Multi-annual agenda on antibiotic resistance in healthcare

Parties have agreed on a 'Multi-annual agenda on antibiotic resistance in healthcare ' containing transparent agreements to prevent the effects of antibiotic resistance on disease burden and mortality. This agenda explicitly focuses on improving collaboration between public healthcare, primary care, secondary care, and long-term care. It also contains sector agreements. Accurate baseline assessments in each sector are essential. This is the subject of agreements with stakeholders. This baseline assessment will preferably have a quantitative design, but if this is not possible, a qualitative design may also be valuable.

Stakeholders have the ambition to pursue the mission, goals and resulting multi-annual agreements. However, if in time it becomes evident that achieving one or several of these goals is unrealistic, or if the various working groups provide timely indication that a course adjustment is needed, it may be justified to deviate from these agreements. The Ministry of Health, Welfare and Sport, in consultation with stakeholders, will incorporate the needed adjustments.

This multi-annual agenda consists of:

Part A - Multisector activities
Part B - Sectoral activities

Part A - Multisector agreements

Stakeholders envisage the following **priorities**:

1. Organisation and collaboration in the healthcare chain
2. Guideline development
3. Monitoring
4. Inspection
5. Funding
6. Involvement of the public

Re 1: Organisation and cooperation in a regional network

The use of regional network structures embedded in a national network structure may optimise control policies, as they increase our understanding of the presence and movement of resistant bacteria within the networks. Such a network structure will also provide uniformity in policies across the various domains. Transparency on organisation and responsibilities for coordinating tasks is essential. The Centre for Infectious Disease Control (CIb) is expected to coordinate on a national level.

Stakeholders have agreed on the following: '*By 2018, there will be about 10 well functioning networks[1], jointly providing national coverage (with an integrated approach to **ABR** from public healthcare, primary, secondary and tertiary healthcare) that function on the basis of a performance profile (endorsed by the field).*'

Towards this end, a number of steps will be taken over the upcoming years. This results in the following multi-annual planning.

The following results will be achieved in 2015:

- A regional network performance profile encompassing the entire healthcare system (public care, primary care, home care, hospital care, long-term care) has been created (tasks, responsibilities, data needed for surveillance). There has been administrative alignment of the performance profile with all relevant stakeholders.

[1] Based on existing national network structures in the Netherlands

- There will be alignment at a regional level on which stakeholder will coordinate the joint agreements as part of the antibiotic resistance approach. These are agreements on registration, monitoring, sharing information, collaboration between institutions[2] and healthcare providers[3], patient transfer and taking measures to contain outbreaks.
- An action plan for the implementation of a regional network structure, including preconditions, has been prepared.

The Ministry of Health, Welfare and Sport will indicate which public responsibilities are placed at a regional and a national level; once the working groups advise on this matter.

- In 2016, agreements are in place on the manner in which these results can be made transparent. The working group on network structures will submit a proposal to this end.

The following results will have been achieved in 2018:

- By 2018, there are about 10 well functioning networks[4], jointly providing national coverage (with an integrated approach to antibiotic resistance from public healthcare, primary, secondary and tertiary healthcare) The networks function on the basis of a performance profile (endorsed by the field).
- There is national coordination by an organisation to be assigned [the working group on network structures will advise on this] for rapid exchange of knowledge on new resistance forms and best practices on a national level.
- Administrators from primary, secondary and tertiary institutions commit to the regional network working method.
- Starting from 2018, agreements on transparency will make that differences in variation in practice between the various regions will become visible.
- The knowledge level on infection prevention and antibiotic resistance of physicians/nurses/carers/paramedics will need to be given sufficient attention through training and refresher courses. Infection prevention and prudent use of antibiotics should be included in the curriculum of healthcare education. Training should be provided by an infection prevention expert or other professionals with such knowledge. The working group on network structures will have to advise on how to implement this.

