, we manufactured approximately 8,000 SKUs (stock keeping units), approximately 213.7 million doses of Human Health vaccines and approximately 102 billion doses of Animal Health vaccines.

Through "End-to-End Supply Planning," we conduct efficient and balanced planning decisions to maximize business results and deliver medicines and vaccines to customers, which include hospitals and retail outlets, and patients when and where they need them. We partner with distributors, warehouses and freight forwarders on air, land and cold-chain supply methods.

Product & Supply Chain Security

We carefully manage our supply chain through strict policies and procedures designed to keep the legitimate drug distribution system safe and secure. In the U.S., for example, we require customers to purchase our products directly from our company or from distributors authorized by our company. In addition, we publish the names of authorized distributors on our corporate website.

Serialization

Serialization — adding a 2D barcode with a unique identification number on each package that goes to market — is one of the tools we are investing in to secure our supply chain and prevent counterfeiting. A serial number on individual packages will enable anyone along the supply chain — from a distributor to a pharmacist to a patient — to scan the code and authenticate it as a genuine product of our company.

Serialization adds a robust layer to the company's product-security platform. When associated with a regulatory mandate that specifies effective implementation and reporting to a national database, this method of product tracking can become a more meaningful product-security tool.

Supplier Selection

We maintain strict quality standards no matter where our products are manufactured.

Once we have decided to engage an external manufacturer, that manufacturer is required to comply with our business requirements set forth in the contract, regardless of geography.

We conduct audits of every potential new supplier of active pharmaceutical ingredients or formulated products and sterile products, to determine its acceptability and compliance with Current Good Manufacturing Practices (CGMPs). We review the systems that the potential supplier uses to purchase materials in order to ensure the quality of the products the supplier hopes to provide to us.

Only if a supplier meets our stringent criteria, which include a review of the company's regulatory inspection and outcome history, will we then negotiate a commercial agreement. These agreements include detailed provisions relating to the quality standards we require suppliers to uphold in order for them to manufacture a product for our use.

For more information on our supply chain, please visit the Manufacturing & Supply, Quality & Safety Standards, Vaccines, Oncology, Women's Health, and Sourcing & Supplier Relations pages on our Corporate Responsibility website.

GRI 102-10 Organizational changes during the reporting period (Core)

None

GRI 102-11 Precautionary principle (Core)

We take a precautionary approach when evaluating potential human exposures and environmental impacts resulting from our manufacturing processes. Conservative assumptions are made when data are limited, and safety factors are added to address uncertainty and variability in our assessments.

This type of approach is particularly relevant to our work in toxicology, industrial hygiene and environmental protection.

By using more efficient and innovative processing methods and technologies, we are reducing the amount of energy, water and raw materials we use to make our products, thereby minimizing the amount of waste we generate and lowering our production costs.

We go to great lengths to ensure that our products are designed, made and used in a safe, effective and environmentally sound manner. We deliver on this commitment by maintaining a highly trained and capable scientific staff and by actively pursuing manufacturing process improvements that minimize environmental impacts. We have set environmental sustainability goals to demonstrate this commitment with concrete targets and timelines. To ensure that our knowledge stays current with that of thought leaders and experts in the industry, we also collaborate with external resources and industry groups, such as the American Chemical Society and the European Federation of Pharmaceutical Industries and Associations (EFPIA).

For more information, please visit the Product Stewardship section on our Corporate Responsibility website.

GRI 102-12 External initiatives (Core)

Though not an exhaustive list, below are examples of third-party principles and initiatives we have endorsed.

Water

We have endorsed the UN CEO Water Mandate, a public commitment to adopt and implement a comprehensive approach to water management, and we have aligned our water program with its principles. CEO Water Mandate endorsers have a responsibility to make water-resource management a priority and to work with governments, UN agencies, nongovernmental organizations, local communities and other interested parties to address global water challenges. We are working to identify partnerships that will help us advance our water stewardship priorities in the areas in which we operate. These projects also support the goals of SDG 15, which strives to "protect, restore and promote sustainable use of terrestrial ecosystems."

Human Rights

Our company believes in the dignity of every human being and recognizes the international human rights principles embodied in the United Nations Global Compact and as defined in the United Nations Universal Declaration of Human Rights and its subsequent changes, the International Covenant on Economic, Social and Cultural Rights, the International Covenant on Civil and Political Rights, the Organization for Economic Cooperation and Development Guidelines for Multinational Enterprises and the core labor standards set out by the International Labor Organization.

Supply Chain

We expect appropriate standards of conduct and respect for human rights, consistent with our own, from our suppliers, contractors, vendors and external partners. Our human rights practices are informed and guided by the Pharmaceutical Supply Chain Initiative's (PSCI's) Pharmaceutical Industry Principles for Responsible Supply Chain Management, which set the standard for ethics, labor, health, safety and the environment for our industry.

Diversity & Inclusion

In July 2018, we became a signatory to Paradigm for Parity®, a coalition of business leaders dedicated to addressing the corporate leadership gender gap. The goal of the coalition is to achieve full gender parity by 2030, with a near-term goal of women holding at least 30 percent of senior roles.

We are a member of the ILO Global Business and Disability Network, a partnership of multinational companies, national employers' organizations, business networks and advocacy groups working in collaboration to promote the inclusion of persons with disabilities in the workplace.

In 2009, we signed onto the United Nations Women's Empowerment Principles. These principles reflect seven areas of focus designed to promote gender equality in business.

Animal Health

We encourage proactive vaccination of animals to prevent disease and support the responsible use of antibiotics to treat and improve the health of animals. As a global animal health company, we support the "Antibiotic Commitment" established by the animal health industry.

Privacy

We are a member of the International Pharmaceutical Privacy Consortium (IPPC), an association of research-based pharmaceutical companies formed in 2002 that has worldwide responsibility for the protection of personal health information and other types of personal data. We have been actively involved in the IPPC since 2006, in order to engage in a constructive dialogue with European data-protection authorities and other regulators on privacy standards for biomedical research.

For more information, please visit the Reporting Frameworks, Key Initiatives, Water, Global Diversity & Inclusion, Direct-to-Consumer Advertising, Engaging with Health Care Professionals, Sales & Marketing Practices, Sourcing & Supplier Relations, Ensuring Ethical Business Practices, and Human Rights pages on our Corporate Responsibility website.

GRI 102-13 **Membership associations** (Core)

We engage with stakeholders through membership in numerous organizations. Within these groups, we aim to inform relevant debates in ways that are constructive and that ultimately foster improved patient access to medicines and vaccines globally.

Our company is a member of numerous industry and trade groups. We work with these groups because they represent the pharmaceutical industry and business community in debates led by governments and other stakeholders, and because they help the industry reach consensus on policy issues.

When our trade associations actively lobby on our core business issues, we seek to align their positions with our own. There are times, however, when we may not share the views of our peers or associations — both on issues that are central to our business and on those that, while important, are not directly material to our mission. With representatives on the boards and committees of industry groups and trade associations, we can voice questions or concerns we may have about policy or related activities. We may even recuse ourselves from related trade association or industry group activities when appropriate.

For a list of industry and trade groups of which we are a member, and our trade association dues (those greater than $25,000) that are used for political purposes, please visit our corporate website.

Through our top three trade associations (listed below), we engaged on the following policy issues in 2018:

PHARMACEUTICAL RESEARCH AND MANUFACTURERS OF AMERICA (PhRMA)
Defend the Medicare Part D program, Defend the Medicare Part B program, the 340 Drug Discount Program, Defend Intellectual Property Rights and government pricing reforms in Japan and Canada

U.S. CHAMBER OF COMMERCE
Defend Intellectual Property Rights

BIOTECHNOLOGY INDUSTRY ORGANIZATION (BIO)
Defend the Medicare Part D program, Defend the Medicare Part B program, the 340 Drug Discount Program and Defend Intellectual Property Rights

For more information, please visit the Public Policy page on our Corporate Responsibility website.

STRATEGY

GRI 102-14 **CEO letter** (Core)

Please see the letter from our Chairman and CEO on page 4.

ETHICS & INTEGRITY

GRI 102-16 **Values, principles, standards, and norms of behavior** (Core)

GRI 102-17 **Mechanisms for advice and concerns about ethics**

SASB 510a.2 **Code of ethics governing interactions with health care professionals**

Our company's Board of Directors and senior management, including the company's chief ethics and compliance officer and the Corporate Compliance Committee, oversee our company's ethics and compliance program. Our compliance program is designed to maintain a culture that promotes the prevention, detection and resolution of potential violations of law or company policies. The program is dynamic, involving regular assessments to ensure that it is responsive to the company's evolving business and associated compliance risks.

The Ethics and Compliance Office is led by the senior vice president and chief ethics and compliance officer, who reports directly to the chief executive officer and provides regular quarterly updates to the Audit Committee of the Board of Directors on the state of ethics and compliance at the company. This reporting structure supports open communications with senior leadership and the Board regarding important developments that relate to ethics and compliance.

As part of our long-standing commitment to ethics and good corporate citizenship, we adopt policies and procedures that facilitate compliance with the laws and regulations that govern the way we market and sell our medicines, vaccines and other products.

We have a well-established global ethics and compliance program that is consistent with the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA) Code of Practice requirements, as well as with other applicable regional or country industry codes of conduct, including those issued by the Pharmaceutical Research and Manufacturers of America (PhRMA) and the European Federation of Pharmaceutical Industries and Associations (EFPIA).

Our company's Office of Ethics is responsible for ensuring that employees are aware of and trained on the Code of Conduct and company policies.

The Office of Ethics serves as a channel for the receipt and investigation of ethics and compliance-related concerns. Employees are encouraged to raise their concerns to their management, Human Resources, Compliance, Legal, or the Office of Ethics. Throughout 2018 and 2019, the Office of Ethics enhanced its global ethics program, including the implementation of an improved reporting tool operated by an independent third party, named Speak Up at msdethics.com. Speak Up (formerly theadviceline.com) is available 24/7 and allows employees and suppliers to raise concerns or ask questions confidentially (where permitted by law) in their preferred language via phone or internet.

In alignment with our priority to protect and enhance our company's reputation through safe, ethical and compliant behaviors, the Office of Ethics added three Regional Ethics Officers to their team and established a network of site-based volunteer Ethics Ambassadors outside of the United States.

Engaging with Health Care Professionals

Ethical relationships with health care professionals are critical to our shared mission and vision to save and improve lives around the world.

An important part of achieving our mission is ensuring that health care professionals have balanced and accurate information about our products. All of our sales and marketing activities are conducted in accordance with our Guiding Principles for Ethical Business Practices Involving the Medical and Scientific Community. These principles are aligned with national regulations and worldwide industry codes, including the International Federation of Pharmaceutical Manufacturers & Associations Code of Practice and the World Health Organization's Ethical Criteria for Medicinal Drug Promotion.

The guiding principles serve as a bridge between countries' laws and regulations, industry guidelines, and our own Code of Conduct, enabling us to interact with the medical and scientific communities, to meet our ethical and legal obligations and to contribute to improvements in human health.

For more information on our approach to ethics, please visit the Corporate Governance, Code of Conduct, Engaging with Health Care Professionals and Compliance pages on our Corporate Responsibility website.

GOVERNANCE

GRI 102-18 Governance structure of the organization (Core)

We believe good governance is integral to achieving long-term shareholder value.

We are committed to governance policies and practices that serve the interests of our company and its many stakeholders. In exercising our fiduciary duty to our shareholders, we take a long-term perspective on shareholder value that takes into account our company's relationship with society as a whole and the interests of our many diverse stakeholders.

The primary mission of our Board is to represent and protect the long-term interests of our company's shareholders. The Board meets, at minimum, six times per year to provide strategic direction and to review our progress on a wide variety of measures.

In overseeing the affairs of the company, including our governance, the Board has established four committees, each of which is composed solely of independent directors. The four committees are:

- Audit Committee
- Compensation and Benefits Committee
- Governance Committee
- Research Committee

All of our standing committees are governed by Board-approved charters, which are available on our corporate website. Information on our company's board committees can be found in our company's 2019 Proxy Statement (pages 20–22).

The Board Governance Committee has responsibility for overseeing the company's corporate responsibility and public policy issues. Additional information on the Governance Committee's responsibilities can be found in our company's 2019 Proxy Statement (page 22) or in the charter for the Governance Committee available on our corporate website.

For more information on our governance structure, please visit the Corporate Governance page on our Corporate Responsibility website.

GRI 102-19 Delegation of responsibility

GRI 102-20 High-level accountability for sustainability topics

The Office of Corporate Responsibility

The Office of Corporate Responsibility is responsible for raising the visibility of corporate responsibility issues and activities across the company and fosters connections across business units and functional areas to integrate corporate responsibility principles into business policies, strategies and practices, including the enterprise risk management (ERM) process, and brings the voice of external stakeholders into decision-making processes.

The Office of Corporate Responsibility also coordinates the development, implementation and communication of our global approach and, with strategic guidance from the Public Policy and Responsibility Council (PPRC), Executive Committee and the Board Governance Committee, is responsible for publishing the annual Corporate Responsibility report.

GRI 102-21 Access to the board

The Board of Directors welcomes input from shareholders and other interested parties, and has established a process to receive these communications. Shareholders and interested parties may communicate directly with the Board, the independent Lead Director, the non-management or independent Directors as a group, or other members of the Board by writing to the following address:

Board of Directors
Merck & Co., Inc.
2000 Galloping Hill Road, K1-4157
Kenilworth, NJ 07033 U.S.A.

GRI 102-22 Composition of the board and its committees

Please see GRI 102-18.

GRI 102-23 Chair of the highest governance body

Ken Frazier, our company's chairman of the Board, president and chief executive officer, is the only company executive serving on the Board. Leslie A. Brun serves as the Board's independent lead director. As lead director, Mr. Brun confers with management on matters involving the Board and serves as a liaison to shareholders on investor matters. Mr. Frazier is not a member of any of the Board's committees; only independent directors serve on those committees.

The Board believes that the company and its shareholders are well-served by the Board's current leadership structure. The independent lead director

is appointed by the Board of Directors to a three-year term. Having an independent lead director vested with key duties and responsibilities and four independent Board committees chaired by independent directors promotes strong independent oversight of the chairman and chief executive officer and the rest of our management team.

For additional details on our Board's leadership structure, please see our company's 2019 Proxy Statement (pages 15–16).

GRI 102-24 Board nomination and selection processes

GRI 102-25 Board conflicts of interest

GRI 102-26 Board and executive roles

Our Board of Directors possesses broad expertise, skills, experience and perspectives that facilitate the strong oversight and strategic direction required to govern the company's business and strengthen and support senior management.

In its regular discussions regarding Board composition — and especially in conjunction with the annual Board and committee evaluations — the Governance Committee works with the Board to determine the appropriate mix of professional experience, expertise, educational background and other qualifications that are particularly desirable for our directors to possess in light of our current and future business strategies. The Governance Committee uses this input in its planning and director search process.

The Governance Committee considers diversity as an important factor when identifying prospective nominees for our Board. In 2019, the Governance Committee recommended, and the full Board adopted, a formal diversity policy. The policy reflects the Board's long-standing commitment to ensure that directors represent diverse perspectives and areas of expertise important to fostering the company's business success. Our new diversity policy provides that the Board does not discriminate against potential directors on the basis of gender, race, age, sexual orientation or ethnic and national background and further provides that having a board composed of diverse individuals is an important contributor to the Board's overall effectiveness.

From time to time and including in 2018, the Governance Committee has retained independent search firms to assist in identifying candidates that reflect its director succession priorities, including these diversity objectives. At present, we have two members on our Board who represent members of underrepresented ethnic groups.

The Governance Committee also considers recommendations for director candidates made by shareholders and evaluates them using the same criteria as for other candidates. The Board, along with the Governance Committee, takes into account, among other things, the needs of the Board and the company in light of the overall composition of the Board, with a view toward achieving a balance of the skills, experience and attributes that are essential to the Board's oversight role.

Six independent directors constitute our company's Board Governance Committee. Chaired by Leslie A. Brun, the company's lead independent director, the committee is responsible for advising the company's Board of Directors and management on company policies and practices that pertain to the company's responsibilities as a global corporate citizen, its special obligations as a health care company whose products and services affect health and quality of life around the world, and its commitment to the highest standards of ethics and integrity in all of its dealings.

In addition to the Governance Committee, other Board committees oversee issues indirectly related to corporate responsibility, such as audit and compliance, executive compensation and research.

For more information on our Board of Directors, please visit our 2019 Proxy Statement, the Leadership page on our corporate website, as well as the Corporate Governance page on our Corporate Responsibility site.

GRI 102-29 Board identification of ESG impacts, risks, and opportunities

GRI 102-30 Board ESG review of risk management processes

GRI 102-32 Report review

The Governance Committee oversees the company's corporate governance, including the practices, policies and procedures of the Board and its committees. The primary functions of this committee include:

- Coordinate an annual evaluation of Board performance, and review Board compensation, related person transactions, and D&O indemnity and fiduciary liability insurance coverage for the company's officers and non-employee Directors
- Review the company's Good Manufacturing Practice compliance, including internal and external audits; our Environmental, Health and Safety practices; our supply chain manufacturing strategy and governance, as well as our third-party sourcing program; our business continuity plans; and our privacy policies and practices
- Review social, political and economic trends that affect our business; review the positions and strategies we pursue to influence public policy
- Monitor and evaluate our corporate citizenship programs and activities, including the support of

charitable, political and educational organizations and political candidates and causes

- Review legislative, regulatory, privacy and other matters that could impact our shareholders, customers, employees and the communities in which we operate

The Board has two primary methods of overseeing risk. The first method is through its Enterprise Risk Management (ERM) process, which allows for full Board oversight of the most significant risks facing the company. The second is through the functioning of the Board committees.

