

WHO European Region approach to the development of national laboratory systems

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“Better Labs for Better Health”

IHR Capacity Strengthening (ICS)

Preparedness and IHR capacities (PCA)

Health Security Division (HSE)

Why national laboratory systems matter

WHO support links laboratory services to resilient health systems, surveillance and emergency preparedness.

Laboratories are not only places where tests are performed.

They are part of the infrastructure that turns clinical and public-health questions into decisions.

1

Clinical diagnosis and patient management

2

Surveillance and AMR monitoring

3

Outbreak detection and confirmation

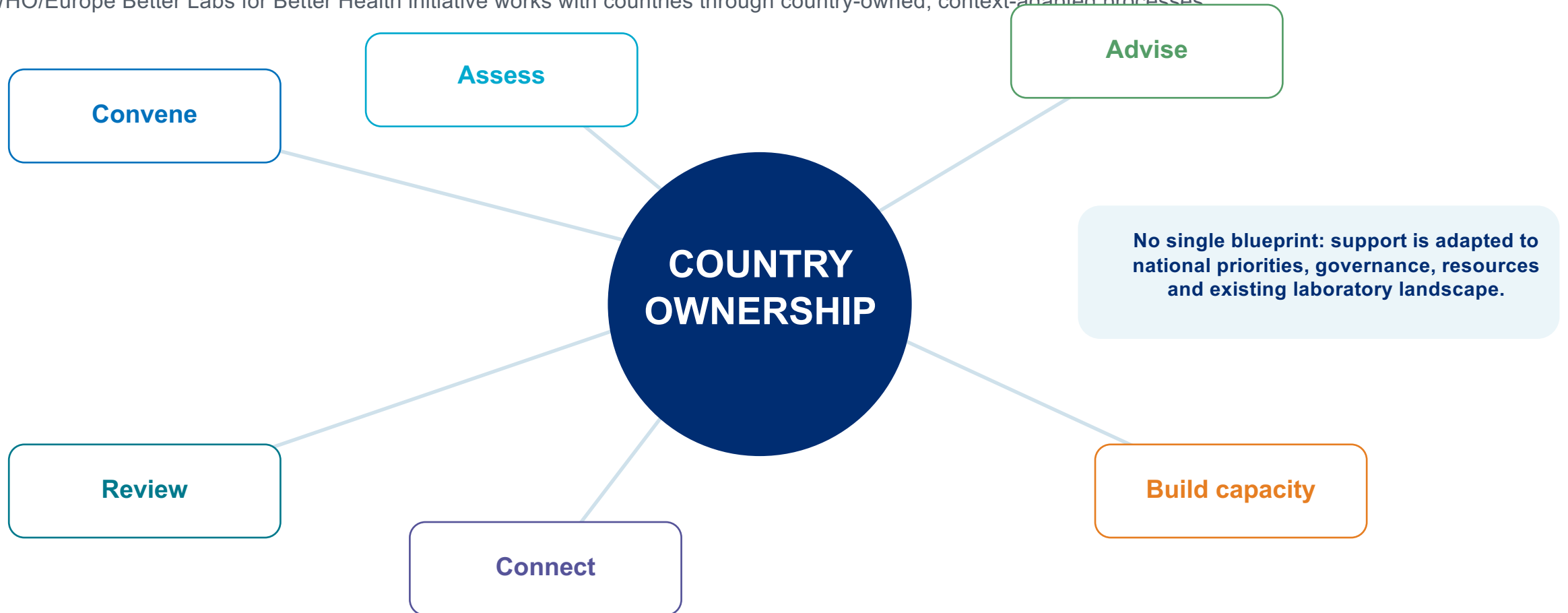
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Emergency preparedness and response

