Checklist for funders

Considerations for general surveillance programs

Quick links to sections:

Program management

Good program management ensures a program runs smoothly, issues are dealt with promptly, the needs of different parties are known and addressed, and different kinds of information are integrated to deliver a program that is sustainable, practical and cost-effective.

Consideration	Details	Guidelines reference	✓/×
Resource a program coordinator (preferably supported by a team)	• This will ensure clear ownership, leadership and coordination of the program. • Paid position(s) help to minimise the risk that vital activities won't be completed in a timely fashion. • A team rather than a single person helps to share the load, develop ideas and maintains momentum if someone leaves.	2.2	☐
Ensure the objectives and scope are well defined	• Consider biosecurity and other legislation; market access requirements; and industry and community priorities when the objective is identified. • Ensure geographical scope and target pests, weeds or diseases (or hosts/vectors) are defined. • Prioritising species can improve cost-effectiveness.	2.3	☐

Overarching funding considerations

Consideration	Details	Guidelines reference	✓/×
Consider being one of many funding sources	• Explore federal, state and local governments, industry bodies, NGOs, business, community groups, grants, levies or 'piggy-back' on existing initiatives. • Allow time and resources for negotiation to determine a suitable funding model. • Value both financial and in-kind resources.	2.4	☐
Understand the cost-effectiveness of the program	• Identify the co-benefits, including understanding the direct and indirect potential/current costs from a pest, weed or disease; or how a program contributes to meeting legislative requirements. • Be realistic about the resources needed, including for maintaining functions and operational costs. See • Appendix 1. Common general surveillance program expenditure items. • Consider all benefits the program delivers, e.g. increased shared responsibility; trust relationships beneficial for other purposes; groups more educated/skilled in biosecurity; etc. • Request progress reports and statistics e.g. numbers of notifications, training activities and memberships, or number of website reads.	2.4.2 - 2.4.4	☐

Ways to get a general surveillance program started

Consideration	Details	Guidelines reference	✓/×
Consider a pilot program	• Remember initiating a program can be time and resource intensive. • Pilots are well placed for: - co-design approaches - starting with willing stakeholders who are easier to engage - enabling flexible approaches, adjusting to stakeholders' needs, and ironing out teething problems - building-up to a practical, cost-effective larger program.	2.5.1	☐

Consideration	Details	Guidelines reference	✓/×
Encourage tapping into existing programs and networks	• Work with their capacity, willingness, motivations and barriers. • Piggy-backing on existing programs have: - potential benefits such as saving resources and capitalising on existing good reputation and exposure - potential risks like a lack of control over program administration, notifiers aren't located where surveillance is needed and being tainted if existing program has a poor reputation.	2.5.2	☐

Allocate considerable time and resources to do less obvious, but important activities

Consideration	Details	Guidelines reference	✓/×
Ensure a program is well aligned with its context (i.e. policy, operational and social environment)	• Alignment may be required for: - existing biosecurity activities, e.g. for eradication or management - government, industry and/or community priorities - established processes, e.g. for identification/diagnosis, privacy and confidentiality, reporting, data management, communication - building capacity or capability, e.g. for existing lab/herbarium staff, data analysts, call centre staff, etc. - gaining support from stakeholders who may show resistance or not appreciate the urgency required. • Contextual factors could include community fads or risky behaviours.	2.6	☐
Ensure different types of knowledge are integrated	• This includes scientific, policy, trade, social sciences, data management, data analysis, active surveillance, local knowledge, etc. • Encourage doing a stakeholder analysis to identify each stakeholder group's knowledge, expected role and characteristics. • Ways to integrate knowledge include direct communication; or working through knowledge brokers.	2.7	☐
Ensure roles and responsibilities are well defined	• This includes developing and maintaining policies and procedures and working with people to accept responsibility for tasks. • Ensure task allocation over time is monitored, e.g. if some roles need to be split or have become redundant. • Address capacity building where needed.	2.8	☐
Support maintaining connectivity throughout the program	• Encourage connections between individuals fulfilling the same function (e.g. notifiers with other notifiers) – to share ideas, discuss common challenges and increase consistency. • Encourage connections between teams/individuals representing different functions (e.g. notifiers with lab staff) – to facilitate trust, mutual understanding and self-organisation.	2.9	☐
Support and contribute to building external networks	• Engage with external agencies/groups if it will add benefit to the program. • Groups may include local governments, government agencies, scientific organisations, industry bodies, community groups, NGOs and supply chain members. • Benefits may include better notifier support; learning from others; more 'eyes and ears'; specimen/sample collection; identifications/diagnosis support; and program promotion.	2.10	☐

