



Healthcare in the 21st Century

Seeking Sustainable, Equitable and Effective Solutions

“Work on health at Community [EU] level adds value to Member States’ actions, particularly in the area of prevention of illness, including work on food safety and nutrition, the safety of medical products, tackling smoking, legislation on blood, tissues, and cells, and organs, water and air quality, and the launch of a number of health related agencies.”

European Commission,
Together for Health: A Strategic
Approach for the EU 2008-2013



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inside

- 2 EU Member State Healthcare Systems
- 4 Promoting and Protecting Citizens’ Health in the EU
- 6 The EU and Global Health
- 7 EU-U.S.: Common Health Challenges
- 8 Research and Technology: The EU and U.S. Working Toward Common Goals

Healthcare in the 21st century is a twin-edged sword. Research and technology have produced dramatic leaps in diagnostics, treatment and disease management; however, the cost of such advances is straining healthcare systems throughout the world. While U.S. citizens prepare for what is shaping up to be an historic Presidential election, candidates of all political persuasions are presenting plans to overhaul America’s healthcare system, which is currently characterized by the dichotomy between remarkable medical advances and the prohibitive cost of delivering their results broadly and equitably to the population.

Progress in our understanding of disease prevention and the use of information technology may indicate paths toward more sustainable healthcare and better lives for all. However, concern over financial viability plagues both the U.S. and European health systems—even more so when demographic changes brought about by aging populations and immigration are added to the equation.

In Europe, the traditional social contract is expected to provide for universal and affordable healthcare coverage and equitable access to sound treatment. These common expectations are—by and large—

shared EU-wide, although the EU’s 27 Member States represent 27 distinct healthcare systems, and it remains the purview of the individual Member States to deliver healthcare to their citizens. However, the European Union is actively engaged in defining an EU-wide public health strategy that integrates a high level of human health protection into policies and activities that fall under its remit. The EU strategy is based on three strategic objectives—solidarity, security and prosperity.

Solidarity supports healthy aging throughout a person’s lifespan, focusing on early prevention, and tackling inequities in health linked to social, economic and environmental factors. *Security* refers to the EU’s leadership role in coordinating a rapid response to health threats within the EU and globally, including pandemics, accidents, disasters and acts of terrorism. *Prosperity* encompasses the development and deployment of technologies for the prevention and treatment of illness—for example, the use of Information and Communications Technology (ICT), biotechnology and nanotechnology—to support a competitive and sustainable future for Europe.

EU Member State Healthcare Systems: Highlights and Comparisons



The European Health Card, a machine-readable "smart card" that is readily identifiable in all EU countries, facilitates access to healthcare throughout the EU.

One of the principal differences between the U.S. healthcare system and those of other industrialized nations is the absence in the U.S. of universal health insurance coverage, and consequently, inequitable access to treatment. The U.S. Census Bureau reports that 15.8 percent of Americans (47 million people) lacked health insurance in 2006.

In the EU, actual healthcare delivery falls to the individual Member States and is an example of the EU's subsidiarity principle, which mandates that decisions are to be made as closely as possible to citizens. European healthcare systems are generally designed to provide universal coverage, regardless of the ability to pay or a person's health. Although Member States' healthcare programs share this fundamental objective, they vary widely in their structure, funding mechanisms, and the level and nature of government involvement.

Most European countries have developed publicly sponsored and regulated healthcare systems, which are financed through a mixture of public and private contributions. Three main types of healthcare systems prevail: socialized medicine, in which healthcare is managed almost entirely by the government; single-payer systems that provide private healthcare which is paid for through tax revenue; and multi-payer systems, in which healthcare is funded by a mix of private and public contributions.

Socialized Medicine/National Health Services

The United Kingdom, Spain and Portugal are among the European countries with national health services, in which salaried physicians are the norm and most or all hospitals are publicly owned and operated. The government hires doctors and runs hospitals.