Global and regional priorities: GPW 14 • EPW2 • WHA resolutions • IHR

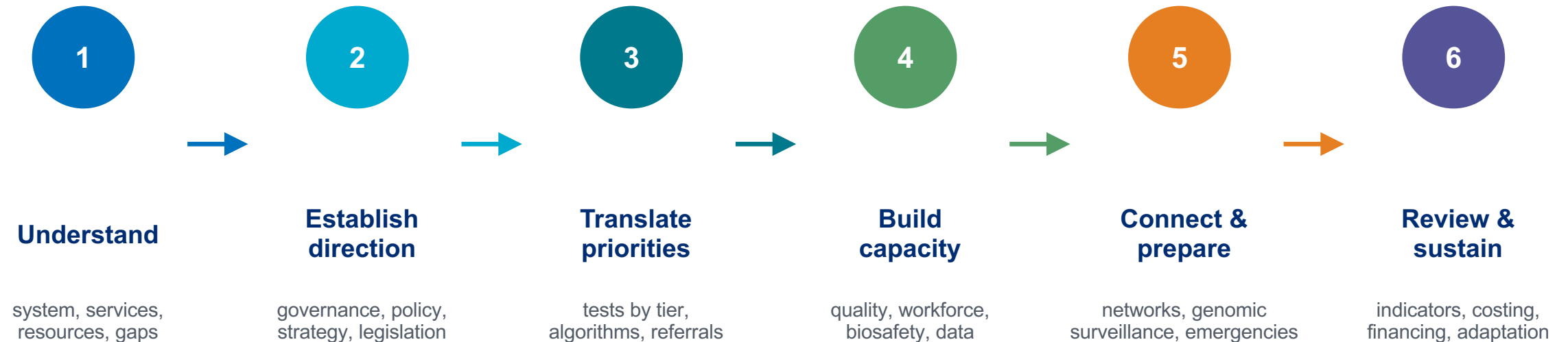
WHO's role: support, not prescription

WHO/Europe Better Labs for Better Health initiative works with countries through country-owned, context-adapted processes



A practical support pathway

Support countries to move from assessment and prioritization to operational capacity and sustainability.



The pathway is iterative: countries may enter at different points and revisit earlier steps as priorities change.

Understanding the system and reform needs

Evidence comes before reform: assessment, mapping and analysis help define what support is needed.

From assumptions to evidence

Support countries to see what is actually functioning, where gaps exist, and what needs to change.

1

Assess laboratories

LAT and targeted facility assessments

2

Map the system

services, tiers, referrals, resources

3

Analyze activity

workload, utilization and cost-effectiveness

4

Assess sustainability

financing, supplies, maintenance, workforce

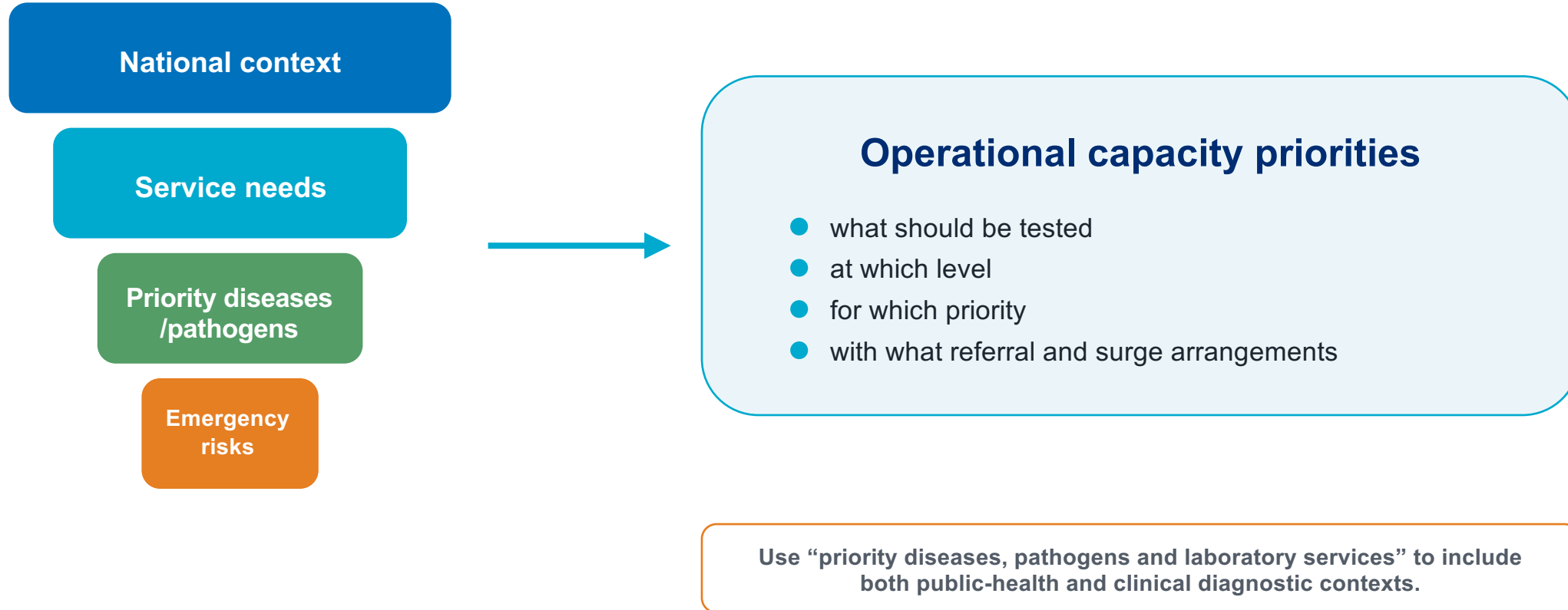
Governance, policy and the enabling environment