Pests, weeds and diseases and their environment

The characteristics of a pest, weed or disease determine whether it is well-placed for general surveillance and shape how the program is best designed.

Consideration	Details	Guidelines reference	✓/×
Invest in understanding the target pest, weed or disease	• This requires experts in the relevant pests, weeds or diseases to provide input into program design, in particular the approach to sampling. • Considerations include: - detectability, including the tools and skills available; recognisability; and likely abundance and distribution - source and spread pathways, including risk zones - environmental factors, e.g. those influencing abundance, detectability, and accessibility of sites - people's attitudes to a pest, weed or disease - safety implications, e.g. poisonous organisms or zoonosis.	3.2 - 3.4	☐
Support the development and use of detection tools and technologies	• These could include traps, lures, eDNA or visual detections.	3.3	☐

Engaging notifiers to monitor and report

Effective engagement is important to gain and maintain support from notifiers. It ensures notifiers build skills to deliver quality notifications that minimise the burden on others in the system. Poor engagement can lead to notifiers dropping out, requiring investment in training new notifiers; and it can damage the reputation of a program.

Ensure effective notifier engagement

Consideration	Details	Guidelines reference	✓/×
Invest in understanding notifiers well	• This includes identifying and monitoring motivations, barriers, capabilities, capacity and perspectives. • Ensure a stakeholder analysis is undertaken if diverse groups are involved.	4.2	☐
Consider resourcing or appointing people to support notifiers	• On-ground people who represent 'trusted friendly faces' to notifiers can strengthen trust and provide support to notifiers. • They can be a source of on-ground intel that can help the program be responsive to on-ground issues. • This role can be done in a paid or volunteer capacity.	4.3	☐
Support the time and effort required for effective engagement	• Effective engagement maximises notifier support, learning, quality reporting and minimises drop out and negative 'word of mouth'. • Effective engagement requires: - incorporating notifier perspectives in program design - ensuring a clear value proposition for notifiers - making participation simple, user-friendly and low cost - targeting groups well placed to support surveillance - dealing with expectations - supporting notifiers in their task - delivering a positive reporting experience - being agile and responsive - engaging with the broader context in mind.	4.4	☐

Consideration	Details	Guidelines reference	✓/×
Ensure all costs related to notifier engagement have been considered/understood	• Engagement with notifiers requires resources to maintain their support (e.g. training, communication). • Notifiers may be subsidised to cover substantial costs (e.g. travel and accommodation expenses for private vets in remote areas). • Notifiers may be paid to contribute (e.g. Indigenous rangers in northern Australia). • Notifiers may co-fund their involvement if they receive direct benefit from participating. • Other potential costs include: - applications, database systems and software packages for analysis to enable efficient notifications and easy interrogation – requires careful design, construction and adaptation to be efficient and well-supported - communication material – e.g. printing and possibly posting, pamphlets, newsletters, training material and calendars or the development of webpages - follow-up communication with notifiers that fits the needs of notifiers and the program.	2.4.3 4.5 4.5.3	☐