Management has established an ERM process to ensure a complete companywide approach to evaluating risk over six distinct but overlapping core areas:

1. RESPONSIBILITY AND REPUTATION
Risks that may impact the well-being of the company, its employees, customers, patients, communities or reputation

2. STRATEGY
Macro risks that may impact our ability to achieve long-term business objectives

3. OPERATIONS
Risks in operations and cybersecurity that may impact our ability to achieve business objectives

4. COMPLIANCE
Risks related to compliance with laws, regulations and company values, ethics and policies

5. REPORTING
Risks to maintaining accurate financial statements and timely, complete financial disclosures

6. SAFETY
Risks to employee, patient or community health and safety

The goal of the ERM process is to provide an ongoing review, implemented across the company and aligned to company values and ethics, to identify and assess risk, and to monitor risk and agreed-upon mitigating action. Furthermore, if a risk transforms into an incident, the ERM process is utilized to provide an effective response and business continuity plans are in place. If the ERM process identifies a material risk, it will be elevated through our CEO and our company's Executive Committee to the full Board of Directors for its consideration.

For additional details on risk management, please see our company's 2019 Proxy Statement (pages 19-20).

GRI 102-33 Board communication

Please see GRI 102-21 on page 19.

GRI 102-35 Remuneration policies for the board and senior executives

GRI 102-36 Process for determining remuneration

GRI 102-37 Remuneration shareholder resolutions

For information on our remuneration policies and practices for Board members and senior executives, please visit our 2019 Proxy Statement (pages 37–41).

GRI 102-38 CEO/employee pay ratio

For information on our CEO compensation, please visit our 2019 Proxy Statement (page 60).

STAKEHOLDER ENGAGEMENT

GRI 102-40 **Stakeholder engagement** (Core)

GRI 102-41 **Union representation** (Core)

GRI 102-42 **Stakeholder identification** (Core)

GRI 102-43 **Approach to stakeholder engagement** (Core)

Operating responsibly is fundamental to our long-term success as a global biopharmaceutical company. It is also increasingly important to our stakeholders as expectations for how companies conduct themselves and contribute to society continue to rise.

We engage with a diverse group of stakeholders to more fully understand their needs and expectations, and to gain insights that can inform our efforts to improve access to health care and foster progress toward solutions that benefit society and support our business.

Patients and caregivers

We embrace the opportunity to engage with individual patients, patient advocacy organizations, and caregivers to better understand their health care journeys, expected outcomes and decision-making considerations. For more information on our work with patient groups, please visit the Patient Engagement page on our Corporate Responsibility website.

Health care professionals

We are committed to providing appropriate and balanced information to physicians and other health care providers about our medicines, vaccines and ongoing research. For more information, please visit the Engaging with Health Care Professionals page on our Corporate Responsibility website.

Payers

We work with payers worldwide to inform their understanding of the relationship between the prices of our products and the true value they deliver to patients and health care systems. To learn more, please visit the Product Pricing page on our Corporate Responsibility website.

Governments, multilateral organizations and regulators

We work with policy makers, legislators, multilateral organizations, and governments worldwide to ensure that policy and regulatory environments globally, nationally, and locally foster patient access to medicines and vaccines, and that they are conducive to ethical business practices, science and innovation. To learn more, please visit the Public Policy page on our Corporate Responsibility website.

Shareholders

We strive to create shareholder value by identifying opportunities to meet customer needs and by managing our business responsibly to achieve superior financial results over the long term. To learn more, please visit the Stakeholder Engagement page on our Corporate Responsibility website.

International and local organizations

We work hard to identify the best organizations and individuals to collaborate with in order to address societal challenges and to inform debate on pressing issues. To learn more, please visit the Key Initiatives page on our Corporate Responsibility website.

Local communities

We work toward developing culturally appropriate mechanisms to engage and build relationships with our local community stakeholders. To learn more, please visit the Supporting Our Communities page on our Corporate Responsibility website.

Environmental stakeholders

We work to reduce the environmental effects of our operations and products and to promote sustainable environmental practices within the company, among our partners, and throughout our supply chain. To learn more, please visit the Environmental Sustainability page on our Corporate Responsibility website.

Employees

We strive to foster a positive and inclusive working environment for our employees by providing resources to improve their health and that of their families, opportunities to further their professional development, and ways to get more involved in the communities where they live. To learn more, please visit the Engaging Our Employees page on our Corporate Responsibility website.

As part of our mission to maintain a satisfying and productive work environment, we routinely survey all employees to learn about their perspectives on the business and on how we are responding to the needs of our global workforce. The Voice Survey, our company's all-employee opinion survey, is our flagship employee feedback mechanism, and conducted on a biennial basis.

EMPLOYEE SURVEY

	2014	2015	2016	2017	**2018**
Response rate to Voice Survey	78%	NA	85%	NA	**86%**
Engagement Index (favorable response rate)[1]	79%	NA	82%	NA	**83%**
Culture Index (favorable response rate)[2]	69%	NA	72%	NA	**74%**

NA: Not Administered; the Voice Survey is conducted on a biennial basis.

[1] The Engagement Index is a composite that averages scores measured from three aspects: "Engaged," "Enabled" and "Energized."

[2] The Culture Index is a composite that averages scores measured from three aspects: "Customer Focus," "Reputation and Trust" and "Innovation."

UNION MEMBERSHIP

	2014	2015	2016	2017	**2018**
Percentage of employees worldwide represented by an independent trade union or covered by a collective bargaining agreement (approximate)	31%	32%	29%	29%	**30%**

Suppliers and business partners

We strive to engage a diverse supplier base and to encourage responsible approaches on the part of suppliers regarding labor, employment, human rights, health and safety, ethics, diversity, and protection of the environment. To learn more, please visit the Sourcing & Supplier Relations page on our Corporate Responsibility website.

Trade and industry associations

We engage with stakeholders through membership in numerous organizations. Within these groups, we aim to inform relevant debates in ways that are constructive and that ultimately foster improved patient access to medicines and vaccines globally. To learn more, please visit the Public Policy page on our Corporate Responsibility website.

GRI 102-44 Key topics and concerns raised (Core)

We interact with our stakeholders through a variety of communication channels and conduct stakeholder engagement at both the corporate and the local level, depending on the issue.

We engage with industry, governments, policy makers, nongovernmental organizations (NGOs), opinion leaders, patient groups, academic organizations, our employees and others to inform our policies, our practices and the development of our products.

Our intention is to build lasting relationships with our stakeholders; to understand their objectives, their expectations of our company and the potential for collaboration; and to enhance mutual trust and understanding.

We strive to exchange information, views and recommendations; to share activities and progress toward key goals; and to work in partnership toward common objectives.

Engagement may take the form of one-on-one meetings, expert-input forums, roundtable discussions, industry coalitions or formal partnerships.

In 2018, as part of our materiality assessment, we queried stakeholders on the topics that they felt were the most important for our company to be addressing going forward. A list of these topics can be found under GRI 102-47 on page 24.

REPORTING PRACTICE

GRI 102-45 Entities included in financial statements (Core)

All of our company's global operations, including those of subsidiaries, fall within the scope of this report unless stated otherwise. This includes activities at all facilities, owned and leased, over which we have operational control, unless otherwise noted.

The basis for reporting on other matters specific to the operations of our business — including joint ventures, subsidiaries, leased facilities, outsourced operations and other entities that can affect comparability from period to period — can be found in our 2018 Form 10-K, which is filed with the United States Securities and Exchange Commission and is also available in the "Financial Reports" section of our corporate website.

There have been no significant changes from previous reporting periods in the scope, boundary or measurement methods applied in this report. Data regarding employees who are part of underrepresented ethnic groups are provided for the U.S. only.

GRI 102-46 Defining report content and topic boundaries (Core)

GRI 102-47 Material aspects included (Core)

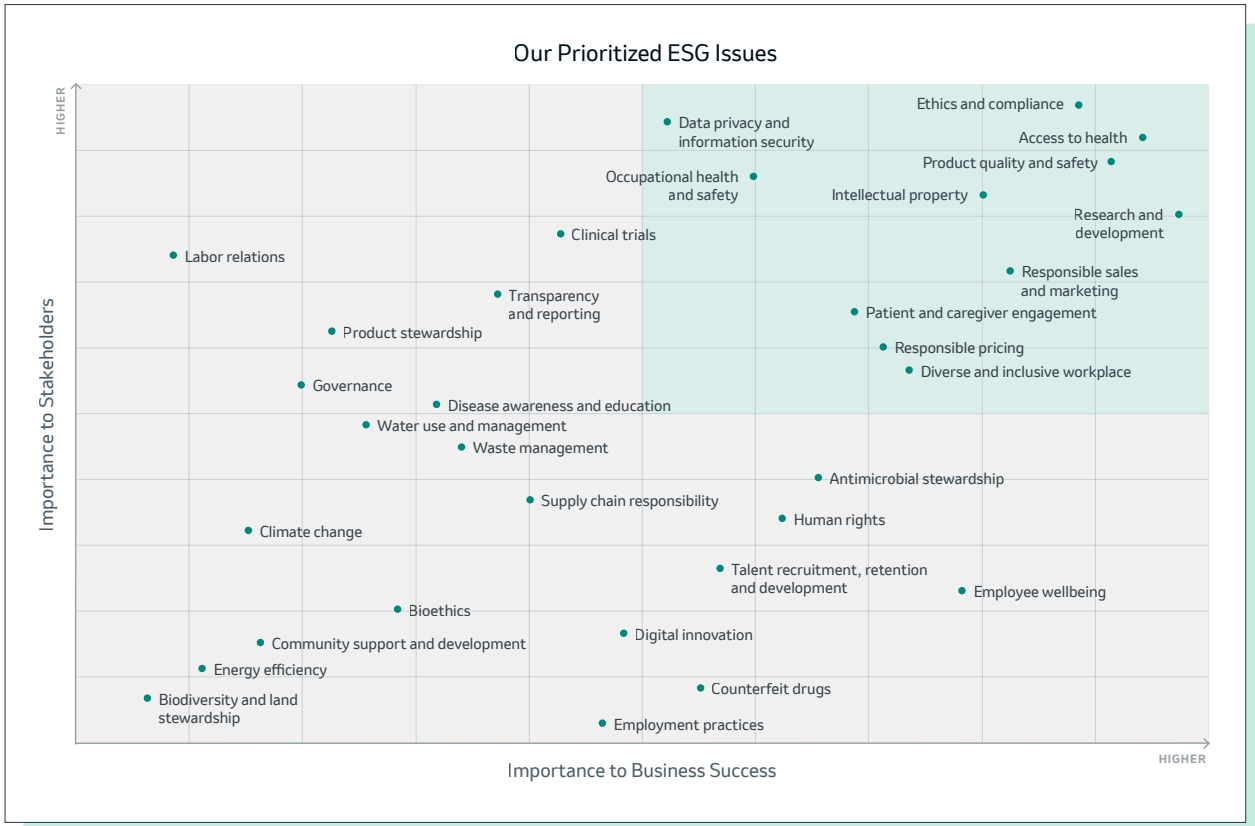
Understanding and prioritizing the corporate responsibility (CR) issues that matter most to our business and stakeholders enables us to focus on the right issues and report on them effectively and transparently.

In 2018, in response to external expectations for increased levels of transparency in our reporting, we leveraged Datamaran's Materiality Analysis tool — a business intelligence tool that uses big data and artificial intelligence to conduct real-time materiality assessments.

The corporate responsibility materiality assessment process provided us an opportunity to listen and engage our many stakeholders, helping us improve as an organization and providing insight into future trends and potential business risks and opportunities that influence our ability to create value.

Most recently, we have engaged with our Enterprise Risk Management (ERM) team to integrate our CR materiality process with the ERM approach with the goal to further integrate corporate responsibility into the overall business strategy.

The materiality matrix shown below represents the environmental, social and governance (ESG) issues that internal and external stakeholders have identified as having significant financial, operational or reputational impact on the company and illustrates where our company can have a significant impact on society and the environment.



The following topics were identified as being the most material corporate responsibility topics for our company:

- Access to health
- Data privacy and information security
- Diversity and inclusive workplace
- Ethics and compliance
- Intellectual property
- Occupational health and safety
- Patient and caregiver engagement
- Product quality and safety
- Research and development
- Responsible pricing
- Responsible sales and marketing

All of the topics above are within the boundaries of our responsibility. For more information, please visit the Corporate Responsibility Materiality page on our Corporate Responsibility website.

GRI 102-48 Restatements (Core)

Any restatements of information are included in the footnotes beneath the specific performance data tables.

GRI 102-49 Reporting changes (Core)

There were no significant changes from previous reporting periods. However, we updated our Corporate Responsibility materiality analysis this past year, which is outlined in GRI 102-47.

GRI 102-50 Reporting period (Core)

GRI 102-51 Date of most recent report (Core)

GRI 102-52 Reporting cycle (Core)

We report on our corporate responsibility initiatives and progress annually. These disclosures cover the prior calendar year, from January 1 to December 31, 2018. To ensure that readers have the most up-to-date information, some of the narrative in the report is about decisions and initiatives that took place in early 2019. Our last report was published in September 2018.

Our comprehensive 2018/2019 Corporate Responsibility report is available at MSDresponsibility.com.

GRI 102-53 Report contact (Core)

We welcome your feedback on our Corporate Responsibility report, as well as any other comments or questions you may have. You may contact us at the address below, or email us at corporate.responsibility@msd.com.

Office of Corporate Responsibility
Merck & Co., Inc.
2000 Galloping Hill Road
Kenilworth, NJ 07033 U.S.A.
908-740-4000

GRI 102-54 Claims of reporting in accordance with the GRI Standards (Core)

GRI 102-55 GRI content index (Core)

Our company's online Corporate Responsibility report was developed in alignment with the GRI Standards at the Core level.

GRI 102-56 External assurance (Core)

WSP conducted an independent third-party review of our 2018 greenhouse gas and water inventories and provided limited assurance for the data that we submit to CDP and for inclusion in the Corporate Responsibility report.

While we did not obtain external verification for the full report, we did speak with numerous external stakeholders, representing a variety of constituencies, about the company's planned approach to reporting, our corporate responsibility materiality assessment process and the broad material areas upon which we planned to report. The company reflects these consultations, where feasible and appropriate, on our website, and will use the insights gained through these and continuing discussions with stakeholders to inform future reporting.

To view WSP's limited assurance letter for our environmental data, please visit the Reporting page on our Corporate Responsibility website.

ECONOMIC

ECONOMIC PERFORMANCE

GRI 201-1 Direct economic value generated and distributed

We believe that corporate responsibility is critical to our business success and can provide us with new opportunities to create shared, or integrated, value — that is, addressing social issues through business solutions. At the most basic level of delivering integrated value, our principal economic contribution to society is made through the discovery, development, manufacturing and marketing of our products, which directly improve and maintain the health of individuals and communities around the world, helping them to lead more productive lives.

FINANCIAL INFORMATION

	2014	2015	2016	2017	**2018**
Sales (in millions)	$42,237	$39,498	$39,807	$40,122	**$42,294**
Research and development expenses (in millions)	$7,290	$6,796	$10,261	$10,339	**$9,752**
Number of employees (approximate)	70,000	68,000	68,000	69,000	**69,000**
Number of stockholders of record	142,000	135,500	129,500	121,700	**115,800**
Annual cash dividend paid per share	$1.77	$1.81	$1.85	$1.89	**$1.99**
Global tax expense as reported on income statement (in millions)	$5,349	$942	$718	$4,103	**$2,508**

The effective income tax rates of 28.8 percent in 2018, 62.9 percent in 2017 and 15.4 percent in 2016 reflect the impacts of acquisition and divestiture-related costs, restructuring costs and the beneficial impact of foreign earnings.

For additional information about our business and economic performance, please visit our Form 10-K for the year ended December 31, 2018.

Impact investing

One of our growing innovative approaches is impact investing, through which we are advancing sustainable global health solutions in line with our company's overall objectives. Through impact investing, we are able to deploy financial resources in ways that may generate not only improved access to health care for underserved populations, but also financial returns and commercial opportunities — all while growing a sustainable global health ecosystem and attracting additional capital and partners.

Impact investing is led by our Office of Social Business Innovation with guidance from the Impact Investing Committee. Established in 2019, the Impact Investing Committee is a cross-functional team of senior company leaders that reviews and approves new investments in line with established policies and guidelines and monitors the financial and social returns of the impact portfolio. We are also members of the Global Impact Investing Network (GIIN), through which we can contribute to and benefit from the growing body of expertise in the impact investing ecosystem.

For more information, please visit the Social Investments page on our Corporate Responsibility website.

GRI 201-2 Financial implications and other risks and opportunities due to climate change

As a global biopharmaceutical company, we recognize the important role we play in identifying, adapting and responding to the public health risks associated with climate change, such as threats to clean air and water, insufficient food supplies and the spread of disease. We believe our long-standing support of stronger health systems in underserved areas is even more important given the evidence that certain disease patterns are associated with changing climate conditions.

We have made it a priority to reduce our demand for energy and have established internal policies and practices focused on reducing energy use at all of our sites and minimizing GHG generation throughout the company. By taking these steps, we are not only minimizing GHG emissions but also reducing our operating costs and mitigating the business impacts expected to be associated with future climate change requirements.