Support the national mechanisms that allow laboratory services to be planned, regulated and coordinated.



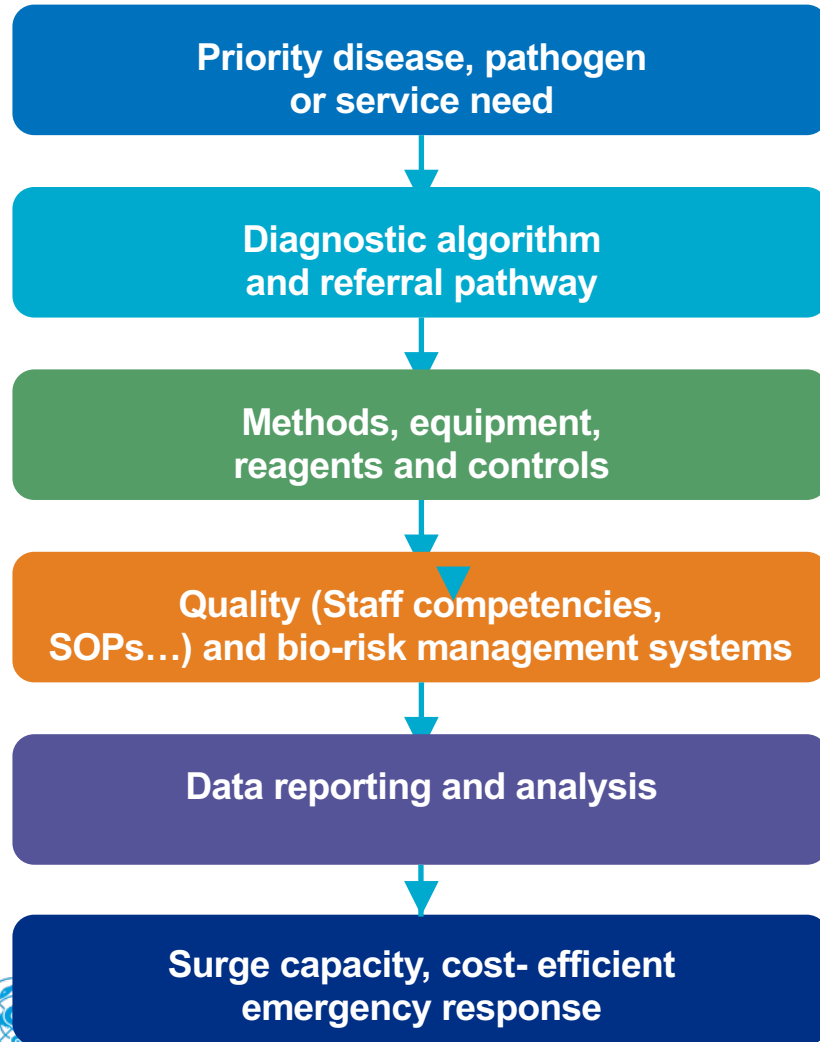
Prioritization as an operational entry point

Use prioritization to help countries move from broad plans to concrete capacity needs.



From priorities to concrete laboratory capacities

A priority becomes useful when it defines what capacity is needed and how it should operate.