Over the upcoming period, the following international policy will be disseminated

- During the EU presidency, the Minister of Health, Welfare and Sport will ensure political commitment to more robust agreements on surveillance in the human health sector[5], based on the evaluation of the current EU ABR Action Plan.
- In order to prepare and substantiate the EU presidency, business cases will be drawn up of best practices showing the value of human surveillance for infectious disease prevention and prudent antibiotic use in the health sector. Furthermore, results of research conducted by OECD (Organisation for Economic Cooperation and Development) (October) and the World Bank will be used to substantiate future agreements.

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[2] An institution is understood to be a legal person providing healthcare as a core business, an organisational collaboration of national persons providing or organising healthcare as a core business, and a natural person who organises healthcare as a core business, with the exception of institutions providing primary healthcare.

[3] A healthcare provider is understood to be healthcare providers and professionals who offer primary care individually or in collaboration.

[4] Based on existing national network structures in the Netherlands

[5] The details of implementation will be checked with the European Centre for Disease Prevention and Control ECDC.

- Information will be shared on setting up and improving ABR surveillance systems and assistance will be offered (The Netherlands has a good reputation internationally; the Dutch National Institute for Public Health and the Environmental RIVM was recently appointed as WHO Collaborating Centre for ABR surveillance).
- The Dutch policy is actively disseminated to our neighbouring countries, aiming for transparency in the issue of antibiotic resistance.
- The relationship between laboratories and healthcare providers as we have in the Netherlands is a unique selling point. Over the upcoming years, the Ministry of Health, Welfare and Sport will make an effort to communicate this working method to other EU countries and encourage them to take similar measures in order to contain the effects of antibiotic resistance on disease burden and mortality. The European Network to promote Infection Prevention (EUNETIP) can also contribute to this effort.

Re 2: Guideline development

Healthcare-associated infections are among the primary causes of avoidable health damage and mortality in curative care. Research in long-term care is as yet limited in this respect. People should be able to count on high-quality and safe healthcare. Infection prevention and prudent antibiotic use in healthcare are essential priorities. Infection prevention is vital in order to avoid the occurrence and spread of infections with resistant bacteria. A basic principle is that the introduction of a patient with a resistant bacteria may indeed be unavoidable, but that this should not lead to further spread. When antibiotics are used, this should be done as prudently as possible. This requires executable and harmonised.

It is important that the infectious disease control guidelines are constructed in a multidisciplinary manner. This should be stimulated, in order to be able to consider the added value of lab diagnostics when it comes to suspected infections.

The following results will have been achieved in 2016:

- There is a broadly endorsed programme in the field of multidisciplinary guideline development. This plan includes:
    a. an overview of current adequate sector standards and guidelines for hygiene/infection prevention, or prudent antibiotic use and outbreak management[6];
    b. an overview of sectoral standards and guidelines that have priority for amendment or revision;
    c. a proposal for improved scientific substantiation of guidelines in the future and what is needed to achieve this;
    d. an overview of any bottlenecks in practice in the use of guidelines and standards in the various sectors;
    e. a proposal to embed guideline development and financing in organisations. This will include the roles of existing organisations that develop guidelines, such as the Dutch working group on Infection Prevention WIP, the Dutch working group on Antibiotic Policy SWAB, The Dutch Association of Elderly Care Physicians and Social Geriatricians Verenso, and the Dutch College of General Practitioners NHG;
    f. and also a proposal for implementation.
- In 2016, each healthcare institution will have formalised responsibilities for implementation and coordination of antibiotic stewardship, including the implementation of guidelines and standards[7].

