Integrated Vector Management

Essential Principles and Attributes

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Overview

- Working definition 2001
- Accepted IVM principles
- New and possibly contentious IVM attributes
Working definition 2001

A process of evidence-based decision-making procedures aimed to plan, deliver, monitor and evaluate targeted, cost-effective and sustainable combinations of regulatory and operational vector control measures, with a measurable impact on transmission risks, adhering to the principles of subsidiarity, intersectoriality and partnership.
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Working definition 2001

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Agreed characteristics

• **Cost-effectiveness**

The agreed basis for IVM is the rationale use of limited resources for maximum transmission risk reduction.

Guidelines exist since 1994, but are little used.

Constraints:
Complexities of economic costs (discount rate, opportunity costs, shadow pricing)

Challenge of reaching agreement on the effectiveness indicator (vector parameters, EIR, disease incidence)
Agreed characteristics

- **Intersectoral action and community involvement**

Intersectoral collaboration: loved by all, funded by no-one

The intersectoral action/community involvement continuum: two sides of the same medal

The need for a policy framework for intersectoral action, linked to resources as an incentive

The opportunity costs of community involvement

Subsidiarity
Agreed characteristics

• **Sustainability**

Economic sustainability (is the programme affordable to maintain and further strengthen initial achievements in the medium to long term?)

Sustainability of the resource base (a diminishing arsenal of insecticides, little new development)

Environmental and health impacts of different vector control options

Resilience of measures in situations of natural disaster, humanitarian crisis and civil strife or international conflict
Agreed characteristics

- **Regulation and operation**

Traditionally, vector control programmes have been highly operations-oriented.

There are significant examples of how regulation can contribute to vector control, for example the source reduction regulations for dengue vectors in Singapore and for malaria vectors in Mumbai (Bombay).

Options for regulatory measures for vector control need to be derived from studies of regulation in other environmental health areas (drinking water quality, safe use of wastewater in agriculture, food safety).

Capacity building, including the legal framework, is essential.
Agreed characteristics

- **Evidence-based decision-making process**

The transition needs to be completed from the concept of an all-out battle against a common enemy to a rational approach of balancing our limited resources against the nature and magnitude of vector-borne disease problem, with a vision of what we realistically want to achieve.

The decision-making process has to be iterative, based on epidemiological surveillance and monitoring, evolving opportunities and constraints for intervention options, socio-economic development and ecosystem assessment.
New attributes

- **Ecosystem analysis**

Consider the human community in the context of its local ecosystem

Consider the place of vector species in food webs

Consider scenarios affecting the steady state of the ecosystem

Promote research on vector ecology, and the role of predators and parasites in vector population modulation.
New attributes

• **Health-based targets**

The concept of health-based targets has been developed for example to strengthen drinking water quality management.

Rather than setting rigid guidelines values, it allows for a contextual approach to health risk management.

Applied to IVM it would require local authorities to set an acceptable, but realistic target for the reduction of the vector-borne disease burden and design the IVM approach in order to achieve this target.
New attributes

• **Hierarchical programming**

Programming of IVM in relation to health-based targets should follow incremental steps that follow a basic hierarchy, starting from environmental interventions, through biological and personal protection measures, and with chemical control as the measure of last resort.
Integrated Vector Management

Bridging the gap between IPM and IVM

Oppportunities in the context of agricultural production systems:

Synergies in data collection, risk assessment and management, monitoring

Mutual benefits from enhancement of health for increased agricultural production and from greater food security for a better health status

Joint research and development focus

Sharing mechanisms for community Involvement (Primary Health Care and Farmer Field Schools)
Bridging the gap between IPM and IVM

Constraints and potential conflicts

VBD in other context (urban, forest fringe)

Lack of capacity and skills to maintain an intersectoral dialogue

Incomplete decentralization, in particular decisions over resource allocation

Prevailing economic interests

Genuine technical conflicts of interest between IPM and IVM
Thank you for your kind attention