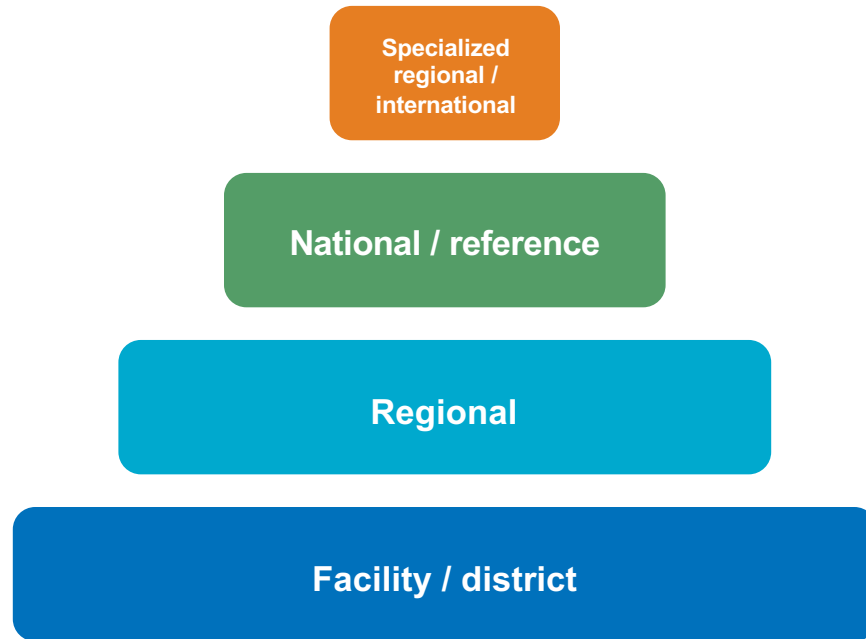
Capacity planning questions

What test?	minimum service or confirmatory capacity
Where?	national, regional, district, facility, private
How?	algorithm, platform, SOP, controls
With whom?	trained staff, mentors, reference support
How sustained?	supplies, maintenance, LIMS, financing

Reviewing tests and algorithms by tier

Support countries in defining what should be tested locally, referred or confirmed.

Tiered service model



Support may include review of:

- list of tests performed per tier
- diagnostic algorithms and flowcharts
- sample referral and confirmation pathways
- reference laboratory functions
- capacity needed routinely and during emergencies

Goal: rational, accessible and coordinated services — not every test everywhere.

Quality and safety

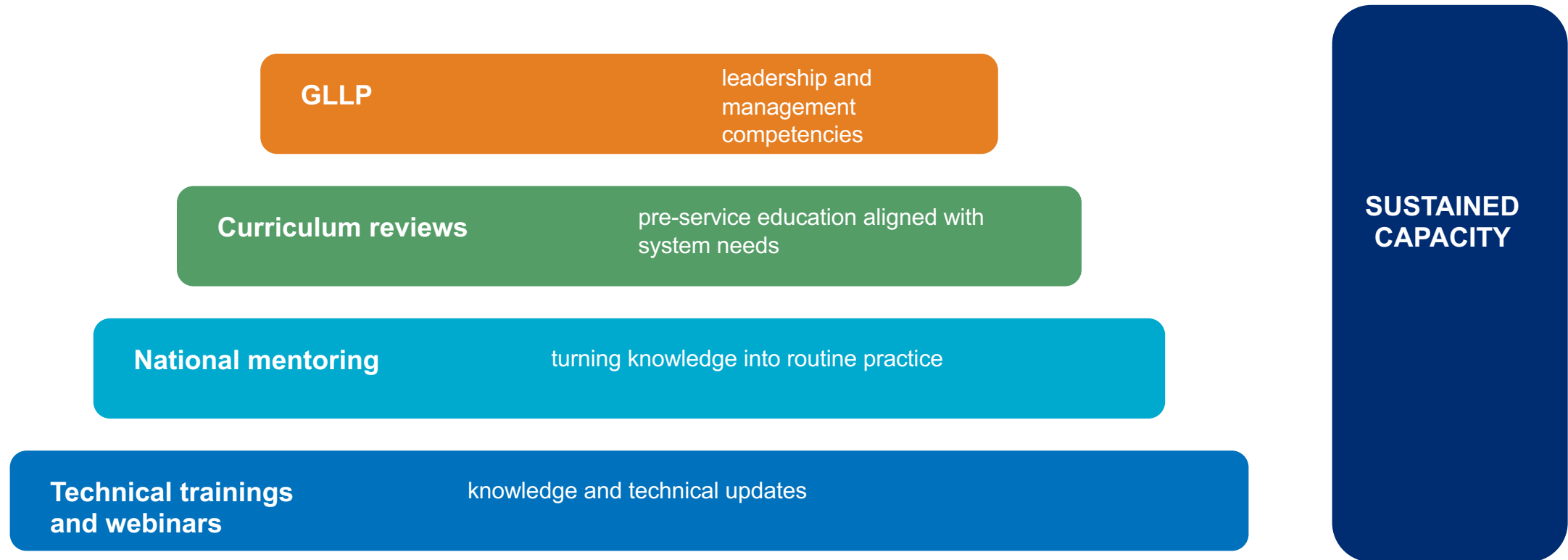
Reliable implementation depends on coherent methods, quality systems and risk-based biosafety.