Energy-efficiency and demand-reduction projects will continue to contribute to lowering our energy consumption and reducing our direct GHG emissions. In addition, we will continue to optimize systems, consolidate excess facility space when possible, shift power supplies to combined heat and power systems and utilize renewable energy sources.

In 2019, we have over 100 projects in progress, that when completed will reduce carbon dioxide emissions from our facilities by over 30,000 metric tons.

For more information, please visit the Climate Change & Energy Use page on our Corporate Responsibility website, our response to the CDP Climate questionnaire, as well as our 2018 Form 10-K (page 19).

GRI 201-3 Benefit plan coverage

Worldwide, our company offers retirement benefits that are competitive with those of our peers and the general industry in each market we serve. In the U.S., for example, we offer a defined benefit pension plan as well as a 401(k) plan with company matching contributions.

To assist in financial decision making, we offer all U.S. employees comprehensive financial education and guidance through Ernst & Young at no cost. U.S.-based employees who are at least age 55, and those who have at least 10 years of service after age 40[1], are eligible for subsidized medical benefits at retirement.

Outside the U.S., we have more than 80 pension plans (including defined benefit, cash balance, and defined contribution plans) in over 40 countries. These plans often supplement government-sponsored social security pension benefits to improve employees' financial security through added retirement income. While benefits may vary by region and country, we offer health, life and injury, disability and business travel insurance, along with retirement income benefits. In addition, in many countries, where legally permitted, including the U.S., we extend health care and various insurance benefits to employees' domestic partners and their partners' eligible dependent children.

For more information, please visit the Financial Well-Being page on our Corporate Responsibility website, or our 2018 Form 10-K (pages 110–116).

INDIRECT ECONOMIC IMPACTS

(CR material topics: Responsible pricing, intellectual property)

MANAGEMENT APPROACH

We are working to bring our medicines and vaccines to more people around the world in ways that are as accessible and affordable as possible for the patients who need them.

We strive to commercialize our products in a way that both develops our business and meets local needs in a responsible, accessible and efficient manner.

While each individual situation varies based on factual circumstances and market dynamics, generally, we consider:

- Value provided to patients
- Value provided to health care systems
- Unmet need
- Access
- R&D sustainability
- Competition

We have a long history of making our medicines and vaccines accessible and affordable through responsible pricing practices and industry-leading patient access programs. We are proud of the progress we have made to date and remain focused on responsible and sustainable pricing of our medicines moving forward.

[1] For certain employees, service before 40 also counts.

As health care systems in many developed markets are moving to a value-based care model, we are working with payers and other stakeholders to find flexible approaches to pricing. These include the use of quality- and performance-based contracts where payment is linked to quality metrics or improved health outcomes.

Intellectual property and access to medicines in low-income countries

As a global health care company, our primary role is to discover and develop innovative medicines and vaccines that treat unmet medical needs and prevent illness around the world. For many decades, intellectual property protection has promoted an environment conducive to research and development in the pharmaceutical arena.

Although alternative approaches for incentivizing innovation and investment in medical R&D are advocated by some, none of these approaches has yet demonstrated the capacity to generate enough sustained investment necessary to discover and develop new medicines. While we are interested in new ideas and proposals, it would not be in the best interests of patients to advance unproven alternatives that would fail to incentivize and sustain the large investments necessary to develop and bring forth new medicines.

We also recognize that we have a role to play in helping to ensure that our products are accessible and affordable to patients in need. We are committed to pursuing approaches to foster access to high quality health care and critical medicines. While our company files for patents in commercially significant markets to provide the continued incentive to support innovation, given the challenges that many people in low-income countries face to afford certain medicines and the very substantial resource constraints facing their governments, we have had a long-standing general policy of not filing for patents for our products in these markets, and currently do not file in any low-income country defined as such by the World Bank in its Country and Lending Groups classifications.

For more information, please visit the Key Initiatives, Product Registration and Product Pricing pages on our Corporate Responsibility website.

SASB 240b.2 **Percentage change in: (1) average list price and (2) average net price across U.S. product portfolio compared to previous year**

SASB 240b.3 **Percentage change in: (1) list price and (2) net price of product with largest increase compared to previous year**

As part of our commitment to transparency, in 2017 we started disclosing information on our Corporate Responsibility website about the price of medicines across our portfolio in the U.S. through our U.S. Pricing Transparency Report.

GRI 203-1 **Infrastructure investments and services supported**

While we are committed to addressing underlying barriers to access through social investments, we recognize there are patients who need access now. To complement our philanthropic giving and impact investing that target long-term improvements in the health ecosystem, we operate programs to provide direct access to our medicines and vaccines to patients in need now and where market-based solutions are inadequate or unavailable. We remain committed to donating our medicines and vaccines through organized programs, as appropriate. The primary programs involving donations of our products are: our Medical Outreach Program, the MECTIZAN® (ivermectin) Donation Program and our U.S.-based Patient Assistance Programs.

For more information, please visit the Social Investments page on our Corporate Responsibility website.

GRI 203-2 **Indirect economic impacts**

SASB 240a.1 **Access to health care for priority diseases and in priority countries**

SASB 240a.2 **Products on WHO's List of Prequalified Medicinal Products**

Pricing and access in low- and middle-income countries

In many countries, patients are able to obtain health care and medicines at competitive prices through public and private health insurance plans that negotiate significant rebates and discounts with pharmaceutical manufacturers.

In low- and middle-income countries, however, we recognize that access to and funding for health care can be limited. While major public health programs in these countries that focus on health priorities such as HIV/AIDS, malaria, tuberculosis and routine immunization are heavily subsidized by the government through international organizations and private funding, health insurance programs often do not exist or are limited. As a result, patients in these countries frequently must pay the price of medicines out of pocket, a particularly

daunting task for families living near or below the poverty line.

Therefore, we develop and support various sustainable strategies to improve access in low- and middle-income countries, including directing differential pricing to patient sub-segments, either directly through national or local programs or indirectly through third-party health care funding sources that demonstrate reasonable and secure product distribution to intended patient segments and subject to applicable legal requirements.

Currently, we have differential pricing for 42 of our products, and 128 countries have implemented inter- or intra-country pricing for at least one of our products. This notable increase of differentiated prices in both the scope of our products and eligible countries is the result of several initiatives, including expanding innovative concession program offers for our hepatitis C virus and women's health product portfolios in low- and middle-income markets and the continuation of HIV and vaccine access pricing for Gavi-eligible and Gavi-graduated countries, as well as enabling expanded access through reduced vaccine pricing with UNICEF.

One important way to achieve the Sustainable Development Goal of improving health and well-being globally is through donations of medicines and vaccines that address specific health needs, whether in communities with a fundamental lack of access to health care and services or in acute or protracted humanitarian crises.

Our product donation programs and initiatives include our MECTIZAN® (ivermectin) Donation Program, MSD Medical Outreach Program (MMOP), Product Pricing, and our U.S. Patient Assistance Programs.

PRODUCT PRICING

	2014	2015	2016	2017	**2018**
Number of products that are supported with differential pricing[1, 2]	35	35	40	42	**42**
Number of countries where inter- and/or intra-country pricing has been implemented[3]	114	121	123	125	**128**
Investment in patient- and provider-education programs (in millions)	$52	$80	$80	$90	**$115**

NOTE: Year-over-year differential pricing performance metrics can be impacted based on the timing of local-market or third-party contract renewals and/or product life-cycle introductions or deletions. Therefore, increases or decreases in these pricing metrics should not be interpreted as anticipating the level of trend growth in future years.

[1] Differential pricing intended to facilitate access for the at-need population.

[2] Products include HIV treatments, vaccines and other patented products.

[3] Countries as defined by the World Bank 2017 GNI Classification, including UN-defined Least Developed Countries.

GRANTS AND CONTRIBUTIONS

	2014	2015	2016	2017	**2018**
Grants and contributions (total cash, in-kind and product) (in millions)	$1,543	$1,820	$2,238	$2,722	**$2,793**
Cash grants and contributions (in millions)	$111	$133	$117	$94	**$84**
Product donations through U.S. Patient Assistance Programs (in millions)	$433	$567	$798	$1,112	**$1,242**
Product donations for ex-U.S. programs and U.S. disaster relief (in millions)[1]	$997	$1,117	$1,320	$1,513	**$1,464**
Valuation of employee volunteer time (in-kind, in millions)[2]	$2.2	$2.9	$2.6	$3.2	**$3.1**

[1] Includes the Medical Outreach Program (including U.S. disaster relief), the African Comprehensive HIV/AIDS Partnerships (2014–2016 only), the MECTIZAN® Donation Program, the GARDASIL® Access Program (2014 only), and MSD division and subsidiary donations.

[2] Includes valuation of volunteer time for only those employees who participated in the MSD Fellowship for Global Health program and our company's Pro Bono Legal and other skills-based volunteer programs.

Product registration

An important goal for our company is to reduce the historic gap in product introduction between high-income and lower-income countries.

In addition to having our medicines and vaccines approved by stringent regulatory authorities, when relevant to enhancing access in low- and middle-income countries, we also work to have certain medicines and vaccines prequalified through the World Health Organization (WHO) prequalification process.

In order to make our products available to the people who need them throughout the world, we registered 124 products and devices in 2018. The majority of these products were registered in low- and middle-income countries in the Asia Pacific, Central and Eastern Europe, Middle East and Africa, and Americas regions.

The table to the right is a list of products that have been prequalified by WHO as of March 31, 2019.

To learn more, please visit the Product Registration page on our Corporate Responsibility website.

PRODUCT	INTERNATIONAL NONPROPRIETARY NAME	DATE OF PREQUALIFICATION
FAMILY PLANNING		
MARVELON 28®	Ethinylestradiol + Desogestrel	October 2010
EXLUTON®	Lynestrenol	June 2010
IMPLANON NXT®	Etonogestrel	May 2013
VACCINES		
MMR-II®	Measles, Mumps, Rubella Virus Vaccine Live	December 2008
ROTATEQ®	Rotavirus Vaccine, Live, Oral, Pentavalent	October 2008
GARDASIL®	Human Papillomavirus Quadrivalent (Types 6, 11, 16, 18) Vaccine, Recombinant (including a VVM)	May 2009
GARDASIL®	Human Papillomavirus Quadrivalent (Types 6, 11, 16, 18) Vaccine, Recombinant (two-dose regimen to support its programmatic feasibility in developing countries)	October 2014
GARDASIL®	Human Papillomavirus Quadrivalent (Types 6, 11, 16, 18) Vaccine, Recombinant (compatibility for use in a controlled temperature chain to facilitate its administration in high-temperature, low-cold-chain infrastructure areas of developing countries)	May 2016
GARDASIL®9	Human Papillomavirus Quadrivalent (Types 6, 11, 16, 18) Vaccine, Recombinant (including a two-dose-regimen variation)	February 2018
VARIVAX®	Varicella Virus Vaccine Live (first varicella vaccine to receive WHO prequalification)	February 2018
HIV/AIDS TREATMENTS		
STOCRIN®	Efavirenz (600mg tablet, Oral Solution 30mg) Efavirenz (50mg tablet, 200mg tablet)	May 23, 2006 May 14, 2008
CRIXIVAN®	Indinavir Sulfate	May 23, 2006

U.S. Patient Assistance Programs

We believe that no one should go without the medicines or vaccines they need.

More than 57 years ago, our company created our first U.S. patient assistance program (PAP) to keep affordable medicines within patients' reach.

That is why our company's U.S. patient assistance program, a separately incorporated nonprofit charitable organization, provides certain medicines and adult vaccines for free to eligible people who do not have prescription drug or health insurance coverage and who, without our assistance, cannot afford our medicines and vaccines.

This approach is consistent with our company's commitment to improve access to our medicines and adult vaccines for people who need them.

Through these programs, we have provided more than 41.6 million free prescriptions and adult vaccines, representing a total value (at wholesale acquisition cost) of more than $7 billion.

To learn more, please visit the U.S. Patient Assistance Programs page on our Corporate Responsibility website.

PATIENT ASSISTANCE PROGRAMS SUMMARY

	2014	2015	2016	2017	**2018**
Patients utilizing our U.S. Patient Assistance Programs (in thousands)[1]	301	293	306	244	**233**
30-day prescriptions filled (in millions)	1.6	1.6	1.7	2.1	**2.1**

[1] Totals represent 2014–2018 volumes of our U.S. Patient Assistance Programs.

ANTI-CORRUPTION

(CR material topic: Ethics and compliance)

MANAGEMENT APPROACH

An important component of our corporate ethics and compliance program is our annual ethics and policy certification. The annual review process requires selected company employees to certify adherence to corporate policies on preventing bribery and corruption, antitrust-law compliance, and conflict-of-interest and insider trading. These employees are also expected to regulate their outside activities to avoid any conflicts of interest, and to certify, in writing, whether actual or potential conflicts of interest exist.

GRI 205-2 Communications and training on anti-corruption

Ethics and compliance training is an important part of creating a strong culture, and our program is reflective of the Code of Conduct and corporate policies tailored to meet the needs of different groups of employees within the organization. All employees are required to complete the assigned ethics and compliance courses.

Training on our Code of Conduct is designed as an annual training series that is assigned to all employees worldwide. The series is focused on our core values: Patients First, Ethics & Integrity, Respect for People, and Innovation & Scientific Excellence.

The 2018 series consisted of five modules including Code of Conduct, Anti-Bribery and Anti-Corruption, Adverse Event Reporting, Data Privacy (including General Data Protection Regulation (GDPR)) and Preventing Discrimination and Harassment.

Ethics and compliance content is also integrated into business and leadership development courses for managers and senior leaders on an ongoing basis. Ethics and integrity are key leadership competencies that are assessed as part of annual performance reviews and play an integral role in our decisions about employee advancement within the company.

OFFICE OF ETHICS

	2015	2016	2017	**2018**
Employees trained on the Code of Conduct training series	99%	100%	100%	**99%**
Employees who responded to the disclosure statement on the Conflicts of Interest form	100%	100%	100%	**100%**

We abide by strict ethical standards in our own operations, and we insist on equivalent standards from our suppliers. Our Business Partner Code of Conduct is based on our own Code of Conduct, as well as on the Pharmaceutical Supply Chain Initiative's (PSCI's) Pharmaceutical Industry Principles and the Ten Principles of the UN Global Compact.

For more information, please visit the Code of Conduct, Compliance, Engaging with Health Care Professionals, and Sourcing & Supplier Relations pages on our Corporate Responsibility website.

ANTI-COMPETITIVE BEHAVIOR

(CR material topic: Responsible sales and marketing)

MANAGEMENT APPROACH

We adhere to strict ethical sales and marketing practices in all our businesses, whether pharmaceuticals, vaccines or animal health.

Our interactions with providers, other customers and consumers are governed by laws and regulations, and by our long-standing global Code of Conduct, Our Values & Standards.

We enforce these external and internal standards through our ethics and compliance program.

Our ethics and compliance program seeks to address and prevent inappropriate practices, and we evaluate our policies and practices as appropriate. Our practices are monitored, and compliance is enforced to ensure that our interactions with customers and consumers help inform their decisions accurately and in a balanced manner. We believe that compliance with all policies governing scientific, business and promotion-related activities, in letter and spirit, is a corporate and individual responsibility of the highest order. Through our ethical behavior, we strive to ensure that scientific information predominates in prescribing decisions.

Our Guiding Principles for Ethical Business Practices Involving the Medical and Scientific Community include the following:

- We provide current, accurate and balanced information about our products; we share sound scientific and educational information; and we support medical research and education.
- Our employees are prohibited from offering health care professionals items of personal benefit, such as tickets to sporting events, support for office social events or gift certificates for stores or golf outings. Where permitted, we may occasionally provide health care professionals with approved educational items that are not of substantial monetary value and that are intended primarily for educational purposes. Such materials may include medical textbooks, medical journals and anatomical models.
- Our employees and others speaking on behalf of the company may give presentations specifically designed to provide the type of information that practicing health care professionals have indicated is needed and most useful in the treatment of their patients, in accordance with U.S. Food and Drug Administration (FDA) regulations and the regulations of other countries in which the presentations or discussions are taking place.
- A company representative may offer occasional modest meals to health care professionals in connection with an informational presentation; however, such meals must be in accordance with local codes and regulations.

Our sales representatives must provide truthful, non-misleading information in their interactions with the medical and scientific community. Our compliance program is consistent with applicable laws and regulations, and is aligned with the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA) Code of Pharmaceutical Marketing Practices, as well as with regional and country industry codes, such as the Pharmaceutical Research and Manufacturers of America (PhRMA) Code and the Compliance Program Guidance for Pharmaceutical Manufacturers, published by the Office of the Inspector General, U.S. Department of Health and Human Services.

For more information, please visit the Sales & Marketing Practices page on our Corporate Responsibility website.

GRI 206-1 Anti-competitive behavior

We try to help consumers achieve better health outcomes by delivering accurate, relevant and understandable information on disease prevention, identification and potential treatment. To remain true to this goal, we adhere to the U.S. Food and Drug Administration (FDA) regulations and guidelines

governing DTC promotion, meet or exceed all Pharmaceutical Research and Manufacturers of America (PhRMA) guidelines on DTC advertising, and follow a comprehensive set of internal policies and practices when engaging in DTC advertising within the U.S.