The UK National Health Service (NHS), founded 60 years ago, offers a wide range of free health services to virtually the entire population and is entirely funded through general taxes. Independent practitioners provide free primary care, receiving compensation from the government according to a nationally-agreed contract and based on the number of patients served and the range of additional services offered. Hospital services are also free to the consumer, with staff paid by the government and salaried according to nationally agreed contracts. Approximately 86 percent of prescription medicine is supplied free of

charge, usually to low-income or disabled patients. Those who pay for prescriptions are assessed only a flat fee per prescription (about \$14 in 2007).

Since NHS access is based on medical priority rather than a price mechanism, long waits are possible for certain consultations and surgical procedures. Private healthcare is also available, operating parallel to the NHS and paid for largely through private insurance. Only a small percentage of the population subscribes, primarily as a supplement to the NHS.

Single Payer Healthcare Systems

In a single payer system, such as those in Denmark and Sweden, healthcare is provided privately, but paid for publicly. The government collects and allocates money for healthcare but has little to no involvement in the actual delivery of services.

Healthcare providers are paid by a single source, whether it is a governmental organization or a private entity, such as an insurance company. This type of system offers many advantages, including administrative simplicity for patients and providers that results in significant cost savings in overhead. Hospitals may be owned by nonprofits or by government.

Sweden has a compulsory, predominantly tax-based healthcare system that provides coverage for the entire resident population. Voluntary insurance is limited and typically provides only supplemental coverage. The Swedish system is administered publicly at the regional level. Regulations, waiting times and patient fees can vary in the 21 different Landsting (County Councils) that govern healthcare in Sweden.

Denmark's single-payer national health system, operating since 1961, is funded by progressive income taxes and is administered publicly; most healthcare is free at the point of use. General practitioners are remunerated according to numbers of patients treated and fees for services, while specialists are generally compensated on a fee-for-service basis. Physicians who work with the hospitals—which are run by the 14 Danish counties and the City of Copenhagen—are paid salaries negotiated between the government and doctors' unions. Patients pay between 25 and 50 percent of the cost of medicines, and just over a quarter of the population has private insurance to cover this gap plus dental expenses.

Finland has a compulsory tax-based healthcare system, which provides comprehensive coverage for all residents; more than 75 percent of healthcare is funded publicly. The Finnish system is very decentralized, with 448 municipalities responsible for arranging healthcare. According to a 2000 EU survey, Finland has a more than 80 percent satisfaction rate with its healthcare services, representing the the highest number of people satisfied with their health system in the EU.

Multi-Payer Healthcare Systems

Highly regulated, universal, multi-payer health insurance systems are found in countries including Germany, France, Belgium and Austria. France and Germany have universal health insurance through nonprofit, regulated “sickness funds” that collect payments and pay healthcare bills according to a negotiated fee structure. Medical practices and hospitals are private, whether nonprofit or for-profit.

Germany’s universal multi-payer system offers two primary types of health insurance: compulsory and private. Compulsory insurance applies to those below a set income level, is provided at common rates for all members, and is paid for with joint employer-employee contributions. A wide range of coverage is mandated and coverage cannot be denied for actuarial or other reasons. (Those with incomes above the compulsory insurance level may choose to remain in the compulsory system, or opt out and purchase private insurance.) Provider compensation rates are negotiated through complex corporatist social bargaining among specified interest groups, such as physicians’ associations, at the state level.

France is notable for its easy access to healthcare, choice for patients and freedom for physicians. Universal health coverage applies, with the public sector generally refunding 70 percent of most patients’ ordinary healthcare costs (e.g., doctor visits), and directly paying 100 percent for costly or long-term treatment, including hospital stays. Private insurers—mostly nonprofit, mutual insurers—sell supplemental coverage. The French system has both private and public hospitals, but most doctors are in private practice.