Harmonization supports comparability, training, maintenance, LIMS interoperability, procurement and network performance.

Sustained workforce and institutional capacity

Support combines training, mentoring, leadership development and curriculum strengthening.



Training transfers knowledge. Mentoring and institutional programmes help sustain change.

Laboratory data, surveillance and genomic capacity

Testing capacity creates value when results are reported, interpreted and used.



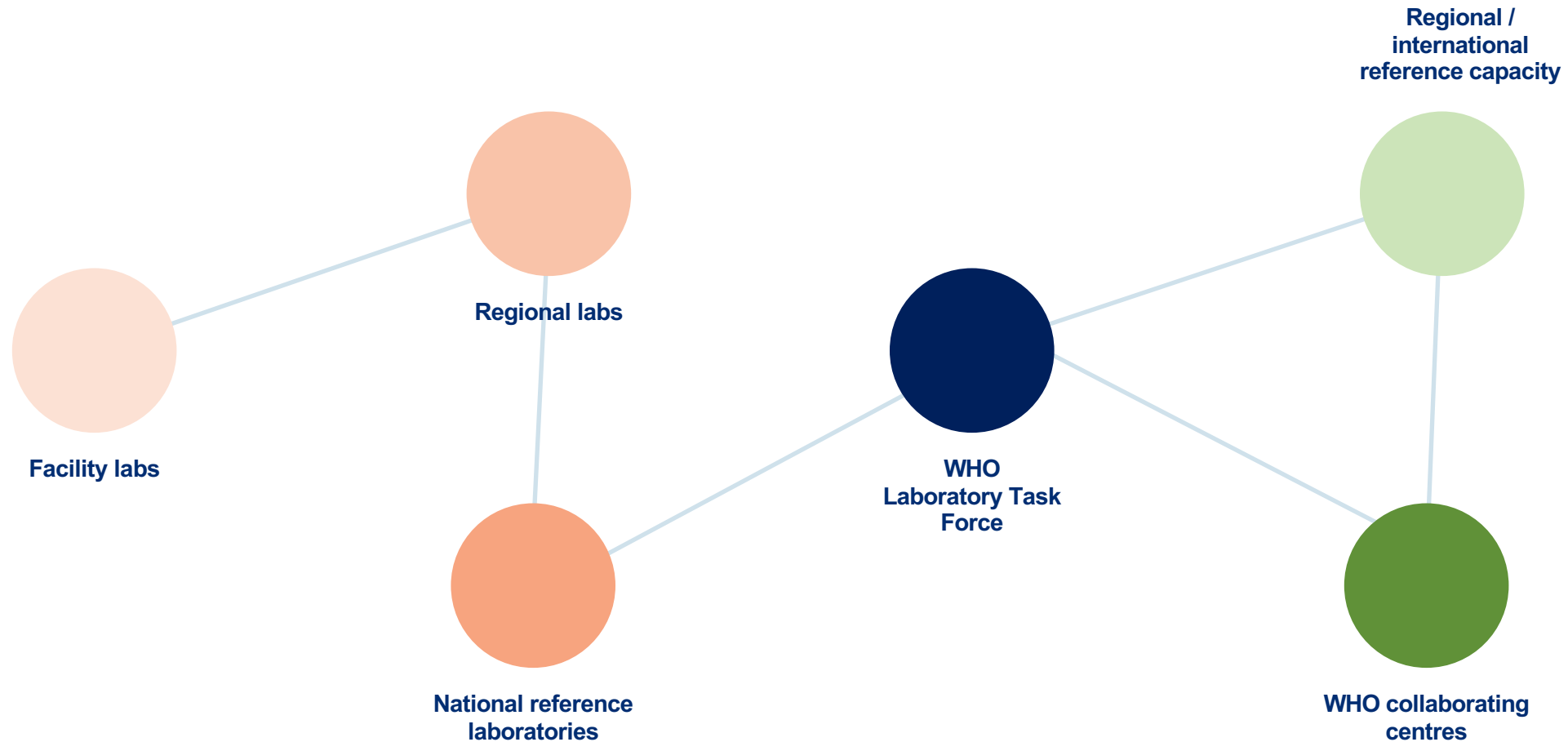
Support may include:

- laboratory data collection and use
- LIMS and surveillance interoperability
- standardized reporting messages
- data sharing across networks and sectors for One Health

Specialized example

National genomic surveillance strategies: sequencing, bioinformatics, referral access and integration of genomic data into surveillance.