Our company has a long-standing policy of voluntarily submitting new U.S.-based DTC advertising campaigns to the FDA for its review and comment before running them. Under our DTC policies and practices, the information provided in our DTC advertising must:

- Contain appropriate product benefit and risk information
- Be appropriately balanced, consistent with FDA regulations, and use appropriate "taste and tone"
- Be approved by our company's Promotion Review Team, a governing body consisting of a team of reviewers (including the job owner, an attorney, a physician, a representative from the Office of Promotion and Advertising Review and a product scientific specialist) who ensure that promotional material is clinically and scientifically accurate, compliant with applicable laws and regulations, and compliant with company policy

We inform and educate health care professionals about our products before we advertise them to consumers. We implement comprehensive programs to educate physicians and other prescribers about a new product for an appropriate period of time before starting product-specific DTC broadcast advertising in the U.S.

These principles and our practices are reflected in the PhRMA Guiding Principles on Direct-to-Consumer Advertisements about Prescription Medicines.

For more information, please visit the Direct-to-Consumer Advertising page on our Corporate Responsibility website.

ENVIRONMENTAL

MATERIALS

Developing innovative, cost-efficient manufacturing processes with low environmental impact aligns with our company's environmental sustainability strategy.

Our integrated strategy involves several stages and aims to provide innovative solutions rather than incremental improvements to historical practices. We see science and innovation as critical enablers to developing sustainable, low-cost manufacturing processes that provide both environmental and economic benefits over the life cycles of our products.

By using more efficient and innovative processing methods and technologies, we are reducing the amount of energy, water and raw materials we use to make our products, thereby minimizing the amount of waste we generate and lowering our production costs.

GOAL

By 2020, at least 90 percent of our new human health active pharmaceutical ingredient processes will meet internal sustainability targets at launch.

2018 PROGRESS
On track to establish and meet targets that will drive improvements in the material efficiency of our new products

As part of our Green & Sustainable Science program, we calculate the Process Mass Intensity (PMI) of our human health products. PMI represents the number of kilograms of raw materials (including water) used to produce one kilogram of an active pharmaceutical ingredient (API) or biologic. PMI indicates how efficiently we convert raw materials into final products. We use this metric internally to compare different manufacturing methods, identify process improvement opportunities and track our progress.

Packaging

We have adopted "Design for Environment" guidelines that help our engineers design new product packages that are better for the environment by minimizing package sizes and using more environmentally friendly materials, where possible.

GOAL

100 percent of the packaging for our new human health products will be reviewed for environmental impact and improvement.

2018 PROGRESS
100 percent of products launched in 2018

To help us evaluate the differences in environmental impacts between packaging options, we use a simplified life-cycle assessment (LCA) tool that provides information on the environmental impacts generated by the materials used in our packaging. The tool helps us to make informed decisions as to which materials are better for the environment.

Pharmaceuticals in the environment

We conduct environmental risk assessments on our products, from the development phase through product launch, to understand and manage product

impacts from manufacturing and patient use. We assess products in a manner consistent with the most stringent applicable global regulations, including the regulatory review processes of the U.S. Food and Drug Administration and the European Medicines Agency. Product environmental safety profiles are reassessed during periodic renewals of product filings, and risk-mitigation actions are implemented when needed.

For more information, please visit the Materials & Packaging, Waste Management, Product Stewardship, Pharmaceuticals in the Environment and Nanotechnology pages on our Corporate Responsibility website.

GRI 301-3 Reclaimed materials

Solvents play a key role in the manufacturing of our products, as well as in equipment cleaning. Because of their significance to our business and the life-cycle impact they represent, we focus on designing our processes to minimize or avoid their use where practical. Where we do use solvents, we maximize efficiency, and control them in our emissions, effluents and waste.

We have an active Green & Sustainable Science program to design our new processes using fewer solvents and other hazardous materials, and to reuse and recycle more of the solvents we do use. For cleaning our manufacturing equipment, we use water-based methods where they are effective as solvents. At each of our manufacturing sites, we have engineers who are responsible for identifying and driving process-improvement projects. When it is not practical to reuse regenerated solvents in our own production processes, we either work with suppliers who recover the spent solvents for resale to other industries, or safely burn them as a source of energy. Any used solvents that leave our site as hazardous waste are managed at offsite facilities that are on our list of approved waste management sites.

SOLVENT USE (MT)

	2014	2015	2016	2017	**2018**
Fresh solvents used	24,000	15,000	20,000	19,000	**18,560**
Recovered solvents used	11,000	7,000	8,000	7,300	**6,553**
Total	35,000	22,000	28,000	26,300	**25,113**

NOTE: Previously reported data have been restated per our methodology, which includes adding facilities that have been acquired and removing facilities that have been sold as operating sites.

For more information, please visit the Product Stewardship page on our Corporate Responsibility website.

26%

In 2018, we used recovered solvents for more than a quarter of our manufacturing and cleaning needs.

ENERGY

Our energy strategy aligns with the United Nations Sustainable Development Goals (SDGs) by striving to increase our use of renewable electricity sources, making energy efficiency improvements and supporting science-based reductions of our greenhouse gas (GHG) emissions.

GOAL

By 2025, at least 50 percent of our purchased electricity will come from renewable sources. By 2040, 100 percent of our purchased electricity will come from renewable sources.[1]

2018 PROGRESS

14.1 percent of our purchased electricity comes from renewables.

We have made it a priority to reduce our demand for energy and have established internal policies and practices focused on reducing energy use at all of our sites and minimizing GHG generation throughout the company. By taking these steps, we are not only minimizing GHG emissions but also reducing our operating costs and mitigating the business impacts expected to be associated with future climate change requirements.

Our Energy Center of Excellence (CoE) identifies, shares and standardizes best practices, and prioritizes the funding of energy projects to reduce energy use across the company. Our manufacturing facilities, warehouses, laboratories, major offices and vehicle fleet are the primary targets of our energy-demand-reduction programs, as they represent the majority of our energy consumption.

We have established an Energy Capital Fund of up to $12 million per year in order to transition to more energy-efficient technology and to better position the company to respond to energy demands in the future. The Energy Capital Fund supports the implementation of projects with a simple four-year payback averaged over the entire portfolio. In 2018, we allocated approximately $9.8 million to energy projects. The completed projects will result in $1.65 million in annual savings and a reduction of more than 6,000 metric tons of carbon dioxide from our facilities.

For more information on our initiatives, policies and accomplishments, please visit the Climate Change & Energy Use page on our Corporate Responsibility website.

[1] We have defined “purchased electricity” as electricity sourced from external suppliers as well as renewable electricity that was generated and utilized onsite where we retained the renewable attributes or where we have obtained renewable attributes through contract.

GRI 302-1 Energy consumption within the organization (Scopes 1 + 2)

ENERGY USE SUMMARY

	2014	2015	2016	2017	**2018**
Total energy use (GJ)	21,926,200	21,217,200	20,851,700	19,252,800	**19,113,300**

SCOPE 1 & LOCATION-BASED SCOPE 2 ENERGY USE (% OF TOTAL)[1]

	2014	2015	2016	2017	**2018**
Natural gas (Scope 1)	60%	60%	61%	59%	**62%**
Purchased electricity (Scope 2)[2, 3]	23%	24%	23%	23%	**22%**
Fleet fuel (Scope 1)	12%	11%	12%	13%	**10%**
Purchased steam (Scope 2)	3%	3%	2%	3%	**3%**
Fuel oil (Scope 1)	2%	2%	2%	2%	**2%**
Spent solvents (Scope 1)	0.2%	0.1%	0.1%	0.0%	**0.0%**
Coal (Scope 1)	0.0%	0.0%	0.0%	0.0%	**0.0%**
Bio-fuel (Scope 1)	0.3%	0.3%	0.4%	0.6%	**0.6%**
Renewable energy generated and used onsite[4]	0.0%	0.01%	0.04%	0.04%	**0.05%**

[1] May not add to 100 percent due to rounding.

[2] Reported using Scope 2 location-based value in accordance with the Greenhouse Gas Protocol.

[3] Includes solar, wind and other renewables generated onsite where renewable energy credits (RECs) have been sold.

[4] Includes solar, wind and other renewables generated onsite where renewable energy credits or guarantees of origin have been retained or retired.

SCOPE 1 & MARKET-BASED SCOPE 2 ENERGY USE (% OF TOTAL)[1]

	2014	2015	2016	2017	**2018**
Natural gas (Scope 1)	60%	60%	61%	59%	**62%**
Purchased electricity (Scope 2)[2, 3]	23%	24%	22%	22%	**19%**
Fleet fuel (Scope 1)	12%	11%	12%	13%	**10%**
Renewable energy generated and used onsite or purchased[4]	0.0%	0.01%	0.3%	1.1%	**3.2%**
Purchased steam (Scope 2)	3%	3%	2%	3%	**3%**
Fuel oil (Scope 1)	2%	2%	2%	2%	**2%**
Bio-fuel (Scope 1)	0.3%	0.3%	0.4%	0.6%	**0.6%**
Spent solvents (Scope 1)	0.2%	0.1%	0.1%	0.0%	**0.0%**
Coal (Scope 1)	0.0%	0.0%	0.0%	0.0%	**0.0%**

[1] May not add to 100 percent due to rounding.

[2] Reported using Scope 2 market-based value in accordance with the Greenhouse Gas Protocol.

[3] Includes solar, wind and other renewables generated onsite where renewable energy credits (RECs) have been sold.

[4] Includes solar, wind and other renewables generated onsite where renewable energy credits or guarantees of origin have been retained or retired.

GRI 302-4 Energy reductions

From 2017 to 2018, we reduced our year-over-year Scope 1 and Scope 2 market-based GHG emissions by 7 percent due to our continued focus on energy efficiency and an increased utilization of renewable energy.

We have analyzed and reported our Scope 3 impacts using primary operating data, accepted emission factors, and an economic input-output model based on our third-party spend. In 2018, our Scope 3 GHG emissions remained roughly the same as in 2017.

Our analysis shows that our Scope 3 GHG emissions impacts are nearly three times greater than our combined Scope 1 and Scope 2 emissions. We are working to reduce those impacts through activities such as reducing waste in our operations, reducing fuel use and looking for opportunities to shift from air shipping to ocean transport when practical. We are also starting to engage with our strategic suppliers to identify ways to reduce GHG emissions in our supply chain. These actions not only reduce our environmental impact but benefit the business by reducing costs.

For more information, please visit the Climate Change & Energy Use page on our Corporate Responsibility website, as well as our CDP Climate Change Questionnaire.

WATER

As we strive to meet the health needs of our patients, we are increasingly operating in regions of the world where access to clean water and proper sanitation is under great pressure. Even in established markets, our business faces water-related risks.

Our global water strategy aims to achieve sustainable water management within our operations and our supply chain, which supports Sustainable Development Goal (SDG) 6, "Clean Water and Sanitation." To achieve these strategic objectives, we are focusing on the following commitments:

- Ensuring that our wastewater discharges comply with local and national standards, as well as internal company requirements
- Understanding and controlling our operational water footprint
- Managing water risk at our facilities and in our supply chain
- Reporting publicly on our water use and goals

GOAL

By 2020, we will develop water conservation plans for sites in "high water risk" locations.

2018 PROGRESS
On track

GOAL

By 2025, we will maintain global water use at or below 2015 levels.

2018 PROGRESS
3.5 million cubic meters below 2015 levels (15 percent reduction)

We use the World Resources Institute's (WRI's) Aqueduct water-risk-assessment tool to measure and map our water risks. Sites are categorized using the "Baseline Water Stress" indicator, which is the ratio of total annual water withdrawals to total available annual renewable supply, and accounts for upstream consumptive use. Higher stress values indicate more competition among water users.

In 2018, we operated 11 manufacturing and/or research facilities in areas with "extremely high" Baseline Water Stress, according to the WRI's Aqueduct tool. Our manufacturing facilities that use the most water are located in areas of "medium to high" or "high" Baseline Water Stress and are located in the U.S.

We are assessing our facilities located in areas of "extremely high" and "high" Baseline Water Stress to determine if more extensive water management plans are needed. We are also working to identify "hot spots" of water use within our supply chain so that we can engage with our suppliers on the issue of water risk.

For more information, please visit the Water and Sourcing & Supplier Relations pages on our Corporate Responsibility website, or review our disclosures to the CDP Water Questionnaire.

GRI 303-1 Water withdrawals by source

GRI 303-2 Water sources affected by withdrawals

WATER USE BY SOURCE (MILLION M³)[1]

	2014	2015	2016	2017	**2018**
Pumped water (surface water and groundwater)	18.9	16.2	13.6	13.0	**12.8**
Purchased water	7.9	7.8	7.1	6.6	**7.7**
Total	26.9	24.0	20.7	19.6	**20.5**

[1] In accordance with the Greenhouse Gas Protocol, prior-year data have been adjusted to add or remove facilities that have been acquired and sold. Adjustments also reflect changes in methodology to ensure consistency from year to year.

GRI 303-3 Water recycled and reused

Our sites employ a variety of technologies and techniques aimed at reducing our water footprint and improving operational performance. Closed-loop cooling systems, which reduce freshwater use, are employed at more than half of our facilities worldwide. Reverse osmosis (RO) "reject water" is reused for non-potable and non-process applications such as cooling-tower feed water and fire water. In all, more than one million cubic meters of water are recovered, reused or recycled at our facilities, which is equivalent to six percent of the total water that is withdrawn.

Our water-use-reduction initiatives include:

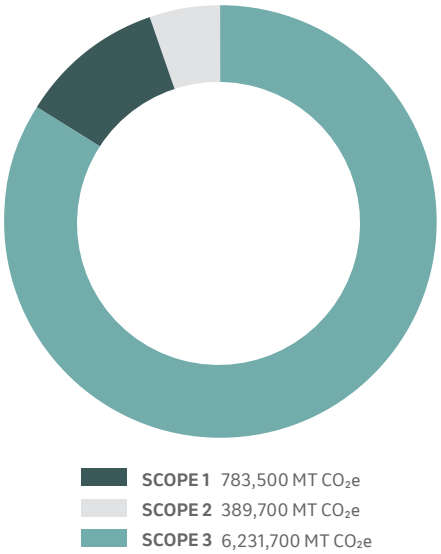
- Consideration of water use in process design
- Cooling-system optimization
- Prompt repairs and maintenance of steam-distribution systems and traps
- Recovery and reuse of steam condensate and "reject water"
- Process-water purification system optimization
- Avoiding the use of water in mechanical seals, such as those in pumps

For more information, please visit the Water page on our Corporate Responsibility website.

EMISSIONS

Scientific data support that climate change is occurring, and we are taking action to reduce the economic and public health risks associated with a changing climate.

GHG EMISSIONS



NOTE: Scope 2 is the market-based value in accordance with the Greenhouse Gas Protocol.

As a global biopharmaceutical company, we recognize the important role we play in identifying, adapting and responding to the public health risks associated with climate change, such as threats to clean air and water, insufficient food supplies, and the spread of disease. We believe our longstanding support of stronger health systems in underserved areas is even more important given the evidence that certain disease patterns are associated with changing climate conditions.

We report our GHG emissions as required by regulations in certain countries and annually through CDP (formerly Carbon Disclosure Project). In 2018, for the second year in a row, the CDP graded our disclosure with an A- "leadership" rating, indicating that we have "implemented a range of actions to manage climate change, both in our own operations and beyond."

GOAL

By 2025, we will reduce global Scope 1 and market-based Scope 2 GHG emissions by at least 40 percent from 2015 levels.

2018 PROGRESS
19.6 percent reduction

This goal is designed to meet the science-based criteria to limit the global temperature increase to below 2°C. We have submitted our goal to be evaluated by the Science-Based Targets initiative (SBTi), and joined We Mean Business to emphasize our commitment.

We realize that in order to make a truly meaningful reduction in our overall environmental impact, we must engage with our suppliers to drive positive change. We have set a goal that includes a three-phase process:

- Throughout 2018, we collected GHG emissions data from 93 percent of our strategic suppliers with the highest environmental impacts to help us better understand the GHG emissions associated with our supply chain.
- By 2020, we will engage with those suppliers and request them to identify GHG emission reduction opportunities.
- By 2025, at least 90 percent of our strategic suppliers with the highest environmental impacts will set their own GHG emission reduction targets.

For more information on our initiatives, policies and accomplishments, please visit the Climate Change & Energy Use and Sourcing & Supplier Relations pages on our Corporate Responsibility website.

GRI 305-1 **Direct GHG emissions** (Scope 1)

GRI 305-2 **Indirect GHG emissions** (Scope 2)

GHG SUMMARY[1] (MT CO_2e)

	2014	2015	2016	2017	**2018**
Scope 1 and location-based Scope 2	1,532,400	1,416,400	1,363,300	1,254,700	**1,208,100**
Scope 1 and market-based Scope 2	1,532,400	1,458,500	1,400,000	1,267,000	**1,173,200**
Scope 3	5,760,000	5,586,300	7,975,100	6,586,100	**6,231,700**

[1] In accordance with the Greenhouse Gas Protocol, prior-year data have been adjusted to add or remove facilities that have been acquired or sold. Adjustments also reflect changes in methodology to ensure consistency from year to year.

