

15. Laboratory Reference and Diagnostic Services, and Support for Quality Improvement												
Basic			Developing			Advanced			Leading Edge			
1	2	3	4	5	6	7	8	9	10	11	12	
<b>Strategic Direction</b>	The NPHI's laboratory capacity reflects priorities of funders. The laboratories operate inconsistently, depending on whether equipment is working and reagents and supplies are available.			The NPHI is committed to developing the highest priority public health laboratory capacities and is attempting to find resources to support them.			The NPHI's laboratories figure substantially in its strategic plan. They are critical to the NPHI achieving its public health mission.			The NPHI's plans include strategic investments to ensure that the NPHI and the country's laboratory systems can fulfill current needs and be prepared for the future.		
<b>Systems</b>	Some of the NPHI's laboratories have SOPs for handling and transporting specimens and ensuring timely and quality results, but many do not.			The NPHI has written procedures for sample transport and handling, conducting certain assays, and QA/QC, but they are not always accessed or followed.			The NPHI's laboratories have systems to ensure safe handling and processing of specimens. The NPHI uses a laboratory information management system (LIMS) to track specimens and support data management, but specimens are sometimes lost or information is not entered in the system.			The NPHI's laboratories use cutting-edge design and systems to maximize safety and efficiency. Movement through the lifecycle, from receipt to reporting of results, is efficient. The laboratories' operations are routinely assessed to identify ways to improve efficiency and quality.		
<b>Resources</b>	Instruments are frequently broken, and reagents are often limited. NPHI laboratory staff have skills to run simple assays, but power outages, inadequate instruments and supplies, and other problems limit their ability to produce timely, quality results.			Reagents and other supplies are usually available to test specimens, but shortages sometimes result in delayed testing or loss of specimen quality. The laboratories are slowly accruing new equipment and technologies, but they cannot conduct some tests that are critical for public health.			The laboratory has adequate trained staff, infrastructure, and resources to accurately test most specimens, including in surge situations. Some specialized tests are conducted elsewhere because the NPHI lacks specialized capacities.			The laboratory has adequate infrastructure and resources to handle laboratory work associated with large emergencies without compromising routine work. It can conduct almost any needed test, and has the ability to develop new tests if needed. The NPHI routinely upgrades equipment and helps staff enhance their skills.		
<b>Quality</b>	The NPHI has yet to initiate laboratory improvement processes.			Some NPHI laboratories have initiated SLMTA or other laboratory improvement processes. The quality of test results varies across the NPHI's laboratories.			Most of the NPHI's laboratories have received SLMTA or ISO certification, if appropriate, for consistently implementing strong QA procedures. The NPHI provides training, proficiency testing, technical assistance, or other efforts, to improve quality in key laboratories in the country.			The NPHI is pioneering new laboratory methods that are sometimes adopted by others. Laboratory results are considered "gold standard" both in-country and throughout the world.		
<b>Engagement</b>	The NPHI is establishing relationships with stakeholders who could provide samples or request services.			The NPHI is starting to formalize relationships with stakeholders, including those who could provide samples, and with other laboratories that have additional capacities and expertise.			The NPHI has formalized relationships with key laboratories and clinical facilities throughout the country.			The NPHI provides leadership and support to several in-country and international laboratory networks. Many laboratories and clinical facilities around the world seek to be part of the NPHI's laboratory networks.		
<b>Impact</b>	The NPHI's laboratory results are rarely used for public health purposes because test results are often unreliable.			The NPHI can identify situations where the laboratory's work was helpful, for example, in reference services. However, laboratories outside the NPHI are called on to provide services because of limitations in the NPHI's laboratory capacity and quality.			The NPHI and other organizations throughout the country often use the NPHI's laboratory results to inform public health program and policy decisions. The NPHI's efforts have had demonstrable impact on quality in some laboratories in the country.			The NPHI can quantify the impact of its laboratory efforts, related to diagnostics, surveillance, development and assessment of laboratory tests, and improving laboratory quality in the country and the world.		