

Appendix 1 of the letter to parliament on the approach to antibiotic resistance Approach to antibiotic resistance, specific actions

International

New actions

<i>Product</i>	<i>Initiator</i>	<i>Time path</i>
<p>Implementation of WHO Global Action Plan on Antibiotic Resistance by:</p> <ul style="list-style-type: none"> • Specific funding for WHO • Supporting WHO with respect to content in developing antibiotic resistance action plans • Strategic secondments at the WHO • support with respect to content through collaborations with partner countries 	Ministry of Health, Welfare and Sport	Countries should have a draft action plan in place no later than 2017
Countries receive information about and assistance with surveillance through the Dutch National Institute for Public Health and the Environment RIVM as recently appointed WHO Collaborating Centre Antimicrobial Resistance Epidemiology and Surveillance.	Dutch National Institute for Public Health and the Environment RIVM	Since 2015
<p>'Twinning partners' are formed under the GHSA (Global Health Security Agenda) antibiotic resistance Action Package, thereby supporting the implementation of the WHO Global Action Plan.</p> <ul style="list-style-type: none"> • Leading countries are the Netherlands, United Kingdom, Sweden, Germany and Canada. • The Netherlands recently asked Colombia to contribute. 	Ministry of Health, Welfare and Sport	2015
International awareness of antibiotic resistance by participation in GHSA events, in 2014 in the US and in 2015 in Seoul, South Korea.	Ministry of Health, Welfare and Sport	7-9 September 2015
One Health approach highlighted in the EU, in a joint ministerial conference on antibiotic resistance and by proposing council conclusions in both the Health Council and the Agricultural Council.	The Ministry of Health, Welfare and Sport and Ministry of Economic Affairs	10-11 February 2016 Health Council 14 June 2016 Agriculture Council June 2016
<p>Focus on further agreements in the next EU Action Plan on Antibiotic Resistance and relevant legislation, specifically:</p> <ul style="list-style-type: none"> • Surveillance of resistant bacteria and antibiotic use in human healthcare, as basis for envisaged infection prevention measures and prudent antibiotic use • Ban on the use of last resort antibiotics (including carbapenems) for the treatment of animals via the cascade system • Mandatory sensitivity tests before critical antibiotics (fluoroquinolones, 3rd and 4th gen cephalosporins) can be used in 	The Ministry of Health, Welfare and Sport and Ministry of Economic Affairs	2015-2017

<p>animals</p> <ul style="list-style-type: none"> strengthened standards for slaughter hygiene and standardisation for specific resistant bacteria in food Authorisation of new antibiotics Development of new antibiotics and alternatives 		
Business cases from Dutch best practices from healthcare and animal farming	The Ministry of Health, Welfare and Sport and Ministry of Economic Affairs	2015
Strive for an EU Joint Action antibiotic resistance	Ministry of Health, Welfare and Sport	2016

Current/ongoing actions

<i>Product</i>	<i>Initiator</i>	<i>Time path</i>
International awareness of antibiotic resistance created and promoted by active dissemination of the Dutch antibiotic resistance approach and best practices from healthcare and animal farming.	The Ministry of Health, Welfare and Sport and Ministry of Economic Affairs	Ongoing
Financing of studies of the economic impact of antibiotic resistance through the World Bank.	Ministry of Health, Welfare and Sport	2014-2017
An impulse for existing MoU's with China, Russia and India about our support of control of antibiotic resistance.	Ministry of Health, Welfare and Sport	China and Russia 2013-2018 India 2014-2019
Improved international surveillance by representation and active contribution of the RIVM in international networks for surveillance of antibiotic resistance and healthcare-related infections at ECDC (HAI-net; ESAC-net and ESAC-net) and WHO Euro (CAESAR).	Dutch National Institute for Public Health and the Environment RIVM	Ongoing
A roadmap developed by RIVM and WHO EURO that assists countries in developing custom interventions leading to correct antibiotic use (Guide to Tailoring AMR Programmes - TAP).	Dutch National Institute for Public Health and the Environment RIVM	2014-2016