Belgium funds its healthcare sector through health insurance societies—membership is mandatory and generally financed through employer-employee income contributions. Private commercial health insurance plays only a marginal role and only as a

supplement to coverage by the health insurance societies. All hospitals are funded through public funding and user payments.

Austria’s statutory health insurance ensures that the vast majority of the population has access to a comprehensive set of statutory benefits in preventive, curative, palliative and long-term care, based on the principles of solidarity and risk-pooling. The financing of statutory health insurance is based on equal contributions from employers and employees.

Healthcare Performance in Europe

The Euro Health Consumer Index (ECHI) provides an annual ranking of European healthcare systems based on five consumer-oriented criteria: patients’ rights and information; waiting times for common treatments; care outcomes; generosity of the system; and access to medication. Austria’s healthcare system, combining generous healthcare benefits with good patient access and outcomes, ranked as the top performer in 2007, followed closely by the Netherlands, France, Germany and Sweden. Finland distinguished itself with the highest level of patient satisfaction.

However, the performance of healthcare systems does not necessarily correlate with their comparative costs. For example, Luxembourg spends the most per capita of any European nation on healthcare, but ranks ninth among EU Member States according to the EHCI.



Comparative Costs and Outcomes: U.S. versus EU

According to World Health Organization (WHO) statistics, the total U.S. expenditure on health as a percent of GDP 2004 was almost twice the average expenditure for the fifteen EU countries that were members prior to the EU’s 2004 enlargement. Nevertheless, two basic measures of health outcomes—life expectancy and infant mortality—suggest that in a transatlantic comparison, higher cost does not necessarily indicate higher performance.

Country	Total expenditure on health as % GDP 2004	Per capita total expenditure on health-average exchange rate (\$US) 2004	Life expectancy at birth male/female 2005	Infant mortality rate (per 1000 live births) 2005
United States	15.4	6,096	75/80	7
EU 15 Average	8.9	3,180	77/82	4
EU 27 Average	8.1	2,065	74/80	5

Source: World Health Organization: World Health Statistics, 2007.

Promoting and Protecting Citizens' Rights, Responsibilities and Values

Rights

“Everyone has the right of access to preventive healthcare and the right to benefit from medical treatment under the conditions established by national laws and practices. A high level of human health protection shall be ensured in the definition and implementation of all Union policies and activities.”

EU Charter of Fundamental Rights

Responsibilities

“Community action, which shall complement national policies, shall be directed toward improving public health, preventing human illness and diseases, and obviating sources of danger to human health. Such action shall cover the fight against the major health scourges, by promoting research into their causes, their transmission and their prevention, as well as health information and education.”

Treaty Establishing the European Community

Many challenges confront healthcare in Europe, including the reconciliation of individual needs with available finances, an aging population, rising expectations for treatment, and costly research for sometimes marginal medical advances. Although the European Union's role in public health is limited by the Treaty, the European Commission is in a position to advocate for EU citizens' health and to promote cross-border cooperation that serves the broader interest of its population.

All EU policies and activities strive to incorporate a high level of health protection, whether protecting citizens from air pollution, regulating food safety or ensuring worker health and safety. In this context, prevention of disease and disability enjoys a high priority, as prevention is usually more cost-effective than treatment and frequently results in a better quality of life.

The EU encourages prevention by raising awareness of lifestyle changes that can lead to better health. The

The EU: Promoting Health and Preventing Disease

Obesity/Nutrition/Physical Activity. Improving the diets and physical activity levels of Europeans is a top public health priority for the EU. Recent estimates indicate that close to half of the EU's adult population is overweight or obese, and childhood obesity is rising at an alarming rate.

To help reverse this trend and halt its serious health repercussions, the EU established the Platform for Action on Diet, Physical Activity and Health, a partnership of consumer organizations, health-oriented NGOs, sports associations, educational institutions and EU-level industry representatives. In the Platform's first year, more than 100 new voluntary actions were triggered by European industry and civil society, including the European soft drinks association's pledge not to market its products directly to children under 12 years of age.