[6] Epidemics/outbreaks: when the same resistant bacteria are isolated in two or more patients with an epidemiological link. Source: WIP richtlijn BRMO ziekenhuizen (http://www.rivm.nl/dsresource?objectid=rivmp:46410&type=org&disposition=inline&ns_nc=1)

[7] The Dutch Association of Medical Microbiology NVMM, the Association for Hygiene and Infection Prevention in Healthcare VHIG, and the Dutch Association of Elderly Care Physicians and Social

The following results will have been achieved in 2017:

- Optimal use of antibiotics. Indication, correct dosage and duration of treatment, and adequate balance between empiric prescription and diagnostics are essential in this respect.
- By 2017, the primary guidelines to prevent healthcare-associated infections and transmission of (resistant) bacteria have been updated using the (practise) evidence-based principle where possible.
- By 2017, the guidelines for diagnostic policy with respect to multiresistant bacteria have been updated and embedded in both guideline types.
- By 2017, healthcare providers and healthcare institutions, where possible and where applicable in the specific healthcare field, have developed specific policies to prevent the development of resistance (e.g. by antibiotic stewardship[8]) and the prevention of spread.
- By 2017, each healthcare institution has an outbreak protocol in place outlining specific measures by type of resistant bacterium.
- By 2017, all healthcare institutions have embedded basic infection prevention measures, hand hygiene, cleaning and disinfection and isolation policies in their procedures.
- Administrators from primary, secondary and tertiary healthcare institutions are responsible for the implementation of guidelines and standards, and disseminate them within their institution.
- Using surveillance, national and regional risk factors may be identified, the development of up-to-date evidence-based multidisciplinary guidelines can be continued and improved, contributing to the development and adjustment of policy.

Finally, by 2018, each guideline for hygiene / infection prevention or prudent antibiotic use and resistant bacteria has patient information available clearly outlining what it means to have resistant bacteria (both carriers and the consequences of an infection) /the Dutch websites 'Kiesbeter.nl' and 'Thuisarts.nl' provide information on infection control and antibiotic stewardship. The Dutch Patient Federation NPCF and the (collaborating) guideline organisations will work this out.

Re 3: Monitoring and surveillance

Surveillance requires data standardised on a national level. The available data must be shared effectively. By linking laboratory surveillance with other surveillance sources, and bringing regional data together on a national level, our understanding of the epidemiology and the threats to the public will accelerate and improve. All these data can help to provide effective feedback on a regional and national level on the state of affairs. For infectious disease control, speed (near real-time surveillance) is crucial for the timely identification of imminent outbreaks. Uniform implementation and interpretation of resistant bacteria-related surveillance activities require central coordination. The Centre for Infectious Disease Control (CIb) will be expected to coordinate on a national level.

Envisaged results 2016:

- An inventory of all existing registries encompassing the entire healthcare system is available at the institutional level, regional and national level, plus an overview of gaps.
- An integrated action plan has been prepared outlining required datasets, legal impediments, existing data flows, and current requirements and added value in view of the general goals for public health and curative care. Expertise on resistant bacteria, but also ICT,

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Geriatricians Verenso have developed standards for the required deployment of infection prevention experts to support this policy.

[8] Antibiotic stewardship is an internationally accepted concept of intramural multidisciplinary cooperation to promote the effective use of antibiotics and reduce incorrect use, in order to improve patient outcomes, improve cost efficacy of treatment, and limit the drawbacks of antibiotic use, including resistance.

epidemiology, data processing and dissemination is essential. The action plan is submitted to the Information meeting ('Informatieberaad').

- 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 institutions, municipal health services (GGD) and the many other healthcare providers and laboratory specialists, and are formalised in a covenant. Within institutions, at a regional and national level, the coordinating role to come to binding agreements on surveillance, has special priority. Designating responsibility within institutions for data quality, data sharing, and taking action on the basis of such data.

Envisaged longer-term results:

- Where possible, the development, implementation and coordination of antibiotic stewardship has been embedded in the procedures of all institutions by 2017. The Health Council's recommendation to include preventive antibiotic use in antibiotic stewardship (prophylaxis) will be considered.
- By 2017, all healthcare networks have a protocol in place to document antibiotic use data.
- By 2017, each healthcare institution has a protocol in place for surveillance of resistant bacteria.
- By 2018, 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 and healthcare institutions collaborate in providing consistent and transparent data and requirements made by the network.
- By 2017, all infection outbreaks, irrespective of location (hospital, institutions for long-term care, nursing homes, GGZ [Dutch Association of Mental Health and Addiction Care] institutions and/or healthcare institution) are reported within 24 hours to an organisation to be designated [the network structures working party will advise on this matter]. These agreements will be harmonised with previous agreements (SO-ZI/AMR - a signalling forum which conducts the first assessment of signals ofhospital infections and antimicrobial resistance).
- Antibiotic resistance-related data are accessible to all institutions who are involved with the patient, in compliance with the current privacy laws and regulations.
- Surveillance supports the evaluation of interventions, allowing for provision of international reports for EU and global surveillance. The latter is important as this gives us insight into international benchmarking and the spread of risks/threats.

Re 4: Inspection

Studies by the Healthcare Inspectorate show that compliance with infection prevention guidelines in hospitals and nursing homes requires improvement, but also that rapid improvement is possible. Importantly, improvement should lead to permanent increased awareness and improvement of the quality of healthcare.

Envisaged results in 2016:

- 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.
- IGZ will continue to develop inspection (procedures) for antibiotic resistance for long-term care and primary healthcare.
- In collaboration with the field, IGZ will develop parameters to evaluate outcomes as well.

Re 5: Funding

Public and curative responsibilities are currently intermingled in domains including microbiology and infection prevention; adequate funding is therefore not always assured. Additionally, antibiotic

resistance also includes a number of important preventive tasks, for which the funding source (premiums or Ministry of Public Health, Welfare and Sport budget) is currently unclear. This leads to a number of actions.

Envisaged results in 2016:

- An overview of prevention activities currently not reimbursed by healthcare insurers, such as the deployment of infection prevention experts. Antibiotic stewardship (a national format is being prepared) will include stewardship in nursing homes and primary care, such as triage cultures / cultures of clients admitted to a hospital abroad.
- An overview of public responsibilities that are expected in an effective network and where this is not sufficiently supported at the moment by adequate funding in the system, and also the effects on performing (additional) diagnostics and additional prevention in transmission considering the public interest
- For long-term care, it is clear which additional sources are needed, with agreement on funding of ABR activities.

Envisaged results in 2017:

- Transparent funding system for both public and curative responsibilities

Re 6: Involvement of the public

In addition to institutions and professionals, the public, whether or not as patient or client, have a responsibility in addressing antibiotic resistance. This requires increased awareness, starting with increased knowledge and awareness of prudent antibiotic use and hygiene among the public. Various target groups should be distinguished in this respect.

Envisaged results in 2015:

- In 2015, the public is actively informed about the importance of good hygiene and the ways in which the spread of resistant bacteria can be prevented.
- In 2015, there is communication with the public in general practices, pharmacies and hospital waiting rooms on prudent antibiotic use.

Envisaged results in 2016:

- In 2016, there is communication between professionals and patients (using public awareness toolkits) about what they can do themselves to address antibiotic resistance and why it is important.
- In 2016, the public can find reliable information on websites about (1) how to prevent the spread of highly resistant bacteria, (2) which countries involve risk for certain types of resistant bacteria and the consequences when these diseases are contracted.

Part B - sectoral agreements

In addition to multisector improvements, sectoral improvements are needed also. It should be pointed out here that various programmes were implemented in various sectors in the past, in fields including patient safety and infection prevention. Therefore, starting points differ for the various domains.

<u>Nursing home care</u>

Before 2013, hygiene and infection prevention in nursing homes and long-term care was primarily regarded as a responsibility of professionals and organisations for quality in healthcare. IGZ reports received by members of government were always followed by consultations with the Dutch Association for Residential and Home Care Organisation Actiz and the Dutch Association of Elderly Care Physicians and Social Geriatricians Verenso on the fact that increased administrator

involvement was required. Administrators face extensive changes in healthcare. Not only do expectations in society of this care continue to change, they are also confronted with drastic government-initiated reforms. The IGZ report on the current state of affairs in this respect was submitted to Parliament on 30 April 2015. It would appear that policies in the field of hygiene and resistance were not always given the needed priority. This policy needs to be taken to a higher level, not only in the interest of people staying in these facilities, but also in the public interest. Additional administrator involvement, targeted funding and more action and better results are needed.