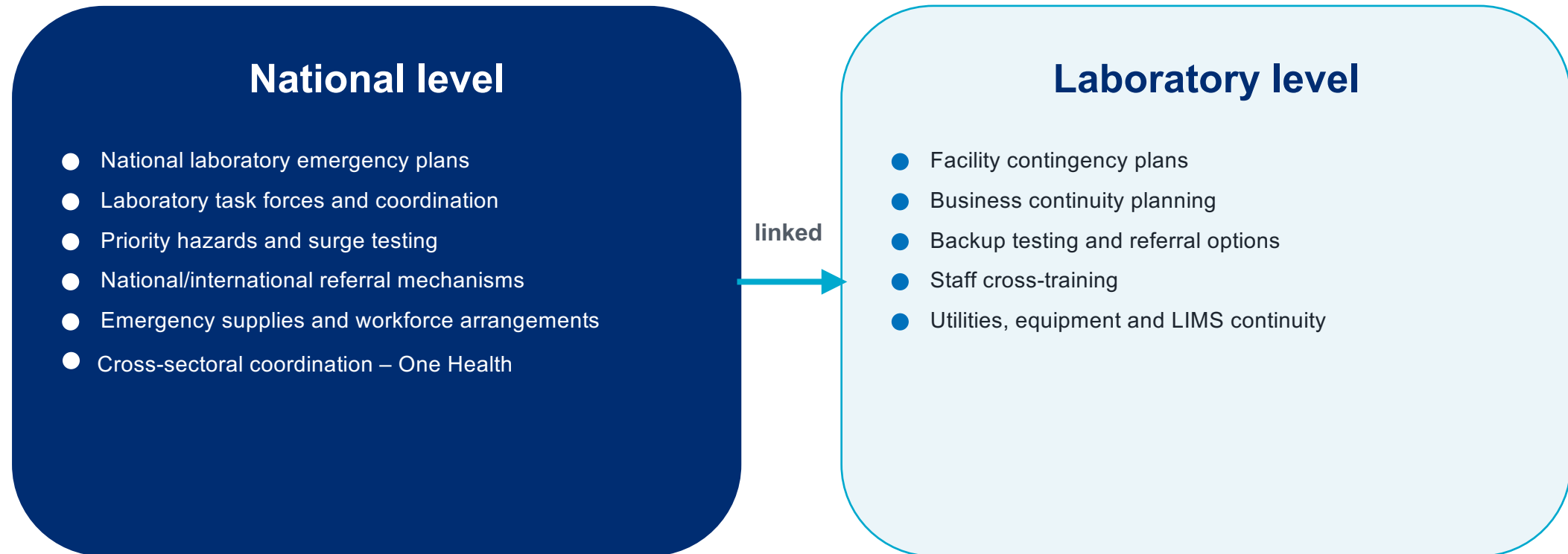
Collaboration ecosystems



A functioning network needs roles, sample flow, data exchange, communication and mechanisms for mutual support.

Emergency preparedness and continuity

WHO support both national-level emergency coordination together with facility-level planning.



Preparedness capacity should be planned before the emergency occurs.

Costing, financing and sustainability

A strategy becomes operational when the required capacity is costed, funded and maintainable.



Cost

Finance

Sustain

Illustrative tools are developed: Laboratory Test Costing Tool • Genomics Costing Tool, second edition • Laboratory Sustainability Tool

Support may include activity analysis, cost-effectiveness review, recurrent cost estimation, procurement and maintenance planning.

Key messages

Support countries move from broad plans to functional laboratory capacity – country ownership.

From policies and priority lists to connected, quality-assured and sustainable laboratory services

Country-adapted

no single blueprint; build on the existing landscape

Operational

priorities become tests, algorithms, tiers and referrals

Reliable

quality, biosafety, workforce and data make capacity trustworthy

Connected

International networks, cross-sectoral collaborations, reference functions and partnerships extend capacity

Sustainable

costing, financing and review keep systems functioning

Better Labs for Better Health supports countries in turning laboratory capacity into reliable national services for clinical care, surveillance and emergency preparedness.

Thank you

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**World Health
Organization**