The Platform and other similar EU-wide initiatives encourage Europeans to follow a healthier diet and exercise more. Physical activity is encouraged throughout the EU by various Platform stakeholders. Additional support comes from EU legislation modernizing the rules that govern food labeling and promotional claims related to health and nutritional information in order to provide consumers with the accurate and detailed information required to make informed choices.

The European Commission is also working with the food industry to reduce the fat, sugar and salt in recipes to ensure that consumers have a range of healthy products to choose from.

Smoking. Tobacco is the single largest cause of avoidable death in the EU, accounting for more than half a million deaths annually. The EU has tackled smoking aggressively, and the number of smokers has dropped dramatically in most EU countries (by 10 percent in five years), an accomplishment linked to the strong public health policies implemented to fight smoking.

In 2005, the EU ratified the World Health Organization's (WHO) Framework Convention on Tobacco Control, which commits signatories to act to reduce the number of deaths and incidence of disease caused by smoking and second-hand smoke. EU rules set

maximum thresholds for tar, nicotine and carbon monoxide, while legislation bans tobacco advertising in print media, on the radio and online, and requires clear health warnings on tobacco products. The EU is also urging Member States to introduce national rules to protect citizens from tobacco smoke. Several countries have already become completely smoke-free in their public and work places, including restaurants and bars.



EU rules require clear health warnings on tobacco products.

Health in the EU:

Union also contributes to citizens' health security through its continental-scale capacity to identify, analyze and respond to health threats through coordinated emergency planning, continuous surveillance and cross-border preparedness exercises.

Between now and 2013, the European Commission (the EU's executive arm) alone has allotted more than €321 million for activities and projects under its Together for Health action program. The program aims to improve citizens' health security by educating them about healthy lifestyles, and by reducing health inequalities throughout the EU via knowledge transfer, information exchange and the sharing of best practices.

Cross-Border Mobility

As borders dissolve between the EU Member States, citizens frequently travel, work, study and live in Member States other than their own. To facilitate access to healthcare for EU citizens temporarily in another Member State, the EU issues a standardized European Health Insurance Card readily identifiable in all EU countries that grants easy access to care.

In certain cases, a patient may choose to travel abroad specifically to receive better, faster, or less expensive treatments than in their home country. As long as a national healthcare system has granted its authorization, the citizen is free to seek care abroad.

The European Court of Justice has ruled that, under certain conditions, patients have the right to cross-border care under EU law even without authorization. The EU is working with Member States to establish a framework reconciling individual choice and mobility with the financial sustainability of health systems overall. Additionally, the EU supports the development of Europe-wide networks of specialized centers where expert staff and costly high-tech medical equipment can serve several healthcare systems.

E-Health

A key element facilitating greater patient choice and cost-effective services is E-Health, including electronic interactions between patients and health-service providers, institution-to-institution transmission of data, and peer-to-peer communication between patients and/or health professionals.

Efficient data processing is considered to be an important factor in decreasing healthcare costs, as well as

cutting the red tape involved in cross-border care and patient mobility, and E-Health in Europe is set for explosive growth. However, the exchange of private and sensitive patient data depends on a suitable legal and regulatory framework. Driven by the need to face health-related challenges and to take advantage of burgeoning new medical information and communication technologies, the EU has forged ahead on E-Health based on a 2004 plan that promotes the interoperability of E-Health systems, supports Europe-wide health services, and shares best practices.

The EU considers E-Health one of its "lead market" initiatives—a market ripe for innovative products and services or technological solutions with high growth potential; a market where EU industry can develop a competitive advantage to lead in international markets; a market that requires action by the public authorities to deal with regulatory obstacles.

The European Commission Welcomes New EU Commissioner for Health

On February 28, 2008, Androula Vassiliou was nominated by the Republic of Cyprus, in agreement with European Commission President José Manuel Barroso, to replace outgoing Health Commissioner Markos Kyprianou.