Healthcare

New actions

<i>Product</i>	<i>Initiator *</i>	<i>Time path</i>
A regional network performance profile encompassing the entire healthcare system is in place.	Ministry of Health, Welfare and Sport and healthcare sector in the Working Group on Network Structure Development	2015
An action plan for the implementation of a regional network structure is in place.	Ministry of Health, Welfare and Sport and healthcare sector in the Network Structure Development Working Party	2015
All hospitals participate in regional networks.	Hospitals	end of 2016
All GPs and other primary care provisions/providers participate in regional networks.	Primary care	end of 2016
All nursing homes participate in regional networks.	Nursing homes	end of 2016
All healthcare networks have a uniform and reproducible picture of antibiotic use in relation to the disease, and the status of infection prevention, whereby all healthcare providers collaborate in providing consistent and transparent data and requirements by the network.	Ministry of Health, Welfare and Sport and healthcare sector in the working group on Surveillance and Network Structures	2018
An action plan is in place on assuring the knowledge level of infection prevention and antibiotic resistance of physicians/nurses/carers/paramedics in, among others, healthcare training.	Ministry of Health, Welfare and Sport and healthcare sector in the working group on Network Structure Development	2015
Each healthcare facility will have formalised responsibilities for implementation and coordination of antibiotic stewardship, including the implementation of guidelines and standards.	Healthcare facilities / healthcare providers	end of 2016
Nursing homes have an active infection prevention policy in place.	Nursing homes	2015-2017
Each guideline for hygiene / infection prevention or prudent antibiotic use and resistant bacteria includes information for patients .	Healthcare facilities / healthcare providers in collaboration with patient associations	2018
Active monitoring and management of antibiotic stewardship, prescription behaviour and outbreak policy.	Healthcare facilities / healthcare providers	end of 2016
An inventory of all existing registries encompassing the entire healthcare system is available at the institutional, regional and national level, plus an overview of gaps.	Ministry of Health, Welfare and Sport and healthcare sector in the working group on Surveillance	end of 2016
Each healthcare facility has a protocol in place for HRMO	Healthcare facilities	2015-2017

surveillance.		
Antibiotic resistance-related data are accessible to all institutions that are involved with the patient.	Ministry of Health, Welfare and Sport and healthcare field in the working group on Surveillance	2018
The involvement in and governance of the surveillance system and the possibility to access information has been embedded in procedures among boards of directors of healthcare facilities, regional municipal health services (GGD) and the many other healthcare providers and laboratory specialists and are formalised in a covenant.	Healthcare facilities / healthcare providers	End of 2016
A programme to lift hygiene to a higher level is in place.	Nursing homes	end of 2016
One or two pilots have been initiated to structurally add microbiologic know-how to long-term care.	Nursing homes	end of 2016
The guidelines on the most prevalent infections in long-term care are up-to-date and are being used.	Nursing homes	end of 2016
Sector-approved guidelines for outbreak management are in place.	Nursing homes	end of 2016

Current/ongoing actions

<i>Product</i>	<i>Initiator</i>	<i>Time path</i>
All hospitals participate in the IPW and IL modules, as in the PREZIES or similar network.	Hospitals	End of 2016
There is a broadly endorsed programme in the field of multidisciplinary guideline development.	Ministry of Health, Welfare and Sport and healthcare sector in the working group on Guidelines/standards Development	End of 2016
Hospitals have an active infection prevention policy in place.	Hospitals	End of 2015
The Healthcare Inspectorate IGZ has drawn up a transparent inspection plan for antibiotic resistance and applies it. This includes inspection of Antibiotic Stewardship in hospitals.	Healthcare Inspectorate IGZ	End of 2016
In collaboration with the sector, IGZ will develop parameters to evaluate outcomes as well.	Healthcare Inspectorate IGZ	End of 2016

* A broad spectrum from the healthcare sector is represented in the mentioned working groups. Participants include the Ministry of Health, Welfare and Sport, RIVM (e.g. Centre for Infectious Disease Control CIb and National Coordination Centre for Communicable Disease Control LCI), healthcare providers, healthcare insurers, municipal health services, various umbrella organisations and (scientific) professional associations.