GRI 305-3 Other indirect GHG emissions (Scope 3)

SCOPE 3 GREENHOUSE GAS (GHG) DETAILS (MT CO_2e)

	2014	2015	2016	2017	**2018**
Purchased goods and services[1]	4,437,700	3,864,900	6,204,000	4,997,600	**4,615,400**
Capital goods[1,2]	NA	112,700	224,000	192,900	**229,200**
GHG emissions from fuel and energy-related activities not included in Scopes 1 & 2[3,4]	309,500	276,200	304,500	262,100	**243,400**
Upstream transportation and distribution[1]	258,000	222,200	255,500	267,100	**271,600**
Waste generated in operations (excluding recycled & composted waste)[5,6]	23,500	20,600	16,800	16,000	**18,200**
GHG emissions related to employee business travel[7,8]	182,600	283,300	265,400	218,200	**301,100**
Employee commuting	320,700	302,400	301,500	262,200	**239,000**
Downstream transportation and distribution[9]	NA	211,000	118,000	121,900	**120,800**
GHG emissions from use of sold products[10]	228,000	255,000	248,400	205,800	**148,100**
End-of-life treatment of sold products[11]	NA	38,000	37,000	42,200	**44,900**
Total	5,760,000	5,586,300	7,975,100	6,586,100	**6,231,700**

Note: Limited Data Assurance was granted for emissions calculated from primary travel vendor data and employee reimbursable travel mileage data. The total reported here includes non-primary travel vendor data emissions which were based on our 2018 third-party spend data and an economic input-output model performed by Climate Earth, Inc.

NA: Not Available.

[1] Based on third-party spend data and an economic input-output model performed by Climate Earth, Inc.

[2] Data not available before 2015.

[3] Emission factors from Argonne National Laboratory's GREET Model (https://greet.es.anl.gov/) were used in conjunction with primary fuel and energy-use data.

[4] Data as reported historically, not baseline adjusted.

[5] Primary-waste data were used with the U.S. EPA's WARM Model (https://www.epa.gov/warm).

[6] Including recycled and composted waste in these calculations would result in negative emissions in 2014 (-39,900 MT CO_2e), 2015 (-40,200 MT CO_2e), 2016 (-60,200 MT CO_2e), 2017 (-41,200 MT CO_2e) and 2018 (-43,700 MT CO_2e).

[7] Based on primary travel vendor data, employee-reimbursable mileage and UK Defra factors (https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting#conversion-factors-2015).

[8] Beginning in 2014, emissions are based on primary vendor data, where available, and economic input-output modelling performed by Climate Earth, Inc., using spend data.

[9] Emissions were calculated using our "Upstream transportation and distribution" spend data as a worst-case estimate entered into the WRI Quantis tool. We assumed that all "downstream" material would first have been stored, transported and handled "upstream."

[10] Assumes that all HFC-containing devices shipped for sale were consumed. The amount and identity of HFC in each product is calculated and multiplied by the appropriate global warming potential (GWP) to determine the CO_2e released as a result of product use.

[11] Calculated assuming that all primary, secondary and tertiary packaging purchased was disposed of by our customers. Packaging material data was used with the U.S. EPA's WARM Model.

GRI 305-4 GHG emissions intensity

GHG INTENSITY

	2014	2015	2016	2017	**2018**
Scope 1 + 2 GHG Emissions (MT CO_2e)	1,532,400	1,416,400	1,400,000	1,267,000	**1,173,200**
Revenue (in millions)	$42,200	$39,498	$39,807	$40,122	**$42,294**
GHG Intensity (MT CO_2e/revenue)	0.0000363	0.0000358	0.0000352	0.0000316	**0.0000277**

Note: Scope 2 is the market-based value in accordance with the Greenhouse Gas Protocol. Additionally, the intensity figures have been adjusted to add or remove facilities that have been acquired or sold. Adjustments also reflect changes in methodology to ensure consistency from year to year.

For more information, please see our response to the CDP Climate Change Questionnaire.

GRI 305-5 Reduction of GHG emissions

From 2017 to 2018, we reduced our year-over-year Scope 1 and Scope 2 market-based GHG emissions by 7 percent due to our continued focus on energy efficiency and an increased utilization of renewable energy.

We have analyzed and reported our Scope 3 impacts using primary operating data, accepted emission factors, and an economic input-output model based on our third-party spend. In 2018, our Scope 3 GHG emissions remained roughly the same as in 2017.

Our analysis shows that our Scope 3 GHG emissions impacts are nearly three times greater than our combined Scope 1 and Scope 2 emissions. We are working to reduce those impacts through activities such as reducing waste in our operations, reducing fuel use and looking for opportunities to shift from air shipping to ocean transport when practical. We are also starting to engage with our strategic suppliers to identify ways to reduce GHG emissions in our supply chain. These actions not only reduce our environmental impact but benefit the business by reducing costs.

GRI 305-6 Ozone-depleting substances (ODS)

GRI 305-7 NOx, SOx and other emissions

AIR POLLUTANT EMISSIONS BY TYPE (MT)[1]

	2014	2015	2016	2017	**2018**
Nitrogen oxides (NOx)	515	494	454	480	**494**
Sulfur oxides (SOx)	49	48	37	37	**30**
Volatile organic compounds (VOCs)	512	455	440	380	**404**
Ozone-depleting substances (ODS)	1.5	0.1	0.7	0.1	**0.3**

Note: Previously reported data have been restated per our methodology, which includes adding facilities that have been acquired and removing facilities that have been sold as operating sites.

[1] Data are estimated using conservative assumptions and factors, not measured or weighed.

Our NOx emissions increased slightly from 2017 to 2018 due to the need to burn more fuel during the cold winter months and the use of emergency generators at our Puerto Rico facility during an extended power outage caused by Hurricane Maria.

Even though our use of solvents in manufacturing operations has declined over time, our VOC emissions increased from 2017 to 2018 due to the adoption of more accurate emission-tracking methods.

The decrease in SOx emissions from 2017 to 2018 can be attributed to the use of fuel with a lower sulfur content and our energy-conservation programs.

Emissions of ozone-depleting substances (ODS) are the result of non-routine releases from temperature-control and fire-suppression systems and can vary from year to year.

For more information, please visit the Air Emissions page on our Corporate Responsibility website.

EFFLUENTS & WASTE

To minimize our environmental footprint, we look for opportunities to avoid the use of hazardous materials, to reuse or recycle materials, and to prevent the generation of waste. When prevention, reuse and recycling are not practical, we apply controls and treatment technologies to prevent human health impacts and minimize environmental impacts. The amount of waste we generate reflects the efficiency of our manufacturing processes.

We continuously strive to reduce the amount of operational waste we generate and to maximize the use of environmentally beneficial disposal methods like recycling, composting and waste-to-energy.

GOAL

By 2025, no more than 20 percent of our global operational waste will be sent to landfills and incinerators.

2018 PROGRESS
33 percent to landfills and incinerators

GOAL

By 2025, at least 50 percent of sites will send zero waste to landfill.

2018 PROGRESS
38 percent of sites

GRI 306-1 Water discharge

WATER DISCHARGE

	2014	2015	2016	2017	**2018**
Total water discharge (megaliters/year)	22,775	19,312	16,939	16,642	**18,126**

Our reported water discharge includes the amount that is measured and monitored (i.e., all of our global manufacturing and research sites, plus our large office buildings): 17,594 megaliters; and the estimated amount discharged from our small offices and leased facilities, which is calculated based on employee headcount data and applying standard assumptions for water use and discharge: 532 megaliters.

Discharge totals in 2017 may have been impacted by interruptions to our operations that occurred due to a cyber event. The difference attributable to this event has not been determined. We expect that our water discharge will increase due to growth in our internal manufacturing network in the coming years.

For more information, please see our response to the CDP Water Questionnaire.

GRI 306-2 Waste by type and disposal method

SASB 250a.4 Amount of product accepted for takeback, reuse, or disposal

GLOBAL OPERATIONAL WASTE

	2014	2015	2016	2017	**2018**
Landfill	10%	15%	10%	10%	**9%**
Incineration (without energy recovery)	14%	13%	20%	19%	**24%**
TOTAL	24%	28%	30%	29%	**33%**

HAZARDOUS WASTE (MT)

	2014	2015	2016	2017	**2018**
Incinerated (without heat recovery)	9,724	7,928	13,186	13,462	**17,639**
Landfilled	1,628	1,652	1,492	745	**731**
Recycled	12,196	5,944	6,135	7,979	**6,827**
Energy recovery	15,773	11,089	9,871	9,538	**10,300**
Reused	2,408	1,428	2,132	1,505	**695**
Composted	4	5	5	0	**0**
Other	2,387	2,299	2,425	2,423	**2,221**
TOTAL	44,120	30,345	35,246	35,652	**38,413**

NON-HAZARDOUS WASTE (MT)

	2014	2015	2016	2017	**2018**
Incinerated (without heat recovery)	788	1,243	1,361	426	**374**
Landfilled	6,349	8,459	5,826	6,633	**5,684**
Recycled	16,952	15,811	14,636	15,188	**12,975**
Energy recovery	10,405	9,706	10,342	8,576	**9,273**
Reused	782	970	972	1,071	**2,204**
Composted	4,094	3,018	3,771	4,668	**4,798**
Other	242	304	445	212	**209**
TOTAL	39,612	39,511	37,353	36,774	**35,517**

HAZARDOUS + NON-HAZARDOUS WASTE (MT)

	2014	2015	2016	2017	**2018**
Landfill + incineration	18,489	19,282	21,865	21,265	**24,428**
Landfill	7,977	10,111	7,318	7,378	**6,415**
Incineration	10,512	9,171	14,547	13,887	**18,013**
Recycled, energy recovery, reused or composted	62,614	47,971	47,864	48,525	**47,072**
Other	2,629	2,603	2,870	2,635	**2,430**
TOTAL	83,732	69,856	72,599	72,426	**73,930**

The amount of hazardous waste sent offsite for incineration rose from 2017 to 2018, mainly due to an increase in production at one of our manufacturing sites. The percentage of operational waste sent to landfill and incinerators increased from 29 percent in 2017 to 33 percent in 2018. This was mainly due to an increase in production volumes at one of our manufacturing facilities that sends waste offsite for incineration.

For more information, please visit the Waste Management page on our Corporate Responsibility website.

GRI 306-3 Significant spills

A "significant environmental event" is defined as an environmental release that results in environmental harm to humans, aquatic organisms or wildlife, or any environmental release that requires reporting to the U.S. Securities and Exchange Commission.

We experienced no significant environmental events in 2018.

ENVIRONMENTAL COMPLIANCE

Our Environmental, Health and Safety (EHS) Management System is based on the "Plan, Do, Check, Act" model, which allows us to assess and continually improve our practices over time.

The model is implemented globally through a set of interwoven business processes that span the corporation:

- Our planning process includes developing goals, objectives and metrics based on a review of our company's performance, EHS programs, applicable regulations and external factors that may impact our business [PLAN]
- Activities are performed by using standards, guidelines and tools that are integrated into the EHS Management System and include specific expectations for sites and operating organizations [DO]
- Governance committees, from the executive-level EHS Council through site-based compliance committees, review business unit performance and progress against objectives throughout the year [CHECK]
- Corrective actions and continuous-improvement initiatives are established to resolve EHS concerns that have surfaced during periodic assessments, audits and routine surveillance of the regulatory landscape [ACT]

Our corporate EHS management system is generally aligned with the requirements of the International Standards Organization (ISO), but we do not pursue certification under the Environmental (ISO 14001) or Safety (ISO 45001) frameworks at the global level. Some of our facilities have individually achieved ISO 14001 certification to meet customer requirements.

EHS governance

Our commitment to the environment and employee health and safety begins with the company's Executive Committee, which has established the corporate Environmental, Health & Safety (EHS) Council. The EHS Council is composed of senior-level executives representing all business units, and is responsible for overall EHS governance, as well as for leading and driving enterprise-wide excellence in EHS management and performance.

The vice president (VP) of global safety and the environment (GSE) is responsible for communicating to the Board of Directors, the Executive Committee and the EHS Council regarding progress on goals, objectives and metrics, as well as other material issues. The VP of GSE partners with business leaders to establish long- and short-term goals and performance metrics to drive EHS excellence.

Safety and environmental performance targets are included in divisional management objectives. In addition, all employees are eligible for special recognition for innovative ideas and projects related to improving EHS aspects of our operations.

For more information on our initiatives, policies and accomplishments, please visit the EHS Management & Compliance page on our Corporate Responsibility website, or our 2018 Form 10-K (pages 107–108).

GRI 307-1 Non-compliance with environmental laws and regulations

NOTICES OF VIOLATIONS (NOVs) & CITATIONS

	2014	2015	2016	2017	**2018**
Environmental	17	16	12	5	**6**
Safety	11	2	2	3	**1**

FINES

	2014	2015	2016	2017	**2018**
Environmental fines paid	$81,600	$92,270	$33,906	$0	**$0**
Number of environmental fines	4	6	2	0	**0**
Safety fines paid	$1,000	$0	$0	$0	**$0**
Number of safety fines	1	0	0	0	**0**

For more information, please see our 2018 Form 10-K (pages 107–108).

SUPPLIER ENVIRONMENTAL ASSESSMENT

GRI 308-1 New suppliers screened using environmental criteria

Prospective external manufacturers of active pharmaceutical ingredients and finished products are screened for environmental, health and safety (EHS) compliance, in addition to quality, and supply and technical competence requirements. The EHS screening includes a survey covering such topics as regulatory compliance, fatalities and major incidents.

Based on the screening results and activities undertaken by the supplier, certain external manufacturers are subject to a more detailed onsite assessment conducted by a multidisciplinary team, which may include our company's Quality, Environmental, Health & Safety, Global Technical Operations and Global Sourcing & Procurement representatives.

The external manufacturers we contract with are periodically reassessed using a risk-based approach; higher-risk external manufacturers are subject to more frequent onsite assessments. We expect that observations made during the audit process will be remediated by our external manufacturers, and we monitor and track corrective actions through completion.

We continue to support the Pharmaceutical Industry Principles for Responsible Supply Chain Management (the Principles). The Principles outline industry expectations for external manufacturers and licensees with regard to labor, health, safety, environment, ethics and management systems. The external manufacturers with which we contract are expected to understand and align with the Principles.

For more information, please visit the Sourcing & Supplier Relations page on our Corporate Responsibility website.

EXTERNAL MANUFACTURING EHS ASSESSMENTS

	2014	2015	2016	2017	**2018**
Prospective external manufacturers	48	50	34	37	**65**
Current external manufacturers	68	69	85	53	**61**
TOTAL	116	119	119	90	**126**

SOCIAL

EMPLOYMENT

We recognize that our ability to excel depends on the integrity, knowledge, imagination, skill, diversity and teamwork of our employees.

A positive, inclusive and high-performing work environment is essential for employees to feel welcomed and valued, and to fully achieve their business objectives.

Harnessing the knowledge and insights of a globally diverse workforce requires leadership, a corporate culture of respect and full engagement, and a thoughtful and strategic approach to workplace inclusion and employee development and well-being — physical, emotional, social and financial.

We are:

- Committed to fostering development and rewarding talent
- Dedicated to diversity and inclusion at every level of the organization
- Adept at recognizing unique skill sets and nurturing employees' talents

Only when our employees feel their best, in all aspects of their lives, can they perform at their highest level. We believe that well-being is a holistic approach that includes physical, emotional and financial well-being, as well as safety to employees and their family members at all life stages. We are working hard to advance a culture of well-being to make the healthy choice the easy choice and the valued choice within our organization.

We are actively collaborating in and integrating programs and policies to improve employee health and safety, reduce injury and illness and improve workforce productivity. These goals include increasing physical movement/activity, expanding access to healthier foods, enhancing policies to eliminate tobacco within our campuses, providing education and tools to help mitigate the effects of stress, and collaborating with our Environmental, Health & Safety teams to build a culture of health in addition to our long-standing commitment to a culture of safety.

In addition, we foster an environment where employees feel safe to speak up. If an employee sees or suspects improper, unethical or illegal activity, they are encouraged to talk to their manager, another company resource (e.g., Compliance, Legal or Human Resources) or, where permitted by law, "Speak Up" at msdethics.com to address their questions or concerns confidentially without fear of retaliation.

For more information on our initiatives, policies and accomplishments, please visit the Employees, Employee Well-Being, Compliance, Engaging Our Employees, Global Diversity & Inclusion, Human Rights, and Learning & Development pages on our Corporate Responsibility website.

GRI 401-1 **New employee hires and turnover**

SASB 330a.1 **Talent recruitment and retention efforts for R&D personnel**

SASB 330a.2 **(1) Voluntary and (2) involuntary turnover rate for: (a) executives and senior managers, (b) midlevel managers, (c) professionals, and (d) all others**

The talent of our scientists, combined with scientific and technological advances that enable the rapid invention of expanding classes of therapeutics and higher resolution translational medicine studies, are transforming the way we conduct research.

We have strategically located discovery centers in regions with active biomedical research communities including South San Francisco, California, Boston and Cambridge, Massachusetts and London, UK. These centers allow us to recruit talented local scientists and facilitate collaboration with local academic institutions and companies. These discovery sites complement and connect with our strong research and development capabilities and expertise based at our New Jersey and Pennsylvania sites.

For more information on our R&D talent efforts, please visit the MRL Postdoctoral Research Fellow Program page on our corporate website.

TURNOVER

	2014	2015	2016	2017	**2018**
Overall turnover rate[1, 2]	18.8%	14.8%	11.1%	10.7%	**11.8%**
Voluntary turnover rate	8.0%	7.4%	6.3%	6.5%	**6.8%**
Avoidable voluntary turnover rate	6.2%	6.0%	4.8%	5.0%	**5.2%**
Involuntary termination rate	10.8%	7.4%	4.9%	4.2%	**5.0%**

[1] Includes all types of turnover, including restructuring.

[2] 2014 turnover rates are restated by incorporating the retroactive transactions.