The EU's Public Health Architecture

European Commission Directorate General for Health and Consumer Protection (SANCO) develops and manages a significant body of public health law on the safety of food and other products, human health, and consumer rights and safety. DG SANCO oversees the application of EU health and consumer protection laws in all EU Member States.

European Center for Disease Prevention and Control (ECDC) pools European expertise to boost the capacity of the EU and Member States to prevent and control communicable disease outbreaks by identifying, assessing and sharing information about current and emerging threats to human health. The creation of the ECDC was spurred by the need to strengthen European defenses against infectious diseases such as influenza, SARS and HIV/AIDS.

European Medicines Agency (EMA) evaluates and supervises medicines for human and veterinary use, and provides a single EU market authorization process for drugs.

Early Warning and Response System (EWRS) provides a platform for Member State health authorities to share epidemiological surveillance data, facilitating the detection and control of communicable diseases in humans to prevent further disease transmission. EWRS is a web-based system that promotes cooperation and coordination among Member States, and facilitates a rapid and effective response by the EU to events and emergencies related to communicable diseases.

Scientific Committees comprise independent scientific experts charged with evaluating potential health risks and issuing opinions based on sound scientific evidence. The Scientific Committees provide the European Commission with the advice it needs when preparing policy and proposals relating to consumer safety, public health and the environment.

The EU and Global Health



European Commission President José Manuel Barroso met with WHO Director-General Margaret Chan in June 2007 to discuss global health security, the health consequences of climate change, and improving health outcomes in Africa.



Health is an important element in the European Union's external relations, particularly in the fight against poverty, and EU policy incorporates health-related provisions and support in its external development cooperation with a focus on low-income countries. The EU and its Member States strive to enhance health worldwide through sustained collective leadership in global health, and by sharing their values, experience and expertise.

The EU and the Member States work closely together to "foster cooperation with third countries and the competent international organizations in the sphere of public health." The EU collaborates with such international organizations as the World Health Organization (WHO), and participates in the Global Health Security Initiative. The European Commission also develops initiatives to promote health in the European neighborhood, and works with EU candidate countries to assure compliance with EU law, a condition of membership.

Health and Development Cooperation

The EU policy on health and development emphasizes the link between poor health and poverty, and recognizes the importance of improved health outcomes for economic growth and development.

The EU pursues a comprehensive approach to health problems in developing countries, seeking to provide consistent and predictable financial support to governments so that they can establish and maintain the systems and infrastructure necessary to cope with health problems affecting their populations. Whatever health challenges a country faces, the EU's approach allows governments to make their own decisions about expenditure priorities and stimulates national ownership.

The EU's approach also emphasizes the fight against the major communicable diseases: AIDS, malaria and tuberculosis. As a result, the EU is a major donor to the Global Fund, set up in 2002 to attract, manage and disburse financing to support locally-driven strategies to combat these three pandemics that, although both preventable and treatable, kill more than six million people every year. To date, Europe (EC + Member States) accounts for 54 percent of contributions to the Global Fund, a number slated to rise significantly by 2010.

Preparedness

The EU is a key player in the Global Health Security Initiative, an informal partnership of like-minded

countries launched in the wake of 9/11 to strengthen worldwide health preparedness and response to pandemic influenza or health-related terrorist threats. The WHO serves as the GHSI's expert advisor.

Cooperation among partners has resulted in significant progress in protecting public health and security globally in a number of areas:

- Collaboration on vaccines and antibiotics;
- Preparedness for a pandemic influenza outbreak;
- Reduction of the smallpox threat and support for WHO's efforts to create an international stockpile of smallpox vaccine;
- Establishment of active networks of contacts within health ministries, and communications technology to bring together senior officials on short notice;
- Enhancement and quality assurance of analytical work in high-risk laboratories;
- An international health security forum to identify emerging issues and coordinate policy processes to address threats, particularly through R&D.