Animals

New actions

<i>Product</i>	<i>Initiator</i>	<i>Time path</i>
Update on the Health Council advisory report on risks of antibiotic use in animal farming for public health.	Health Council	Completed end of 2015
Council on Animal Affairs advisory report on consequences of reduction policy for welfare/health & advisory report on continued reduction of antibiotic use while preserving animal well-being and animal health.	Council for Animal Affairs	Completed end of 2015
Authority for veterinary medicinal products SDA advisory report on resistance-related benchmark and species-specific reduction objectives.	SDa	Fall of 2015
Research and analysis of critical success factors contributing to low antibiotic use.	Sectors and Royal Dutch Association for Veterinary Medicine KNMvD	2015-2016
Focus on prevention of animal disease: study of improved health status of farm animals.	Sectors	2015-2016
International: focus on introduction of mandatory sensitivity test prior to use of critical antibiotics as part of review of draft Veterinary Medicinal Products Regulation.	Ministry of Economic Affairs	2015-2016
International: focus on ban on use of last resort antibiotics (such as carbapenems) through the cascade as part of review of draft Veterinary Medicinal Products Regulation.	Ministry of Economic Affairs	2015-2016

Current/ongoing actions

<i>Product</i>	<i>Initiator</i>	<i>Time path</i>
Interim evaluation of Veterinarian Only (UDD) measure.	Ministry of Economic Affairs, in consultation with stakeholders	Interim evaluation completed summer 2015
Increased focus on reducing antibiotic use by animal farmers in the red and identification area.	Sectors and veterinarians	2015
Veterinary benchmark: testing the prescription pattern of veterinarians. Veterinarians in the action area must implement improvement measures, such as continuing education and peer review.	Quality Assurance Foundation for Veterinarians	In 2015, veterinarians are informed about their benchmark. Starting 2016, veterinarians in the action area are obliged to take supplementary measures.
Action plan for antibiotic use in rabbit farming.	Rabbit farming sector	summer 2015

Action plan and survey of antibiotic use in pets and horses.	Ministry of Economic Affairs, in consultation with stakeholders (implementation of SDA study)	Fall of 2015
Continuation of increased efforts of the Netherlands Food and Consumer Product Safety Authority NVWA.	NVWA	Ongoing
Focus on alternatives including vaccinations.	Current study programmes (ALTANT, Castellum)	Ongoing
Policy development to prevent the introduction and spread of carbapenem resistance.	Ministry of Economic Affairs, Ministry of Health, Welfare and Sport in consultation with stakeholders	2015
Registration and benchmark of antibiotic use on animal farms.	SDa, sectors, KNMvD	Ongoing

Food safety

New actions

<i>Product</i>	<i>Initiator</i>	<i>Time path</i>
Study of carbapenem-resistant (CPE) bacteria in the meat chain.	RIVM	Completed in 2016
Epidemiological study of the contribution of animal farming sectors to the spread of ESBLs and potential targets to limit spread.	Ministry of Economic Affairs via top sectors	2014-2017
Population screening for ESBLs among people with a vegetarian diet in order to generate more information on transmission routes.	Ministry of Health, Welfare and Sport through RIVM	2015-2017
Improved slaughter hygiene at a national level.	NVWA, Ministry of Economic Affairs	Ongoing
Push for European slaughter hygiene standards.	The Ministry of Health, Welfare and Sport and Ministry of Economic Affairs	Ongoing
Start consultation with retail to include slaughter hygiene and minimal resistant bacteria as purchase requirement.	Ministry of Health, Welfare and Sport	2015
Drafting a research agenda Antibiotic resistance in food	Buro (NVWA)	2015
Push on a European level for a standard for CPE in foodstuffs.	Ministry of Health, Welfare and Sport	Ongoing
At a global level, (Codex Alimentarius) push for intensified and harmonised monitoring for resistant bacteria.	The Ministry of Health, Welfare and Sport and Ministry of Economic Affairs	Ongoing
At a European level, put harmonised monitoring of CPE in meat imported from third countries on the agenda.	The Ministry of Health, Welfare and Sport and Ministry of Economic Affairs	Ongoing
Follow-up on RIVM research of warning label for poultry products.	Ministry of Health, Welfare and Sport	2015

Current/ongoing actions

<i>Product</i>	<i>Initiator</i>	<i>Time path</i>
Analysis of risk products and trade.	NVWA	2015
At EU level, push for process hygiene criterion (PHC) for campylobacter in chicken meat.	Ministry of Economic Affairs	Ongoing
Information on general kitchen hygiene and antibiotic resistance.	Netherlands Nutrition Centre in consultation with Ministry of Health, Welfare and Sport.	Action end of 2014 Action summer of 2015 Ongoing

Environment

New actions

<i>Product</i>	<i>Initiator</i>	<i>Time path</i>
Implementation of an action plan in order to advise on management options.	RIVM commissioned by Ministries of Economic Affairs, Infrastructure and Environment, and Health, Welfare and Sport.	Mid 2016
Address the issue in water quality policies.	Ministry of Infrastructure and Environment	December 2015