Invest in carefully designed reporting avenues

Consideration	Details	Guidelines reference	✓/×
Ensure the reporting avenues meet the notifiers' needs	• Consider allowing more than one reporting avenue to cater for different notifier preferences. • Ensure the reporting burden on notifiers is minimised, e.g. the info requested or the number of steps in an app are minimal. • Encourage co-designing tools such as apps with notifiers. • Ensure reporting tools are thoroughly tested with diverse end-users who will use them in different situations. • Allocate resources to ensure reporting tools can be maintained and updated. • Ensure effective follow-up processes with notifiers are in place to ensure a positive reporting experience.	4.5	☐
Ensure the reporting avenues meet the needs of program staff	• This avoids adding unnecessarily to workloads, e.g. data cleaning, reformatting or follow-up with notifiers. • People in the system who may need to interact with notifiers, e.g. in labs or data managers, may require training to ensure positive interactions.	4.5	☐
Check that the supporting material and information required from notifiers are well considered	• Consider the needs of a program that determine whether and when sample and specimen submissions are required. • Allow time and resources to ensure specimen/sample quality is achieved: - notifiers may require training to prepare specimens/samples - special transport conditions may be needed.	4.5.2	☐

Ensure legislative and duty of care requirements are being met

Consideration	Details	Guidelines reference	✓/×
Invest in legal advice	• Ensure the unique circumstances of each program is being considered, including: - health and safety - e.g. discourage hazardous activities, provide protective equipment	4.6	☐

Consideration	Details	Guidelines reference	✓/×
	- sources of liability - e.g. damage to private property, trespassing resulting in legal costs - privacy and confidentiality - e.g. storage of personal data or use of collected data - intellectual property - e.g. photos, samples/ specimens and data.		

Pest and weed identification and disease diagnosis

Sound identification/diagnosis processes are vital to support the trust placed in general surveillance data. New technological developments offer opportunities to gain information and efficiencies. Processes need to be in place to ensure labs/herbariums can deal with general surveillance notifications, including such as minimising out-of-scope notifications.

Consideration	Details	Guidelines reference	✓/×
Ensure models for resourcing identification/ diagnosis have been well considered	• Identification/ diagnosis may be absorbed within routine government business but capacity needs to be monitored during high reporting periods, and more resources allocated, if needed. • Some NGOs contribute to disease diagnostics, e.g. for wildlife health. • Private companies may be suited to identify ongoing routine notifications and clear large influxes. • Skilled volunteers could identify online notifications, but significant finds are best vetted through a formalised process.	2.4.3	☐
Invest in proactive measures to manage lab/herbarium workloads	• Consider notification numbers and notifier follow-up needed. • Maximise the quality of incoming notifications to minimise reports of non-target species and the need for follow-up by: - training notifiers - developing tools that support quality notifications (e.g. apps that provide information about what to report). • Campaigns encouraging reporting must fit in with lab/ herbarium capacity. • Support triage systems to filter out reports of non-target species.	5.3	☐
Allocate resources to integrate the program into the lab/herbarium's systems	• Such as: - updating policies & procedures or hygiene arrangements - updating staff rosters to adjust workloads and keep track of notifier follow-up - training of and communication with lab/herbarium staff.	5.2 5.4	☐
Invest in finding the optimal identification/ diagnostic approach	• Consider availability and cost-effectiveness of different approaches to meet the program objectives. • Be aware of the trade-off between accuracy, efficiency and cost of different identification and diagnostic methods. • Automated methods can have greater direct costs, but deliver results sooner with less labour than manual methods.	2.4.3 5.3	☐
Maximise the capacity of identification/ diagnostic team	• Invest in new staff and allow for time, training and mentoring to get them up to speed. • Increase staff capabilities so they can be multi-skilled. • Invest in technology, e.g. PCRs and eDNA to speed up identifications/diagnostics.	5.3.3	☐
Invest in maintaining specimen/sample quality	• Support: - notifiers with training on how to choose and prepare specimens/samples if required - notifiers with courier services and special packaging if required to transport and store specimens/samples • storage facilities to maintain the quality of specimens/samples if required.	5.4	☐

Data use design and management

The ways data are collected, verified, transferred, stored, analysed and used have a considerable impact on the effectiveness, timeliness and value of the data.