2018 TURNOVER BY GENDER & REGION

	Female	Male
Overall	49%	51%
Asia Pacific	51%	49%
EEMEA (Eastern Europe, Middle East and Africa)	54%	46%
Latin America	47%	53%
EUCAN (Europe and Canada)	53%	47%
Japan	12%	88%
U.S.	54%	46%

2018 TURNOVER BY REGION

	Asia Pacific	Latin America	EEMEA	Japan	EUCAN	U.S.
Overall turnover rate[1]	21.65%	10.91%	13.30%	13.76%	7.20%	10.35%
Voluntary turnover rate	16.38%	4.22%	10.22%	1.47%	4.56%	4.76%
Avoidable voluntary turnover rate	15.05%	2.86%	8.75%	1.22%	2.57%	3.06%
Involuntary termination rate	5.28%	6.69%	3.08%	12.29%	2.64%	5.58%

[1] Includes all types of turnover, including restructuring.

EMPLOYEE HIRES BY REGION

	2015	2016	2017	**2018**
ASIA PACIFIC				
Number of hires	2,104	1,732	1,909	**3,071**
Hire rate[1]	17.70%	14.79%	16.14%	**24.38%**
EEMEA (EASTERN EUROPE, MIDDLE EAST AND AFRICA)				
Number of hires	384	382	378	**505**
Hire rate[1]	12.84%	13.49%	13.69%	**16.67%**
LATIN AMERICA				
Number of hires	509	380	1,246	**714**
Hire rate[1]	9.80%	8.01%	23.82%	**13.13%**
EUCAN (EUROPE AND CANADA)				
Number of hires	1,427	1,636	1,865	**2,495**
Hire rate[1]	7.81%	8.90%	9.80%	**12.34%**
JAPAN				
Number of hires	101	196	109	**153**
Hire rate[1]	2.66%	5.04%	2.80%	**4.32%**
U.S.				
Number of hires	1,909	1,937	2,173	**3,019**
Hire rate[1]	8.28%	8.33%	9.12%	**12.41%**

[1] Percentage of new hires in the total onboard head count; regular employees only.

GRI 401-2 Benefits provided to full-time employees

We recognize that our employees are critical to our mission to save and improve lives. One way in which we do this is to provide a valuable suite of compensation and benefit programs, as well as resources to support our employees' professional achievements. Together, we call these "Total Rewards."

Total Rewards include compensation and financial rewards, health and insurance benefits, opportunities for employees to develop their skills and grow their careers and programs that help meet the demands of managing employees' professional and personal well-being. Our philosophy behind these programs is rooted in maintaining our competitive position in the market while providing a comprehensive and valuable package of rewards to attract and retain a talented and diverse workforce.

In the U.S., we generally offer health, life, disability and business travel insurance as well as retirement income benefits to all employees, including those who work part-time. Employees also can opt to contribute to tax-free Flexible Spending Accounts for reimbursement of certain health spending and/or dependent care costs.

*my*TotalRewards is an online personalized resource that provides U.S. employees with a simple, consolidated view of their total compensation and financial rewards at our company. For most active employees (certain groups are excluded, such as those that are subject to collective bargaining), *my*TotalRewards contains the following detailed information:

MONEY
Annual pay, cash incentives and our company's estimated contribution to pension, 401(k), insurance and other benefits

HEALTH BENEFITS
The value of the key health benefits in which an employee participates, including medical, dental and vision coverage

RETIREMENT & LONG-TERM INCENTIVES
Retirement benefits and long-term incentives — and how they've performed over time

OTHER REWARDS
Other benefits available, such as educational assistance, K–12 educational guidance and financial planning

Outside the U.S., while benefits may vary by region and country, we offer health, life and injury, disability and business travel insurance, along with retirement income benefits. In addition, in many countries, where legally permitted, including the U.S., we extend health care and various insurance benefits to employees' domestic partners and their partners' eligible dependent children.

Other programs to support well-being (U.S.)

Our company offers many programs to help make it easier for employees to balance their various responsibilities. The following is a non-exhaustive sampling:

- Transportation services
- Backup dependent care
- Child-care support
- K–12 educational guidance
- Special-needs counseling
- Adoption assistance

For U.S.-based employees who are subject to a collective bargaining agreement, work-life benefits may be offered in accordance with the agreement. For employees based outside the U.S., the work-life benefits offered differ by location and may be subject to a collective bargaining agreement or local legal requirements.

Emotional and Social Well-Being

We have developed comprehensive, innovative emotional and social support programs that meet the needs of our talent and appeal to employees at all stages of life. We offer an environment intended to support employee engagement and team cohesiveness, which leads to reduced absenteeism and increased productivity.

We take a balanced approach to improve employees' emotional and mental health. To raise awareness of mental health and our company's resources and reduce the stigma often associated with it, we began offering Mental Health First Aid training in 2018 to our employees. Once trained, employees become Mind Well Champions whose mission is to create an inclusive and supportive work environment that values overall employee health, focusing on emotional well-being and mental health.

Global flexible work arrangements

We believe flexible work arrangements offer a different way of working and have the potential to enhance employees' commitment to the company, increase productivity and make employee teams more competitive. The company has had a flexible work arrangement policy globally since 2008.

Employees and managers work together to assess the opportunities and challenges of a proposed arrangement. While the overall process should be collaborative, managers are accountable for making the final decision in light of business requirements, recognizing that some positions may not lend themselves to a flexible work arrangement.

For more information, please visit the Employee Well-Being and Emotional & Social Well-Being pages on our Corporate Responsibility website.

GRI 401-3 Parental leave

We provide employees up to six weeks of paid parental time off for the birth, adoption or foster placement of a child. Paid parental time off is available to both birth and non-birth parents.

In addition to parental leave, employees receive separate, unpaid, job-protected leave to care for a newborn child, adopted child or child placed in foster care within six months (182 days) following the child's birth, adoption or foster-care placement.

OCCUPATIONAL HEALTH & SAFETY

(CR material topic: Occupational health and safety)

MANAGEMENT APPROACH

We are committed to providing a safe and healthy workplace for our employees and contractors, and to complying with all applicable safety laws and regulations. In addition, we aim for Environmental, Health & Safety (EHS) performance that is among the best in the pharmaceutical industry.

We seek to eliminate work-related injuries, illnesses and unplanned events from our operations through comprehensive safety programs that are part of our EHS management system. We also work to minimize the frequency and severity of safety and environmental incidents by focusing on proper facility design, process controls, operation and maintenance procedures, protection systems and emergency response capabilities.

Our global safety program is designed to drive a proactive safety culture and reinforce the link between our leadership behaviors and our safety and environmental objectives. We believe that through visible management, leadership and employee engagement, we can increase the awareness of hazards and help employees make the right choices when it comes to safety, health and the environment — both on and off the job.

We address the following areas in our approach to employee and contractor safety:

- Process safety
- Non-routine hazardous work
- Industrial hygiene
- Biological safety
- Motor-vehicle safety
- Ergonomics
- Emergency preparedness and response
- Loss prevention
- Capital projects construction safety
- Safety for non-company personnel

For consistency across the company, and to enable us to compare our injury rates with those of other multinational companies, we use the U.S.-based Occupational Safety and Health Administration (OSHA) record-keeping criteria for recording and tracking work-related injuries and illnesses. We require all injuries, illnesses and incidents involving our employees to be reported and investigated to determine their cause. We also require that actions be taken to prevent recurrence.

Our injury and illness data are consolidated into a central system, enabling us to analyze trends and focus our efforts to continually improve. We communicate significant incidents, near-miss events and workplace conditions that could represent risks to our operations and sites around the world. We also proactively share corrective and preventive actions across our operating locations to allow all sites to learn from the improvements we make.

For more information on our initiatives, policies and accomplishments, please visit the Employee Safety and Environmental Health & Safety pages on our Corporate Responsibility website.

-23%

In 2018, our lost-time injury rate declined 23 percent from 2017.

GRI 403-2 Rates of injury, occupational disease, lost days, absenteeism, and work-related fatalities

We have worked steadily to drive down our workplace injury rates.

In 2018, our lost-time injury rate was 0.10, a 23 percent reduction from 2017. Our recordable injury rate was 0.30, down 9 percent from the prior year. This is the seventh consecutive year of global injury reduction and our second consecutive year in the first quartile when compared against our pharmaceutical industry peers.

We regret to report that we lost two of our employees in 2018. One was fatally injured while performing work on a chiller unit at one of our locations in Japan. Another employee perished in a motor vehicle incident in China.

For more information, please visit the Employee Safety page on our Corporate Responsibility website.

GLOBAL SAFETY PERFORMANCE

	2014	2015	2016	2017	**2018**
WORKPLACE SAFETY					
Recordable Injury Rate (RIR)	0.58	0.48	0.35	0.33	**0.30**
RIR percentage change	-6%	-17%	-27%	-6%	**-9%**
Lost-Time Injury Rate (LTIR)	0.20	0.22	0.13	0.13	**0.10**
Fatalities[1]	1	1	0	0	**2**
MOTOR VEHICLE SAFETY					
Collisions per million miles (CPMM)[2]	13.40	12.41	9.48	7.29	**6.93**
CAPITAL PROJECTS CONSTRUCTION SAFETY[3, 4]					
RIR	0.96	0.87	0.53	0.59	**0.73**
DART[5]	0.44	0.38	0.26	0.32	**0.28**
Fatalities	0	0	0	0	**0**
FACILITY MANAGEMENT CONTRACTOR SAFETY[6]					
RIR	NA	NA	NA	NA	**0.71**
LTIR	NA	NA	NA	NA	**0.47**
Fatalities	NA	NA	NA	NA	**0**

Note: Injury rates are subject to change over time, as new cases are added, and case classifications change in accordance with our own requirements and applicable regulatory requirements.

NA: Not Available.

[1] All fatalities were transportation-related, except for one high-risk work fatality in 2018.

[2] CPMM: Reflects both personal and business use of company-owned or -leased vehicles.

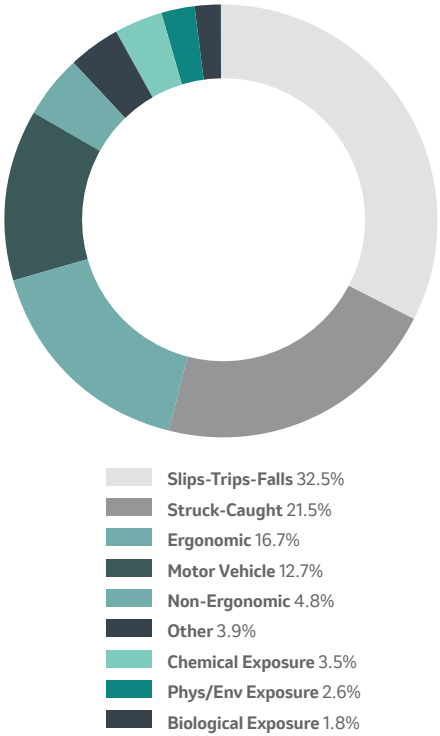
[3] LTIR/RIR: Calculated per OSHA methodology.

[4] Primarily reflects capital projects over $100,000 managed by our global engineering group.

[5] DART: days away, reassigned or transferred calculated per OSHA 300 methodology.

[6] Injury rates for IFM Partners; reporting initiated in 2018.

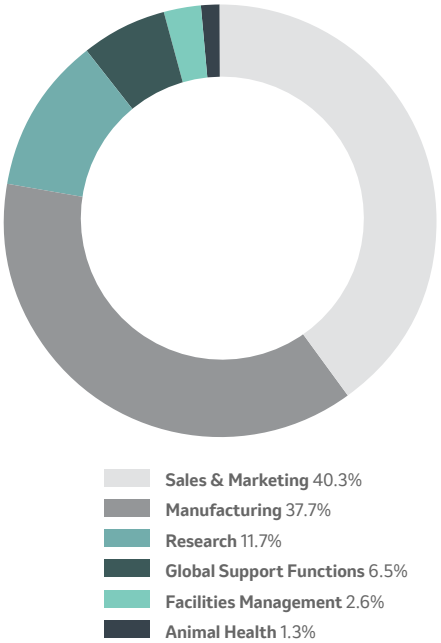
RECORDABLE INJURIES BY CAUSAL FACTORS (2018)



CASES BY BUSINESS AREA (#)

	Lost-Time Cases	Recordable Cases
Facility Management	2	12
Global Human Health (GHH)	31	73
Global Support Functions (Legal, HR, IT, S&E, et al.)	5	11
Animal Health	1	8
Manufacturing (MMD)	29	92
Research (MRL)	9	32
TOTAL	77	228

2018 LOST-TIME INJURIES BY BUSINESS AREA (TOTAL: 77)



GRI 403-3 Workers with high risk of diseases related to their occupation

Industrial Hygiene

Our Industrial Hygiene program protects employee health throughout all stages of research and manufacturing by identifying chemical, physical and biological hazards, assessing exposures and properly controlling risks using the hierarchy of controls starting with prevention, then substitution, engineering controls, administrative controls and personal protective equipment.

For new processes and facilities, we design for safety by eliminating risks, substituting less hazardous processes or materials and installing effective engineering and operational controls. We also confirm the initial and ongoing effectiveness of these controls after installation through a robust monitoring program.

For existing processes, we first seek to eliminate or find a substitute for a hazardous material or process. When it is not possible to do so, we evaluate the feasibility of engineering controls based on the hazard and risk. Where engineering controls are not feasible, we establish effective work practice controls and require the use of appropriate personal protective equipment.

Biological Safety

Our Biological Safety Organization works to protect our employees, customers, and neighboring communities by systematically identifying, assessing, and controlling biological risks associated with the research, development, and manufacture of our vaccines and therapeutic proteins.

Our biological risk management program drives safety by setting industry-leading performance expectations for governance, controls, strategy, planning, management, reporting, policies, processes and corporate culture.

Our company's commitment to protect human health and the environment extends to every aspect of our biological safety program, including:

- Biosafety (preventing accidental biological release)
- Biosecurity (preventing intentional biological release)
- Bioethics (promoting responsible use of biological materials and technologies)
- Sustainability (reducing our environmental footprint)
- Product stewardship (reducing environmental hazards)

As a global organization, our company has numerous operating divisions and work assignments — each with its own requirements. Particular work assignments may involve potential exposure to one or more occupational hazards, such as noise, mixtures of chemicals, or hazardous biological compounds. Our company maintains a concerted effort to assess and control workplace hazards (chemical, biological and physical) and to make sure that each employee's work assignment is safe and consistent with his or her evaluated capabilities.

For more information, please visit the Employee Safety page on our Corporate Responsibility website.

TRAINING & EDUCATION

To support our global employee base, we build workforce capability to accelerate talent, improve performance and mitigate risk through relevant continuous learning experiences. This includes, but is not limited to, building leadership and management skills, as well as providing technical and functional training to all employees.

Our current talent management system supports companywide performance management, talent review, succession planning and associated employee performance and development processes for critical talent data. It helps ensure that our workforce continues to stay aligned with company objectives. The system keeps track of employee development plans, performance objectives and performance ratings, career aspirations, experience, language proficiency, certifications and education.

For more information on our initiatives, policies and accomplishments, please visit the Learning & Development page on our Corporate Responsibility website.

GRI 404-1 Average hours of employee training

TRAINING AND EDUCATION

	2016	2017	**2018**
Total course completions for all employees (in millions)	4.2	5.3	**4.4**
Hours of training for all employees (in millions)[1]	2.1	2.6	**2.2**
Course completions per employee	60	48	**43**

[1] Based on average of 30 minutes per course.

GRI 404-2 Programs for upgrading employee skills and transition assistance programs

Our Leadership Development Center is a website that features videos, articles, program announcements and resources for leaders and managers. Resources are aligned to our leadership behaviors, professional competencies and functional competencies, and are available in the following formats: “on-demand” web-based modules, classroom programs, articles, books (including audio books), webcasts and suggestions for “on-the-job” development activities.

GRI 404-3 Percentage of employees receiving regular performance reviews

PERFORMANCE REVIEWS

	2014	2015	2016	2017	**2018**
Executives[1]	100%	100%	100%	100%	**100%**
Middle management	100%	100%	100%	100%	**100%**
Line supervisors	100%	100%	100%	100%	**100%**
Non-managers[2]	93%	94%	94%	93%	**94%**

[1] "Executives" refers to the first two levels below the chief executive officer.

[2] All "non-managers" (previously "individual contributors") including those who are subject to a collective bargaining agreement (unions).

DIVERSITY & EQUAL OPPORTUNITY

(CR material topic: Diverse and inclusive workplace)

MANAGEMENT APPROACH

From fostering innovation through a culture of inclusion that instills a sense of belonging for all, to investing in the creation of a gender-balanced and globally diverse team of passionate and results-oriented leaders, our people represent our greatest asset. They operate at the leading edge of science where medical breakthroughs have the potential to save and improve the lives of millions.

We regard Global Diversity & Inclusion (GD&I) as a key business strategy to inspire, develop and unleash the potential of our people — holding ourselves to the highest standards of accountability for gender parity established by the United Nations — and knowing that progress for women will stall without sustained, proactive intervention.

Diversity and inclusion are fundamental to how we operate, how we engage employees, and how we drive competitive advantage to support our mission of developing innovative medicines and vaccines to save and improve lives.

