Attribute category	Attribute	Relevance to surveillance for freedom	Relevance to surveillance for early detection	Relevance to surveillance for case detection	Relevance to surveillance for prevalence	Relevance to risk-based surveillance	Relevance to economic evaluation	Comment (*)	Impact other attributes (positive correlation)
Effectiveness	Bias	Low	Low	Medium - to ensure effective detection	High - essential to ensure true prevalence estimate				False alarm rate
Effectiveness	Coverage	Low	High	High	Medium - depends on prevalence of disease - high coverge not required to assess prevalence if prevalence high	Not relevant - coverage becomes irrelevant under risk-based surveillance			Precision, robustness, representativeness, sensitivity
Effectiveness	False alarm rate	Low - impacts on cost of surveillance*	Low - impacts on cost of surveillance*	Low - impacts on cost of surveillance*	Low - impacts on cost of surveillance*		High - Higher false alarm rate will increase the cost of the system		Sensitivity, cost
Effectiveness	NPV	High - provides information about confidence in results of surveillance which may be of interest to policy makers*	Medium relevant - estimation of sensitivity sufficient to assess effectiveness	Not relevant - estimation of sensitivity sufficient to assess effectiveness	Not relevant - estimation of sensitivity sufficient to assess effectiveness			*Could be replaced by detection probability/sensitivity estimation	Sensitivity
Effectiveness	PPV	Not relevant - estimation of sensitivity sufficient to assess effectiveness	Not relevant - estimation of sensitivity sufficient to assess effectiveness	Not relevant - estimation of sensitivity sufficient to assess effectiveness	Not relevant - estimation of sensitivity sufficient to assess effectiveness		High - PPV provides information on the uncertainty related to the risk of investment taken in control		Sensitivity
Effectiveness	Precision	Not relevant	Not relevant	Medium- to monitor evolution and effectiveness of conrol	High - ensures precise measure of prevalence and to monitor evolution and effectiveness of conrol				

Effectiveness	Representativeness	High- to ensure freedom in the whole population*	Low- but if coverage high then representativeness is also likely to be high	Medium	High - to ensure unbiased prevalence estimate*	High - but risk based surveillance is by definition not representative?*		*The extent to which the features of the population of interest are reflected by the population included in the surveillance activity; highly relevant for PREV and risk-based to ensure true prevalence estimates	Robustness
Effectiveness	Robustness	Medium - ability to take into account uncertainty	Medium - ability to take into account uncertainty important	Not relevant	Not relevant				Precision
Effectiveness	Sensitivity or detection probability or detection fraction	High - provides essential information on effectiveness (detection probability)*	High - provides essential information on effectiveness*	High - provides essential information on effectiveness (detection fraction)*	High - provides essential information on effectiveness*			*Attributes which provide essential information on the effectiveness of the system; allow to assess other attributes (e.g. bias, precision); quantitative methods are available - STAR attribute	False alarm rate, cost, NPV, PPV
Effectiveness	Timeliness	Medium - it is important to assess the timeliness of FFD surveillance to ensure that the value of the information obtained is maintained over time*	High - essential to detect introductions quickly	High - essential for rapid implementation of interventions to ensure efficacy of control measures	Not relevant			*Freedom aims to determine whether infection is present at a certain point in time but it is important to assess the timeliness of surveillance to ensure that the value of the information obtained is maintained over time, although in most cases where disease is absent early detection surveillance is used in combination with surveillance for freedom demonstration to detect introductions of disease which provides some confidence that the disease free status is maintained over time. The relevance of	Acceptability and engagement

									timeliness also depends on the risk of disease introduction, the rate of spread following introduction and the economic impact of disease.	
Functional	Acceptability and engagement	High - always relevant due to high impact on effectiveness of surveillance especially when a change in surveillance is planned*	High - always relevant due to high impact on effectiveness of surveillance especially when a change in surveillance is planned*	High - always relevant due to high impact on effectiveness of surveillance especially when a change in surveillance is planned*	High - always relevant due to high impact on effectiveness of surveillance especially when a change in surveillance is planned*	High - always relevant due to high impact on effectiveness of surveillance especially when a change in surveillance is planned*			*However there is no need to assess this attribute if the evaluation question is about comparing the technical efficacy of 2 options (ex: sensitivity of laboratory tests)	Sustainability, timeliness, sensitivity
Functional	Availability and sustainability	Medium	High	Medium	High - important when assessing the evolution of disease over time					Acceptability and engagement
Functional	Compatibility	Not relevant	Not relevant	Not relevant	High - essential to ensure sustainability of surveillance and to increase precision of estimate and to reduce cost by making more use of data		High - if you want to reduce the costs, for any surveillance objectives*		*A system with high compatibility will encure less cost to reach the same objective as it could make the use of more data/information	Sustainability, precision, flexibility
Functional	Flexibility	Not relevant	High - for early detection of evolving pathogens especially for zooontic disease and to adapt surveillance for novel strains*	Not relevant	Not relevant				*e.g. AI surveillance set for HPAI H5/H7 need to evolve to detect LPAI H7 (H7N9))	Sustainability, cost

Functional	Multiple hazard						High - if you want to reduce the costs, for any surveillance objectives		Acceptability &engagement , sustainability, cost, flexibility
Functional	Simplicity	Medium	High - will affect the sensitivity and timeliness and therefore the ability of the system to meet its objective	High - will affect the sensitivity and timeliness and therefore the ability of the system to meet its objective	Medium		Medium - simplicity for PREV and Freedom will be important to limit the costs		Acceptability , sustainability, flexibility, timeliness
Functional	SS organisation	High*	High*	High*	High*			*Provides comprehensive understanding of process and organisational and functional aspects which might impact on the effectiveness. Informs recommendations for improvements and corrective actions	All evaluation attributes
value	Cost						High		
Other	Risk-based criteria definition					High			coverage, representativeness, sensitivity, acceptability, cost