Invest in well-considered data capture and flow

Consideration	Details	Guidelines reference	✓/×
Ensure data use requirements are well defined	• Primary (e.g. early detection) and secondary (e.g. dissemination of information to interested parties) purposes need to be considered. • Ensure the preferences and requirements of data users are well understood, to maximise the trust they place, and the utility they get from the data.	6.2	☐
Consider funding sampling equipment that can assist with collecting quality data	• Invest in the careful design, construction and adaptation of effective and practical equipment. • Examples include submission kits for livestock samples, settlement arrays for ports, or insect traps for households.	2.4.3	☐
Ensure data capture is well considered	• Ensure the capture of quality data is optimised to prevent wasting resources on data cleaning, reformatting and follow up with notifiers. • Invest in strategies and tools, such as notifier training, reporting tools and triage systems. • Data captured from notifiers must contain all essential information at the least burden.	6.4.1	☐
Ensure data flow is optimised	• Use a data flow analysis to ensure risks are identified and managed and data reaches the desired database/audience(s) in a timely and useful form. • Flow diagrams can help illustrate data flows and communicate weak points, improvement opportunities and the people/teams involved. • Minimise the risk of error, e.g. manual transfer resulting in incomplete or incorrect data.	6.4.2	☐

Invest in well-considered data storage and management

Consideration	Details	Guidelines reference	✓/×
Ensure the data management system is efficient and works for all	• An efficient data management system can save on resources for cleaning or collecting better data, and fixing errors. • Enable consultation with designers, programmers, analysts, users and notifiers when designing/updating a database. • Invest in training, establishing links with other databases, and developing APIs to support data sharing.	6.4.3	☐
Require the suitable storage of data	• Accommodate the space needed, including photos and sudden influxes, e.g. during peak periods or a blitz; and for storing physical samples/specimens. • Use data back-up systems in case servers fail. • Ensure sensitive data (e.g. metadata and locations of pests, weeds or diseases) are securely stored. • Consider data security. Data stored overseas may have less protections than if stored in Australia.	6.4.3	☐

Encourage data use to be maximised

Consideration	Details	Guidelines reference	✓/×
Ensure data analysis capability and capacity are fit for purpose	• Ensure sound data inferences are made by using suitably qualified staff, appropriate methods and software.	6.4.4	☐
Maximise value from the data	• Enable the integration of surveillance data with supplementary data, e.g. climate, soil types, vector spread, population densities. • Consider how demand for data can be strengthened to attract more investment. • Encourage data sharing where possible. • Invest in user-friendly data analysis tools, e.g. to support interactive visualisations, reports and dashboards.	6.4.4	☐

Continual improvement

Monitoring and evaluation (M&E) are key ways to achieve continual improvement by helping to understand how to best spend scarce resources, and to identify and be responsive to issues and opportunities.

Consideration	Details	Guidelines reference	✓/×
Invest in M&E of the program	• Encourage a vision statement and an overview of how activities will lead to intermediate outcomes that will lead to the vision (i.e. a program logic). • M&E related activities may include: - the collection of baseline information to gauge progress - monitoring notifier performance and experiences, e.g. through surveys or focus groups - regular meetings with people throughout the program to reflect on program performance - completing program reviews.	7.2	☐
Be flexible in resource allocation to allow for continual improvement	• For example, be open to change; allow some risk-taking; and allow time to monitor activities and implement changes. • Allow for identifying, monitoring and acting on positive and negative feedback loops, the most limiting factor(s) and leverage points.	7.4	☐
Support risk management	• Fund risk assessments at the start of and throughout the program to prioritise risks on their likelihood and consequences and put measures in place for the highest priority risks.	7.3	☐

An enabling environment

General surveillance programs do not operate in isolation. The broader operating environment could enable or hinder a general surveillance program on various fronts. It is important that broader biosecurity rules and regulations, stakeholder relationships and networks, capability and capacity, and resourcing are designed and supported to facilitate general surveillance programs.