Current/ongoing actions

<i>Product</i>	<i>Initiator</i>	<i>Time path</i>
Study of the presence of antibiotic residue in manure.	Ministry of Economic Affairs	2015-2016
Promoting agreements on antibiotic resistance in the 'Green Deal Sustainable Operational Healthcare Management ', currently being developed by the healthcare sector and the government. Antibiotic resistance should be part of sustainable healthcare management. Hospitals drain off waste water, causing antibiotic residues and resistant bacteria to spread in the environment. 84 individual healthcare facilities are involved in this 'Deal' through the 'healthcare environment platform'; I will also actively involve umbrella organisations such as the Dutch Hospital Association NVZ and Dutch Association for Residential and Home Care Organisations Actiz in this deal.	Ministry of Health, Welfare and Sport	2015

Innovation

New actions

<i>Product</i>	<i>Initiator</i>	<i>Time path</i>
Promote the development of new antibiotics, diagnostics and new treatments including alternatives for antibiotics, by supporting research infrastructure, collecting and sharing knowledge, and incorporating results in public-private partnerships (PPP) on the basis of the research agenda.	Ministry of Health, Welfare and Sport in collaboration with research centres, top sector research institutes, industry and the Netherlands Organisation for Health Research and Development (ZonMw)	2016-2020
Accelerated authorisation of antibiotics by identifying and resolving bottlenecks in the regulatory process.	Ministry of Health, Welfare and Sport with Medicines Evaluation Board CBG and RIVM	2015-2016
Financial and substantive support of WHO in promoting global collaboration to develop new business models as part of the Global Action Plan on AMR.	Ministry of Health, Welfare and Sport	Start in 2015
Study of targets for policy on prevention in healthcare and the surroundings.	Ministry of Health, Welfare and Sport / ZonMw	Start in 2015
Addressing gaps in the global agenda for the development and appropriate use of new medicines, together with WHO	Ministry of Health, Welfare and Sport	2015

Current/ongoing actions

<i>Product</i>	<i>Initiator</i>	<i>Time path</i>
Inventory among stakeholders of bottlenecks and opportunities / gaps with respect to the development of new antibiotics and alternatives, with recommendations based on that inventory.	Ministry of Health, Welfare and Sport	Completed January 2015
Promote new business models for the development of antibiotics in international initiatives.	IMI (Innovative Medicines Initiative), in the DRIVE-AB programme focusing on the development of new business models	Ongoing
Improved collaboration between EU member states in the field of research (harmonisation, joint programming and financing) by participation in the Joint Programming Initiative (JPI) on antibiotic resistance	Ministry of Health, Welfare and Sport via ZonMw	Ongoing
Promote international research into new medicines and prudent use, by:	Ministry of Health, Welfare and Sport, RIVM, ZonMw	Ongoing

<ul style="list-style-type: none">• promoting participation in contributions to Horizon2020 (EU-wide research programme) and the Innovative Medicines Initiative (PPP programme);• promoting participation in JPI on antibiotic resistance by other (non-EU) member states		
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Communication

New actions

<i>Product</i>	<i>Initiator</i>	<i>Time path</i>
Development and dissemination of public awareness tools for the general public and professionals aimed at increasing knowledge, information need and awareness of the antibiotic resistance issue.	Ministry of Health, Welfare and Sport in collaboration with (healthcare) partners	After summer recess 2015-2016

Current/ongoing actions

<i>Product</i>	<i>Initiator</i>	<i>Time path</i>
Development of phased communication strategy for antibiotic resistance for the general public, for professionals and for administrators.	Ministry of Health, Welfare and Sport	Ongoing
Follow-up on the 2014 'You can't see what makes you sick' campaign on kitchen hygiene measures, when preparing and storing food.	Ministry of Health, Welfare and Sport through Netherlands Nutrition Centre	Summer 2015
Maintain up-to-date the information on antibiotic resistance on the government website rijksoverheid.nl , referring to websites of the Netherlands Nutrition Centre, Netherlands Food and Consumer Products Safety Authority NVWA, RIVM and Healthcare Inspectorate IGZ.	Ministry of Health, Welfare and Sport	2015-2016
Communication aimed at awareness of antibiotic resistance for healthcare professionals and the general public on European Antibiotic Awareness Day.	Ministry of Health, Welfare and Sport and RIVM	Each year on 18 November