The EU and the World Health Organization

The European Commission (EC) has long-standing relations with the WHO, with a special focus on health information, surveillance and prevention of communicable diseases, tobacco control, environment and health, sustainable health development, and health research. The EC was the third largest extra-budgetary contributor to the WHO in 2006 at \$102 million.

Currently, the EC is participating in two important WHO intergovernmental processes on access to medicines: one on public health, innovation and intellectual property, and the other on influenza virus sharing and access to vaccines. Working with its Member States, the EU was also involved in negotiations on the Framework Convention on Tobacco Control (FCTC) and the revised International Health Regulations (IHR), international health laws developed under the WHO's auspices. The FCTC commits signatories to act to reduce the number of deaths and disease caused by smoking and second-hand smoke. The IHRs are legally binding regulations adopted by most countries to contain threats from cross-border public health emergencies, and represent an unprecedented international agreement to contain health emergencies at the source, not just at national borders.

EU-U.S.: Common Health Challenges

No healthcare system is immune to challenges like steeply rising costs, aging populations and immigration, but the EU and the U.S. can help mitigate these issues by learning from and adopting the best-performing aspects of the other.

The EU, with its 27 health systems, presents a laboratory of approaches to the delivery of universal healthcare, loosely divided between systems based on multi-payer social insurance and single-payer systems such as the UK's National Health Service. Notably, the top five ranked countries in the 2007 European Consumer Health Index follow the multi-payer model: Austria, the Netherlands, France, Switzerland and Germany.

The United States invests more in health as a percentage of its gross domestic product (GDP) than any other country in the world; however, it remains the only industrialized country without universal health insurance coverage. According to a Commonwealth Fund study of industrialized nations, the U.S. consistently struggles in areas such as quality, access, efficiency and equity; a physicians' survey in the same report noted that the U.S. also lags in adopting information technology. However, the U.S. excels in preventive care and ranks second only to Germany on waiting times for specialized care and non-emergency treatment.

Aging Populations and the Rising Costs of Healthcare

Aging populations will add additional pressure in the coming decades to the cost of healthcare on both sides of the Atlantic. Current projections anticipate that the population over 65 in the EU will rise from 17 percent in 2005 to 30 percent in 2050. The public cost of healthcare systems is projected to rise by one to two percent of GDP in most Member States between now and 2050 as a direct result of demographic changes.

Similarly, U.S. population projections foresee the proportion of the U.S. population over 65 increasing from 12.7 percent in 2005 to 20.7 percent in 2050. U.S. spending on healthcare, based on an assumption barring any changes in federal law, is projected to rise dramatically as the century unfolds – not just because of demography, but also due to more advanced and available medicines and medical technology.

According to recent U.S. Congressional Budget Office projections:

- Total U.S. spending on healthcare will rise from 16% of GDP in 2007 to 25% in 2025, 37% in 2050, and 49% in 2082.
- Federal spending on Medicare (net of beneficiaries' premiums) and Medicaid will rise from 4% of GDP in 2007 to 7% in 2025, 12% in 2050, and 19% in 2082.

U.S. CBO, November 2007

Immigration and Healthcare

Tackling health inequalities represents a major challenge in the context of immigration. In the U.S., the federal government sets immigration policy, but it falls to individual states to provide services—including healthcare—to immigrant populations. Various states are reaching out to immigrant and minority populations to address health disparities, such as access (or lack of access) to affordable care and some minority populations' predisposition to certain health conditions. It is up to individual states as to how or whether to provide health services to undocumented immigrants.

In the EU, the individual Member States determine how best to provide healthcare to immigrants, regardless of their legal status. Typically, legal immigrants who are employed gain access to healthcare benefits for themselves and their families. Depending upon the Member State, illegal immigrants may not be in a position to access healthcare other than through emergency services, which is often the reality in the United States as well. Debate surrounding this complex issue balances humanitarian values against the strain on healthcare systems.