- We have unparalleled commitment from our CEO and senior leaders, we challenge ourselves to continuously raise the performance bar for GD&I goals, and we approach these goals with a progressive growth mindset — always focused on learning and improving results.
- We understand that true innovation is achieved through the powerful intersection of ideas from employees across a range of diverse backgrounds: age, race, gender, ethnicity, culture, nationality, sexual orientation, gender expression, gender identity, religion, faith and veteran and disability status.
- We resolve to achieve gender equality and empower all women and girls as evidenced by improvements in the representation of women in our workforce, on the senior management team, and in management roles.
- We are proud of the improvements achieved in representation on the senior management team of Black/African-American, Hispanic/Latino and Pan-Asian employees and have a plan in place — with dedicated resources — to address areas within which ethnic groups are underrepresented (also known as underrepresented ethnic groups or "UEGs").
- We create enterprisewide engagement for diversity and inclusion through more than 14,000 Employee Business Resource Group (EBRG) members, through educational programs to further the career advancement, leadership development and managerial skills of employees, and through external partnerships that advance talent management goals and strengthen our connections to the community.

For more information on our initiatives, policies and accomplishments, please visit the Global Diversity & Inclusion page on our Corporate Responsibility website.

GRI 405-1 Diversity of governance bodies and employees

GENDER & ETHNICITY

	2014	2015	2016	2017	**2018**
Women in the workforce	48%	48%	48%	48%	**49%**
Women on the Board	17%	21%	23%	23%	**23%**
Women in executive roles[1]	31%	34%	31%	32%	**32%**
Women on the senior management team[2]	31%	34%	36%	39%	**41%**
Women in management roles[3]	37%	38%	39%	40%	**41%**
Members of underrepresented ethnic groups on the Board	25%	21%	23%	23%	**23%**
Members of underrepresented ethnic groups in executive roles (U.S.)	20%	20%	23%	23%	**21%**
Members of underrepresented ethnic groups on the senior management team (U.S.)	15%	18%	18%	17%	**19%**
Members of underrepresented ethnic groups in the workforce (U.S.)	24%	26%	26%	26%	**27%**
Members of underrepresented ethnic groups in management roles (U.S.)	20%	23%	23%	23%	**25%**
New hires that were female	49%	50%	51%	49%	**51%**
New hires that were members of underrepresented ethnic groups (U.S.)	22%	33%	37%	36%	**36%**

Note: Our company has publicly disclosed EEO-1 information since 1999. Our 2018 data is available on the Global Diversity & Inclusion page on our Corporate Responsibility website.

[1] "Executive" is defined as the chief executive officer and two structural levels below.

[2] "Senior management team" is defined as the fourth structural level below the CEO.

[3] "Management role" is defined as all other managers with direct reports not reflected in notes 1 or 2.

HUMAN RIGHTS ASSESSMENT

GRI 412-1 **Operations that have been subject to human rights reviews**

GRI 412-3 **Investment agreements and contracts that include human rights clauses or underwent screening**

We expect appropriate standards of conduct and respect for human rights, consistent with our own, from our suppliers, contractors, vendors and external partners. We are committed to doing business with those that share our commitment to human rights and to the principles outlined in our Business Partner Code of Conduct.

Our practices are informed and guided by the Pharmaceutical Supply Chain Initiative's (PSCI's) Pharmaceutical Industry Principles for Responsible Supply Chain Management, which set the standard for ethics, labor, health, safety and the environment for our industry.

Within our supply chain, we work to meet our responsibility to respect human rights by:

Selection

Selecting suppliers that are socially responsible and who share our company's commitment to ethics and integrity. We strive to obtain the goods and services we need to further our mission in a way that is lawful, efficient and fair.

Expectations

Setting and communicating our expectations of suppliers. We use our Business Partner Code of Conduct to communicate our expectations for Human Rights, Labor & Employment, Health, Safety & Environment and Ethical Business Practices. We make it available in 26 languages.

Due Diligence

Conducting appropriate due diligence and determining the risks — including those related to human rights, prior to entering a business relationship with a supplier — to determine that they can meet all our company's expectations.

Contracts

Seeking commitment from suppliers to respect and abide by the principles set forth in our company's Business Partner Code of Conduct through our contracts and agreements. Our standard contract templates contain an ethical business practice compliance clause.

Auditing

Performing Labor & Human Rights (LHR) Audits and Environmental Health & Safety (EHS) Audits at selected supplier facilities to verify their compliance with our company's expectations, and by working with them to address identified compliance gaps in a responsible manner. In 2018, we performed over 90 LHR Audits.

Managing & Monitoring

Managing and monitoring suppliers to ensure that they continue to meet our company's expectations. We hold them accountable for meeting their contractual obligations and take appropriate action to address those that do not. Termination clauses are included in contracts.

Governance

Using our Third-Party Risk Committee to oversee the management of risks presented by suppliers. The Committee is chaired by our senior vice president for Procurement and is composed of management representatives from multiple functions, including Human Resources, Health & Safety, Corporate Responsibility, Procurement and Compliance.

Responsible Sourcing

Implementing procedures to ensure responsible sourcing of minerals. As stated in our Conflict Minerals Policy, we endeavor to avoid the purchase of minerals (e.g., tin, tantalum, tungsten and gold) that directly or indirectly finance or benefit armed groups or perpetrators of serious human rights abuses.

Prior to contracting, all new direct suppliers (as well as certain new indirect and research suppliers in certain geographies) are required to complete and return a Supplier Self-Assessment Questionnaire (SAQ) for Ethics & Compliance. Pre-existing external manufacturing suppliers and contract manufacturing organizations also complete SAQs.

Our SAQ requires suppliers to answer a series of labor and human rights questions covering a range of subjects, including freely chosen employment, child labor, employment practices, employee disclosures, fair treatment, wages, benefits and working hours.

Each supplier's responses are used to judge whether or not that supplier has programs and/or procedures in place to address potential risks for labor and human rights related deficiencies.

Since implementing the Labor and Human Rights program in 2015, we have conducted over 200 onsite audits in countries identified as high risk for potential human rights violations. No critical observations have been found. We track audit-related corrective and preventative actions to completion.

Additionally, we maintain a "Speak Up" tool (msdethics.com) for any employee, supplier or business partner to report concerns, including those related to labor and human rights issues.

For more information, please visit the Human Rights and Sourcing & Supplier Relations pages on our Corporate Responsibility website.

SUPPLIER SOCIAL ASSESSMENT

GRI 414-1 New suppliers screened using social criteria

Please see GRI 412-1 and GRI 412-3 on page 61.

PUBLIC POLICY

GRI 415-1 Political contributions

Where permitted by law in the U.S., Canada, Japan and Australia, our company makes corporate political contributions.

To view a listing of our corporate and PAC contributions made within the U.S. during 2018, please visit the Public Policy page on our Corporate Responsibility website.

CUSTOMER HEALTH & SAFETY

(CR material topic: Product quality and safety)

MANAGEMENT APPROACH

Our quality strategy is focused on ensuring reliable, compliant supply to our customers, assuring that our products are there when people need them, and having an engaged and capable workforce to ensure and sustain future success.

Patient safety is at the forefront of what we do. We are using and exploring new technological advancements such as integrated IT tools, artificial intelligence (AI) and streamlined digital platforms to further enhance how we manufacture high-quality products.

We apply and adhere to a strict set of quality standards, and we have policies and procedures in place to identify, measure, control and sustain product-quality excellence.

Our Global Quality Compliance organization is responsible for establishing the requisite standards to ensure that all of our company's products are manufactured, tested, released and distributed in full compliance with regulatory requirements.

We continuously strive to improve these standards in order to enhance procedures and ensure ongoing compliance with Current Good Manufacturing Practices (CGMPs).

Our company's medicines and vaccines are widely tested before they are approved for marketing. This testing is governed by a comprehensive regulatory scheme and by our research policies. We assess the safety of our products in rigorous nonclinical and clinical trials prior to seeking regulatory approval. Following approval of our drugs, vaccines or devices, the company continues to monitor their safety profiles.

Our company's chief medical officer holds overall responsibility for the benefit/risk of our pipeline and marketed products, provides medical oversight for all clinical programs, supervises the development and implementation of medical policies (including those related to data transparency and the sharing of clinical data), and has responsibility for the design, execution and implementation of pre-registration expanded access ("compassionate use") programs.

Our company's Global Clinical Safety and Pharmacovigilance (GCSP) function manages a global system for the collection, review and reporting of adverse experience (AE) reports received by our company worldwide, and for the continuous assessment of product safety. Our company's chief safety officer holds overall responsibility for the safety of our products.

To learn more, please visit the Product & Patient Safety and Quality & Safety Standards pages on our Corporate Responsibility website.

GRI 416-2 Incidents of non-compliance concerning the health and safety impacts of products and services

SASB 210a.1 Management process for ensuring quality and patient safety during clinical trials globally

SASB 210a.2 FDA Sponsor Inspections related to clinical trial management and pharmacovigilance that resulted in: (1) Voluntary Action Indicated (VAI) and (2) Official Action Indicated (OAI)

SASB 250a.1 Products listed in the FDA's MedWatch Safety Alerts for Human Medical Products database

SASB 250a.2 Fatalities associated with products as reported in the FDA Adverse Event Reporting System

SASB 250a.3 Recalls issued, and total units recalled

Using the results of our scientific studies, we determine hazard ratings for all of our chemical compounds, and default to more conservative exposure limits when we have limited health hazard information. We use a rigorous and data-driven review process and re-evaluate hazard ratings as new data become available.

Our Industrial Hygiene Risk Assessments require evaluation of the effectiveness of control measures. Risk-based exposure monitoring is also conducted to verify the effectiveness of installed engineering controls, and improvements are made as needed.

We use conservative safety factors to set low de minimis levels for environmental releases until we have sufficient data to fully understand their impacts on aquatic organisms. Levels are reviewed and updated as new data become available.

QUALITY & PRODUCT SAFETY

	2014	2015	2016	2017	**2018**
Number of product recalls in the United States[1, 2]	3	3	1	0	**2**
Annual percentage of units manufactured/sold and recalled during a given year (our global recall rate)[1, 2]	0.22%	0.07%	0.01%	0.01%	**0.14%**

[1] Definition of Recall Classifications: http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm049070.htm#RecallClassifications.

[2] Beginning in 2014, product recalls include data from our Animal Health business.

Please visit the U.S. Food & Drug Administration's (FDA) MedWatch website for more information on product safety alerts. You may visit the FDA's Adverse Event Reporting System (FAERS) website for up-to-date information on fatalities associated with product use.

Our company has long been committed to sharing the results of our clinical trials, regardless of their outcome, in a timely manner. If a clinical trial of a marketed product is terminated early for safety reasons, we will promptly disclose medically important information to regulatory authorities and the public, update the status on clinicaltrials.gov within 30 days, and submit a manuscript to a journal (or post a summary online) within 12 months after the last patient's last visit occurs. If the trial was terminated for efficacy reasons, the results will be disclosed within 12 months after the last patient's last visit occurs. Summaries of terminated trials will provide information about patient disposition, safety and adverse experiences, as well as an explanation as to why the trial was terminated early.

We comply with all applicable laws and regulations associated with the registration of clinical trials in publicly accessible registries and subsequent posting of the results from these trials. We have put into place the processes necessary for compliance with the Food and Drug Administration Amendments Act of 2007 and the European clinical trial Directive 2001/20/EC, including those related to clinical trial registration and posting results.

For those who analyze, report or publish the results of clinical trials, a clinical trial registry also provides information on trials in progress and the ability to track such trials over the course of development. We register clinical trials at trial initiation in patients of investigational and marketed products, in which treatment is assigned, that we sponsor and conduct on www.clinicaltrials.gov, www.clinicaltrialsregister.eu and www.encepp.eu.

In accordance with our public policy position statement, all investigational studies in human subjects are conducted in a manner consistent with laws, regulations and guidelines for the protection of human subjects, including those issued by the International Council for Harmonisation Good Clinical Practice (ICH GCP). However, individual country regulations and guidelines should remain the primary determinant of specific requirements for the conduct of medical research.

We have a commitment, where appropriate, to the study of diverse patient populations, including minorities, women and children, in our clinical trials in all regions of the world. In keeping with the trend in the pharmaceutical industry, more than half of the patients participating in our clinical trials are enrolled outside the U.S., in more than 50 countries.

Clinical trial site monitoring, design, conduct and oversight

In addition to complying with our company's global standards, the conduct of our clinical trials adheres to the International Council for Harmonisation Good Clinical Practice (ICH GCP) standards and to the principles that have their origin in the Declaration of Helsinki.

When appropriate, an internal standing data-monitoring committee (DMC) comprising our research laboratories' senior managers reviews unblinded data from ongoing trials in a pre-specified, scientifically acceptable manner. The goals of the DMC are to protect the safety of trial participants and assess whether the risk-benefit profile is favorable. The DMC's recommendations are communicated internally to relevant scientists and can be distributed externally to clinical investigators, review boards or regulatory agencies, as appropriate.

GCP/PV INSPECTIONS[1]

	2014	2015	2016	2017	**2018**
GCP/PV inspections by regulatory agencies of the company or clinical trial investigators that led to significant fines, penalties, warning letters or product seizures	0	0	–	0	**0**

[1] Complete response letter received for Sugammadex (MK-8616) in 2013; complete response letter received for Januvia (sitagliptin; MK-0431) in 2016.

For more information on our clinical trials, please visit the Clinical Trials, Product & Patient Safety and Quality & Safety Standards pages on our Corporate Responsibility website, as well as our Clinical Trials website.

SASB 260a.2 Process for alerting customers and business partners of potential or known risks associated with counterfeit products

Our efforts in the area of advocacy, engagement and awareness involve raising public and stakeholder awareness of the risks posed by counterfeits, and advocate for increased enforcement to shape relevant regulatory requirements. In 2018, we continued our commitment to increasing our focus in this area and have strategically enhanced our ability to make a long-term impact on patient safety through various education campaigns.

We are committed to cooperating with relevant government agencies, other pharmaceutical manufacturers, wholesalers, distributors, health professionals, consumer groups and key related organizations in fighting the problem of counterfeit pharmaceutical products and in educating the public about the risks of counterfeit products and how to protect against them.

This effort includes a multipronged approach to communicating the threat that counterfeit medicines pose and to mitigating this threat as effectively as possible, while recognizing that it cannot be entirely eliminated.

Collaboration and information-sharing in order to raise public and stakeholder awareness of the issue and risks are a crucial focus of our anti-counterfeiting program. Through active partnerships with other pharmaceutical companies, and with organizations focused on security, patient safety and public health, we provide effective advocacy on high-priority anti-counterfeiting policy initiatives.

For more information, please visit the Anti-Counterfeiting page on our Corporate Responsibility website.

MARKETING & LABELING

GRI 417-1 Requirements for product and service information and labeling

GRI 417-2 Incidents of non-compliance concerning product and service information and labeling

GRI 417-3 Incidents of non-compliance concerning marketing communications

SASB 270a.1 Monetary losses as a result of legal proceedings associated with false marketing claims

SASB 270a.2 Code of ethics governing promotion of off-label use of products

We know that health care providers and patients look to us to provide accurate and balanced information about our products and services.

We believe that our marketing, sales and advertising activities make an important contribution to medicine by informing our customers of treatment options based on the most recent scientific information and findings from rigorous clinical studies.

Our sales and marketing practices are governed by external laws and regulations and industry codes of conduct, and by our own global Code of Conduct, our corporate policies and procedures, and our ethics and compliance program.

The labels in our product packaging contain information on possible side effects and, if appropriate, how to avoid some potential health problems. We include contact details on our corporate website for patients, caregivers and health professionals to report adverse experiences in the United States. Outside the United States, adverse events are reported in accordance with any additional local country laws and practices.

Depending on label changes and their context, we may determine, in consultation with regulatory authorities, that more extensive communications are appropriate. In such cases, we work with regulatory authorities to contact health care professionals in a timely manner, so that they can communicate these findings to patients through appropriate mechanisms. Contacting health care professionals might include “Dear Health Care Provider” letters and media statements.

Product Label Reviews

The ongoing oversight and monitoring of our product labels are a major focus of our safety efforts. Our label review teams monitor information on our products and

work with our product RMS teams to develop or update product labeling. We regularly communicate relevant information to regulatory authorities worldwide.

Innovation in Medical Evidence Development and Surveillance (IMEDS)

The IMEDS program is a public-private partnership within the Reagan-Udall Foundation for the Food and Drug Administration (FDA). The aims of IMEDS are to advance the science and tools necessary to support post-marketing evidence generation on regulated products, including safety surveillance and evaluations, and to facilitate the utilization of a robust secondary electronic health care data platform for generating better evidence on the safety and effectiveness of regulated products in post-market settings. Partners in IMEDS include the FDA, pharmaceutical companies, academia and patient organizations.

Health literacy

There are many examples of health literacy in action across our company's product lifecycle, including our earliest clinical trials, informed consent, diversity in trials, patient labeling, instructions for use, packaging and patient education.

The FDA approved our sixth health literate patient label developed with iterative patient input, and we were recognized as the second runner-up for the Healthcare Compliance Packaging Council's "package of the year" for our antiviral medicine used to help prevent cytomegalovirus (CMV) infection after a stem cell (bone marrow) transplant from a donor.

In 2018, our product labeling team developed a Standard Operating Process (SOP) for new molecules, and currently human health marketing is developing a process to integrate health literacy principles into all new or updated patient materials.

SALES & MARKETING

	2014	2015	2016	2017	**2018**
Number of warning letters or untitled letters from OPDP[1] or APLB[2] in the U.S.	0	0	0	0	**0**

[1] OPDP: Since September 2011, the Division of Drug Marketing, Advertising and Communication (DDMAC) is now the Office of Prescription Drug Promotion (OPDP).

[2] APLB: Advertising and Promotional Labeling Branch (APLB) of the FDA Center for Biologics Evaluation and Research.