Consideration	Details	Guidelines reference	✓/×
Allocate resources to align a program with relevant broader rules and regulations	• Key considerations include: - international regulation, e.g. market access, biodiversity and one health arrangements - state/territory legislation, e.g. prohibited and/or restricted species or notifiable diseases - existing biosecurity arrangements, e.g. management and response plans and organisational strategic plans.	8.2	☐
Encourage broader initiatives that support positive stakeholder relationships and networks	• This includes broader biosecurity awareness campaigns and co-designed agreements between government and industry. • Create awareness among those implementing biosecurity and other functions that their actions have implications for subsequent engagement with the groups involved.	8.3	☐
Invest in building capacity and capability to support general surveillance	• Contribute to the development of national level coordination relating to general surveillance. • Invest in training and/or increase staff to ensure everyone has the capacity and capability to fulfil their roles. • This may include training for softer skills (e.g. maintaining positive interactions with the public, conflict resolution, negotiation). • Consider developing enabling technologies e.g. to quicken identification/diagnostics and increased capability to meet the rising demand.	8.4	☐
Provide favourable funding with conditions	• For example, the need for flexibility in key deliverables when co-design processes are involved in starting new general surveillance programs.	2.4.3 8.5	☐

Appendix 1. Common general surveillance program expenditure items

Functions

Expenditure item	Considerations / examples	Guidelines reference
Program coordination	• Paid position(s) reduces the risk that vital activities won't be completed in a timely fashion. • Tasks include program administration, representation, monitoring and evaluation.	2.2
Internal stakeholder engagement	• This maintains connectivity throughout the program. • It is often fulfilled by the program coordinator/team.	2.9
External stakeholder engagement	• This builds external networks. • It is often fulfilled by the program coordinator/team.	2.10
Capacity building	• This includes training notifiers, call centre staff and people to use databases. • It may include training in softer skills such as dealing with members of the public, conflict resolution, etc.	4.4.6, 4.5.1, 4.5.2 6.5.3
Triage	• This may be provided by hotline call centre staff, program team, appropriate skilled volunteers, or industry body staff who have trust relationships with farmers.	5.3.3 Table 2
Database management	• This is key to realising program benefits and demonstrating worth. • It is often fulfilled as a paid position with the administrating organisation.	2.4.7
Notifier engagement	• This will gain and maintain their support (e.g. training, communication). • Notifiers may be subsidised to cover substantial costs (e.g. travel and accommodation expenses for private vets in remote areas). • Notifiers may be paid to contribute (e.g. Indigenous rangers in northern Australia). • Notifiers may co-fund their involvement if they receive direct benefit from participating.	Chapter 4, 4.4.2 4.4.4
Identification/ Diagnostics	• This must be adequately resourced to avoid creating a bottle-neck and/or staff burnout and turnover. • It may be absorbed within routine business of government staff but capacity needs to be monitored during high reporting periods, and additional resources allocated, if necessary. • Some NGOs contribute to disease diagnostics, e.g. for wildlife health. • Private companies may be suited to identify ongoing routine notifications and clear large influxes. • Volunteers may be used to identify online notifications, but significant finds need to be vetted through a formalised process. • Be aware of the trade-off between accuracy, efficiency and cost of different identification and diagnostic methods. • Automated methods can have greater direct costs, but deliver results quicker with less labour than manual methods.	5

Operational costs

Expenditure item	Considerations / examples	Guidelines reference
Applications and software packages	• Invest in the careful design, construction and adaptation of applications and software packages to enable efficient notifications.	4.5
Equipment	• Examples include submission kits for livestock samples, settlement arrays for ports, or insect traps for households. • Invest in the careful design, construction and adaptation of effective and practical equipment.	5.2 5.4 6.3
Identification/ diagnostics	• Be aware of the trade-off between accuracy, efficiency and cost of different identification and diagnostic methods. • Automated methods can have greater direct costs, but be less labour intensive compared to more manual methods.	5
Legal advice	• This may be required to ensure that duty of care is fulfilled for participants and the program is not at risk of liability.	4.6
Workshop costs	• Costs could include venue hire and catering for training days and sometimes travel budgets.	
Postage and delivery fees	• Subsidise or cover the cost of sample/specimen submissions (i.e. postage or courier costs) to encourage notifications. • Printed material may incur delivery costs.	4.4.3
Production of communication material	• Material includes pamphlets, newsletters, training material and calendars. • Costs can be avoided by providing resources online.	