End of 2016

- A programme to lift hygiene and infection prevention to a higher level is in place.
- One or two pilots have been initiated to structurally add microbiologic know-how to long-term healthcare; these pilots will generate knowledge on how to do this efficiently and effectively, and on the required preconditions.
- The guidelines on the most prevalent infections are drafted or modified on the basis of the latest insights to prevent resistance, or are in preparation.
- Sector-approved guidelines for outbreak management are in place.
- There is a plan in long-term healthcare institutions to implement the above guidelines and embed their use in institutional procedures.
- There is an action plan to implement and embed over two subsequent years the use of guidelines for the most prevalent infections and outbreak management .
- Studies will be initiated to implement and embed antibiotic stewardship in long-term healthcare.
- Studies will be initiated of (unneeded) use of antibiotics in long-term healthcare, substantiation of empiric treatments and the added value of laboratory tests, enabling more targeted treatments.

End of 2017

- The hygiene and infection prevention programme for nursing homes has been completed.
- The long-term healthcare institutions are accountable for results in this field.
- Nursing homes carry out their role within the regional networks.

<u>Hospitals</u>

To improve and embed the safety of patient care in institutional procedures, a national VMS (safety management system) programme was carried out in the hospital sector in the period 2008-2012. Infection prevention was one of the priorities in this programme, because healthcare-associated infections may lead to prolonged hospitalisation, complications and also unnecessary healthcare expenditures. The programme resulted in a significant reduction of healthcare-related damage and mortality in the sector.

The formulated goals for the two subthemes for infection prevention, namely reducing line sepsis and postoperative wound infections, have not been realised yet. Agreements have now been made with the sector on the realisation of these goals as part of an agreement between administrators concerning medical specialist care.

Various national studies and evaluations have shown that demonstrable improvement of hygiene and infection prevention in the hospitals is required to further increase and embed patient safety in institutional procedures. For that reason, infection prevention is an important priority in the fourth national monitor of healthcare-related damage performed in hospitals. The monitor results are expected by the end of 2017. The focus on transparency of the field and policies will contribute to achieving the envisaged results.

Envisaged results 2015

- In all hospitals, policies on hygiene, sterilisation and disinfection, surveillance, triage screening, isolation and laboratory diagnostics are in place, visible at all levels. The hospital board is aware of this and actively focuses on infection prevention and prescription practice. The Healthcare Inspectorate IGZ actively monitors this.
- As needed, an infection prevention committee is appointed, which has an advisory role.

End of 2016

- A structure must be in place in all hospitals to coordinate and monitor antibiotic stewardship.
- All hospital administrators actively monitor and focus on antibiotic policy, prescription behaviour and policies in the event of outbreaks in their institution; feedback, monitoring and management processes have been formalised. The Healthcare Inspectorate IGZ actively monitors this.
- All hospitals participate in the envisaged regional networks.
- All hospitals participate in the Postoperative Wound Infection Incidents Survey and the Line Sepsis Incidents Survey, as in the Prevention of Hospital Infections by Surveillance PREZIES network.

Primary healthcare

In primary healthcare, the national 'Care for Safety (Zorg voor Veilig)' programme addressed safety risks in primary healthcare, including infection prevention, hygiene and the risks of information transfer. This programme resulted in increased safety awareness and the inclusion of safety themes in practice accreditation, indicator sets and continued medical training in all primary care professional groups. Agreements are made in consultations with primary healthcare administratosr on continued efforts towards and improvement of patient safety.

Envisaged results

- The GPs and other primary healthcare providers participate in regional networks.
- The implementation and embedding of antibiotic stewardship in primary healthcare will be studied. A study will be initiated of (unneeded) use of antibiotics in general practice, substantiation of empiric treatments and the added value of laboratory tests, possibly enabling more targeted treatments.