For more information, please visit the Product & Patient Safety, Health Literacy and Sales & Marketing pages on our Corporate Responsibility website.

CUSTOMER PRIVACY

(CR material topic: Data privacy and information security)

MANAGEMENT APPROACH

In all that we do, we strive to be good data stewards to balance our data needs with our responsibilities to the people and communities we serve.

Information about our company, products and people is one of our most valuable assets. We are committed to ethical use, management and protection of information.

Our commitment applies not only to our company's information, but also to the information entrusted to us by others. Our tools, processes and procedures ensure that we appropriately use and safeguard information throughout its life cycle to ensure integrity of information and to prevent unauthorized access and disclosure. We have developed and continue to improve upon a comprehensive, global, state of the art information security and cyber resiliency program to enable our company to fulfill its mission: inventing for life.

Over the past 18 years, we have developed and continually improved a comprehensive global privacy program that promotes organizational accountability for privacy, data governance and data protection across our business and with our collaborative partners and suppliers.

Protecting personal health information

We are a member of the International Pharmaceutical Privacy Consortium (IPPC), an association of research-based pharmaceutical companies formed in 2002 that has worldwide responsibility for the protection of personal health information and other types of personal data. We have been actively involved in the IPPC since 2006, in order to engage in a constructive dialogue with European data-protection authorities and other regulators on privacy standards for biomedical research.

Information security & privacy

We also have established a set of privacy values to guide all of our privacy, data stewardship, and data protection decisions. These core tenets serve as the foundational ethical framework for our comprehensive Global Privacy Program and our compliance with the continually evolving legal and regulatory standards for privacy and data protection.

Cyberattacks against our IT systems could result in exposure of confidential information, the modification of critical data, and/or the failure of critical operations. Misuse of these IT systems could result in the disclosure of sensitive personal information or the theft of trade secrets, intellectual property or other confidential business information. We continue to leverage new and innovative technologies across the enterprise to improve the efficacy and efficiency of its business processes, the use of which can create new risks.

Given the exponential rise in cybersecurity threats and complexity of those threats, and the increasing dependency on trusted partners to conduct our company's business, as a critical component of the IT transformation, we have consolidated information security and cyber resiliency activities across IT under the leadership of Chief Information Security Officer (CISO).

The Audit Committee periodically reviews the Enterprise Risk Management (ERM) process to ensure that it is robust and functioning effectively. The Audit Committee oversees our company's risk management program relating to cybersecurity; however, the full Board participates in periodic reviews and discussions dedicated to our company's cyber risks, threats and protections.

For more information, please visit the Information Security & Privacy and Clinical Trials pages on our Corporate Responsibility website.

GRI 418-1 Substantiated complaints regarding breaches of customer privacy and losses of customer data

GLOBAL PRIVACY PROGRAM

	2014	2015	2016	2017	**2018**
Number of countries in which we conduct privacy compliance verification and risk assessment	137	137	137	137	**137**
Number of concerns regarding privacy practices, breaches of privacy and losses of personal data that were substantiated[1, 3, 4]	151	143	227	123	**315**
Percentage of reported concerns regarding privacy practices, breaches of privacy and losses of personal data that were substantiated[2]	18%	96%	98%	98%	**97%**
Number of privacy breaches requiring notification by Merck & Co., Inc., Kenilworth, N.J., U.S.A., to individuals or government authorities	1	0	1	0	**2**
Number of privacy breaches requiring notification by third parties working for Merck & Co., Inc., Kenilworth, N.J., U.S.A., to individuals or government authorities	1	3	0	1	**1**

[1] Privacy concerns include all concerns about our privacy practices escalated to our company's Privacy Office. Substantiated concerns are those that are determined to be consistent with our own privacy standards or that involve loss of, theft or unauthorized access to personal data.

[2] In 2015, because of the scope of lost or stolen devices known to be encrypted, we ceased inclusion of lost or stolen MSD devices in our incident metrics.

[3] Reporting in 2017 was impacted by cyber-incident.

[4] Increase in substantiated concerns in 2018 due to changes in reporting practices stemming from new requirements in the EU (GDPR).

GRI INDEX

The GRI Standards represent global best practices for reporting publicly on a range of economic, environmental and social impacts. In conjunction with our Corporate Responsibility website, found at MSDresponsibility.com, our disclosures constitute a Core level GRI report.

The table below summarizes where these disclosures can be found throughout this report, and subsequently online.

General Disclosures

GRI 102: Organizational Profile		
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102-4	Location of operations	Page 12
102-5	Ownership and legal form	Page 12
102-6	Markets served	Page 12
102-7	Scale of the organization	Page 14
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102-9	Supply chain	Page 15
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102-11	Precautionary principle	Page 16
102-12	External initiatives	Page 16
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GRI 102: Strategy		
102-14	CEO letter	Page 17
102-15	Key impacts, risks, and opportunities	Not reported

GRI 102: Ethics & Integrity		
102-16	Values, principles, standards, and norms of behavior	Page 18
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GRI 102: Governance		
102-18	Governance structure of the organization	Page 19
102-19	Delegation of responsibility for sustainability topics	Page 19
102-20	High-level accountability for sustainability topics	Page 19
102-21	Access to the board	Page 19
102-22	Composition of the highest governance body and its committees	Page 19
102-23	Chair of the highest governance body	Page 19
102-24	Nominating and selecting the highest governance body	Page 20
102-25	Board conflicts of interest	Page 20
102-26	Board and executive roles	Page 20
102-27	Board ESG knowledge	Not reported
102-28	Board performance	Not reported
102-29	Board identification of ESG impacts, risks, and opportunities	Page 20
102-30	Board ESG review of risk management process	Page 20
102-31	Frequency of board review	Not reported
102-32	Report review	Page 20
102-33	Board communication	Page 21
102-34	Concerns communicated to the board	Not reported
102-35	Remuneration policies	Page 21

102-36	Process for determining remuneration	Page 21
102-37	Stakeholders' involvement in remuneration	Page 21
102-38	CEO/employee pay ratio	Page 21
102-39	CEO/employee pay increase ratio	Not reported
GRI 102: Stakeholder Engagement		
102-40	Stakeholder engagement	Page 21
102-41	Union representation	Page 21
102-42	Stakeholder identification	Page 21
102-43	Approach to stakeholder engagement	Page 21
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GRI 102: Reporting Practice		
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Economic

GRI 201: Economic Performance		
201-1	Direct economic value generated and distributed	Page 26
201-2	Financial implications due to climate change	Page 27
201-3	Benefit plan coverage	Page 27
201-4	Financial assistance from the government	Not reported
GRI 202: Market Presence		
202-1	Ratio of entry-level wage, by gender, to local minimum wage	Not reported
202-2	Proportion of senior management hired from the local community	Not reported
GRI 203: Indirect Economic Impacts		
Management Approach	Explanation of the material topic, its boundary, how the topic is managed, and mechanisms for evaluating the effectiveness of the company's strategy.	Page 27
203-1	Infrastructure investments and services supported	Page 28
203-2	Indirect economic impacts	Page 28
GRI 204: Procurement Practices		
204-1	Proportion of spending on local suppliers	Not reported
GRI 205: Anti-Corruption		
Management Approach	Explanation of the material topic, its boundary, how the topic is managed, and mechanisms for evaluating the effectiveness of the company's strategy.	Page 31
205-1	Risks related to corruption	Not reported
205-2	Communications and training on anti-corruption	Page 31

205-3	Confirmed incidents of corruption	Not reported
GRI 206: Anti-Competitive Behavior		
Management Approach	Explanation of the material topic, its boundary, how the topic is managed, and mechanisms for evaluating the effectiveness of the company's strategy.	Page 32
206-1	Anti-competitive behavior	Page 32

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GRI 301: Materials		
301-1	Materials used by weight or volume	Not reported
301-2	Recycled inputs	Not reported
301-3	Reclaimed materials	Page 34
GRI 302: Energy		
302-1	Energy consumption within the organization (Scopes 1 + 2)	Page 36
302-2	Energy consumption outside the organization (Scope 3)	Not reported
302-3	Energy intensity	Not reported
302-4	Energy reductions	Page 37
302-5	Energy reductions in products and services	Not applicable
GRI 303: Water		
303-1	Water withdrawals by source	Page 38
303-2	Water sources affected by withdrawals	Page 38
303-3	Water recycled and reused	Page 39
GRI 304: Biodiversity		
304-1	Sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value	Not reported

304-2	Impacts on biodiversity	Not reported
304-3	Habitats protected or restored	Not reported
304-4	IUCN Red List species	Not reported
GRI 305: Emissions		
305-1	Direct GHG emissions (Scope 1)	Page 40
305-2	Indirect GHG emissions (Scope 2)	Page 40
305-3	Other indirect GHG emissions (Scope 3)	Page 41
305-4	GHG emissions intensity	Page 42
305-5	Reduction of GHG emissions	Page 42
305-6	Ozone-depleting substances (ODS)	Page 43
305-7	NOx, SOx and other emissions	Page 43
GRI 306: Effluents & Waste		
306-1	Water discharge	Page 44
306-2	Waste by type and disposal method	Page 45
306-3	Significant spills	Page 46
306-4	Transport of hazardous waste	Not reported
306-5	Water bodies affected by water discharges and/or runoff	Not reported
GRI 307: Environmental Compliance		
307-1	Non-compliance with environmental laws and regulations	Page 47
GRI 308: Supplier Environmental Assessment		
308-1	New suppliers screened using environmental criteria	Page 48
308-2	Negative environmental impacts in the supply chain	Not reported

Social

GRI 401: Employment		
401-1	New employee hires and turnover	Page 49
401-2	Benefits provided to full-time employees	Page 52
401-3	Parental leave	Page 53
GRI 402: Labor/Management Relations		
402-1	Notice periods regarding operational changes	Not reported
GRI 403: Occupational Health & Safety		
Management Approach	Explanation of the material topic, its boundary, how the topic is managed, and mechanisms for evaluating the effectiveness of the company's strategy.	Page 54
403-1	Workforce represented in formal joint management-worker health and safety committees	Not reported
403-2	Rates of injury, occupational disease, lost days, absenteeism, and work-related fatalities	Page 55
403-3	Workers with high risk of diseases related to their occupation	Page 57
403-4	Health and safety topics covered in agreements with trade unions	Not reported
GRI 404: Training & Education		
404-1	Average hours of employee training	Page 58
404-2	Programs for upgrading employee skills and transition assistance programs	Page 58
404-3	Percentage of employees receiving regular performance reviews	Page 59
GRI 405: Diversity & Equal Opportunity		
Management Approach	Explanation of the material topic, its boundary, how the topic is managed, and mechanisms for evaluating the effectiveness of the company's strategy.	Page 59
405-1	Diversity of governance bodies and employees	Page 60
405-2	Ratio of basic salary and remuneration of women to men	Not reported

GRI 406: Non-Discrimination		
406-1	Incidents of discrimination and actions taken	Not reported
GRI 407: Freedom of Association & Collective Bargaining		
407-1	Operations and suppliers in which the right to freedom of association may be at risk	Not reported
GRI 408: Child Labor		
408-1	Significant risk of child labor in operations and suppliers	Not reported
GRI 409: Forced or Compulsory Labor		
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Not reported
GRI 410: Security Practices		
410-1	Security personnel trained in the organization's human rights policies	Not reported
GRI 411: Rights of Indigenous Peoples		
411-1	Incidents of violations involving rights of indigenous peoples	Not reported
GRI 412: Human Rights Assessment		
412-1	Operations that have been subject to human rights reviews	Page 61
412-2	Employee training on human rights policies and procedures	Not reported
412-3	Investment agreements and contracts that include human rights clauses or underwent screening	Page 61
GRI 413: Local Communities		
413-1	Operations with local community engagement, impact assessment, and development programs	Not reported
413-2	Operations with significant potential and actual negative impacts on local communities	Not reported
GRI 414: Supplier Social Assessment		
414-1	New suppliers screened using social criteria	Page 62
414-2	Negative social impacts on society in the supply chain, and actions taken	Not reported

GRI 415: Public Policy		
415-1	Political contributions	Page 62
GRI 416: Customer Health & Safety		
Management Approach	Explanation of the material topic, its boundary, how the topic is managed, and mechanisms for evaluating the effectiveness of the company's strategy.	Page 62
416-1	Assessment of the health and safety impacts of product and service categories	Not reported
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Page 62
GRI 417: Marketing & Labeling		
417-1	Requirements for product and service information and labeling	Page 64
417-2	Incidents of non-compliance concerning product and service information and labeling	Page 64
417-3	Incidents of non-compliance concerning marketing communications	Page 64
GRI 418: Customer Privacy		
Management Approach	Explanation of the material topic, its boundary, how the topic is managed, and mechanisms for evaluating the effectiveness of the company's strategy.	Page 65
418-1	Substantiated complaints regarding breaches of customer privacy and losses of customer data	Page 66
GRI 419: Socioeconomic Performance		
419-1	Non-compliance with laws and regulations in the social and economic area	Not reported

SASB INDEX

The Sustainability Accounting Standards Board (SASB) is dedicated to improving the effectiveness and comparability of corporate disclosure on environmental, social and governance (ESG) factors.

The table below cross-references the SASB Standards for the Health Care sector, and Biotechnology & Pharmaceuticals industry, with where that information can be found in conjunction with GRI disclosures throughout this report.

Safety of Clinical Trial Participants		
210a.1	Management process for ensuring quality and patient safety during clinical trials globally	Page 62
210a.2	FDA Sponsor Inspections related to clinical trial management and pharmacovigilance that resulted in: (1) Voluntary Action Indicated (VAI) and (2) Official Action Indicated (OAI)	Page 62
210a.3	Monetary losses as a result of legal proceedings associated with clinical trials in developing countries	Not reported
Access to Medicines		
240a.1	Access to health care for priority diseases and in priority countries	Page 28
240a.2	Products on WHO's List of Prequalified Medicinal Products	Page 28
Affordability & Pricing		
240b.1	Settlements of Abbreviated New Drug Application (ANDA) litigation that involved payments and/or provisions to delay bringing an authorized generic product to market	Not reported
240b.2	Percentage change in: (1) average list price and (2) average net price across U.S. product portfolio compared to previous year	Page 28
240b.3	Percentage change in: (1) list price and (2) net price of product with largest increase compared to previous year	Page 28
Drug Safety		
250a.1	Products listed in the FDA's MedWatch Safety Alerts for Human Medical Products database	Not reported Please visit the FAERS MedWatch page for more information.
250a.2	Fatalities associated with products as reported in the FDA Adverse Event Reporting System	Not reported Please visit the FAERS MedWatch page for more information.

250a.3	Recalls issued, and total units recalled	Page 62
250a.4	Amount of product accepted for takeback, reuse, or disposal	Not reported
250a.5	FDA enforcement actions taken in response to violations of current Good Manufacturing Practices (cGMP)	Not reported
Counterfeit Drugs		
260a.1	Methods and technologies used to maintain traceability of products throughout the supply chain	Page 15
260a.2	Process for alerting customers and business partners of potential or known risks associated with counterfeit products	Page 64
260a.3	Actions that led to raids, seizure, arrests, and/or filing of criminal charges related to counterfeit products	Not reported
Ethical Marketing		
270a.1	Monetary losses as a result of legal proceedings associated with false marketing claims	Page 64
270a.2	Code of ethics governing promotion of off-label use of products	Page 64
Employee Recruitment, Development, and Retention		
330a.1	Talent recruitment and retention efforts for R&D personnel	Page 49
330a.2	(1) Voluntary and (2) involuntary turnover rate for: (a) executives and senior managers, (b) midlevel managers, (c) professionals, and (d) all others	Page 49
Supply Chain Management		
430a.1	Facilities and Tier I suppliers participating in the Rx-360 International Pharmaceutical Supply Chain Consortium audit program, or equivalent	Not reported
Business Ethics		
510a.1	Monetary losses as a result of legal proceedings associated with corruption and bribery	Not reported
510a.2	Code of ethics governing interactions with health care professionals	Page 18
Activity Metrics		
000.A	Patients treated (#)	Page 14
000.B	Number of drugs (1) in portfolio and (2) in R&D (Phases 1-3)	Corporate website

FORWARD-LOOKING STATEMENT

This communication of Merck & Co., Inc., Kenilworth, N.J., U.S.A. (the "company") includes "forward-looking statements" within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. These statements are based upon the current beliefs and expectations of the company's management and are subject to significant risks and uncertainties. There can be no guarantees with respect to pipeline products that the products will receive the necessary regulatory approvals or that they will prove to be commercially successful. If underlying assumptions prove inaccurate or risks or uncertainties materialize, actual results may differ materially from those set forth in the forward-looking statements.

Risks and uncertainties include, but are not limited to, general industry conditions and competition; general economic factors, including interest rate and currency exchange rate fluctuations; the impact of pharmaceutical industry regulation and health care legislation in the United States and internationally; global trends toward health care cost containment; technological advances, new products and patents attained by competitors; challenges inherent in new product development, including obtaining regulatory approval; the company's ability to accurately predict future market conditions; manufacturing difficulties or delays; financial instability of international economies and sovereign risk; dependence on the effectiveness of the company's patents and other protections for innovative products; and the exposure to litigation, including patent litigation, and/or regulatory actions.

The company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise. Additional factors that could cause results to differ materially from those described in the forward-looking statements can be found in the company's 2018 Annual Report on Form 10-K and the company's other filings with the Securities and Exchange Commission (SEC) available at the SEC's Internet site (sec.gov).

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