The EU's approach to healthcare for legal immigrants is founded on the EU's value system and the principles of solidarity, democracy, non-discrimination and respect for human rights. The EU recognizes that the health of its population is critical to its economic performance, and its public policies aim to protect the health of the entire population without harming or compromising an individual's health.



Aging populations will impact the cost of healthcare in both the U.S. and the EU.

Research and Technology: The EU and U.S. Working Toward Common Goals



EU Science and Research Commissioner Janez Potočnik meets with Dr. Elias Zerhouni, Director of the National Institutes of Health (U.S.).

Both the EU and the U.S. are at the cutting edge of medical research, and whether working cooperatively or in parallel, research and development on both sides of the Atlantic will serve to advance health outcomes and dramatically improve the quality of lives in the 21st century.

Under its Seventh Framework Program for Research and Technological Development (FP7), the EU has pledged to spend €6 billion on health research between 2007 and 2013 to improve Europeans' health and enhance the competitiveness and innovative capacity of European health-related industries and businesses. FP7 aims to translate basic discoveries into clinical applications, develop and validate new therapies, promote health and prevention (including healthy aging), improve diagnostic tools and medical technologies, and improve the efficiency and sustainability of healthcare systems. The program also encourages collaborative research across Europe and international participation by other partners, including the United States.

Gene Research—Mouse Genome. The European Commission (EC), the U.S. National Institutes of Health (NIH), and Genome Canada are co-funding large-scale research on the mouse genome (mice and humans share 99 percent of their respective genetic codes) to improve understanding of the ways a single gene can influence human health and well-being. By providing researchers the opportunity to mimic human diseases in mice, experiments will ultimately speed up development of drugs and other treatments.

The EC, NIH and Genome Canada established the International Knockout Mouse Consortium (IKMC) in early 2007 to ensure that the vast array of material and information generated by this research will be readily available to the biomedical research community. The state-funded Texas Institute for Genomic Medicine is conducting similar research and has also joined the consortium.

Microbiome—Learning What the Gut Reveals about Disease. The EC has contributed to MetaHIT, a project under FP7 that will characterize the collection of genomes of the micro-organisms in the human intestine (microbiome) and evaluate the microbiome's diversity within and between individuals throughout Europe.

The project will also investigate associations between the human microbiome and disease and obesity.

NIH is funding a comparable program in the U.S.—the Human Microbiome Project. The EC and NIH are leading efforts to form an international consortium on the topic to coordinate research efforts and ensure that the data generated is freely available to the entire scientific community for analysis.

Innovative Medicines Initiative (IMI). The process for developing drugs is lengthy, complex and costly. Only one in 5,000 drug candidates will be marketable, and more than a decade of preparation, along with up to €700 million, can be required to bring a new drug to fruition.

The EC and the European pharmaceutical industry are engaged in a novel alliance designed to accelerate the discovery and development of innovative medicines and remove research bottlenecks in the drug development process. With a €2 billion budget over seven years, IMI is the first pan-European public-private partnership to fund research in the health sector.

IMI aims to identify potentially successful drugs in the pre-competitive development process, prior to major investments, radically improving the biopharmaceutical sector's productivity. This research pursues better methods for predicting the efficacy of new medicines for such conditions as brain disorders, cancer, and inflammatory, metabolic, and infectious diseases.

The U.S. Food and Drug Administration (FDA) is pursuing a similar strategy through its Critical Path Initiative, aiming to modernize the method by which FDA-regulated products are developed, evaluated and manufactured.

Nanomedicine. By allowing a better understanding of human functions at molecular and nanometric levels, the application of nanotechnology to health has the potential to enable early detection, prevention and treatment of disease. The EC and private industry have established a European Technology Platform on nanomedicine geared toward future-oriented, nanotechnology-based healthcare. Three key priorities have been identified: nanotechnology-based diagnostics including imaging; targeted drug delivery and release; and regenerative medicine.



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