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NHMRC Strategic Workshop Report:

Research preparedness for the next pandemic

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NHMRC Strategic Workshop Report: Research preparedness for the next pandemic

Executive Summary

Professor Steve Wesselingh, Chief Executive Officer of the National Health and Medical Research Council (NHMRC), with support from the Australian Centre for Disease Control (CDC), convened senior leaders from government, research, clinical practice, industry and community for a one-day workshop in February 2026 to examine how Australia can be research-ready for the next pandemic. Using a hypothetical 'Disease X' scenario, participants explored research needs across early and later phases of a pandemic, followed by a discussion on developing a roadmap to confidence in research preparedness.

Across all sessions, the core message was that pandemic research preparedness must be treated as a long-term national capability, not an ad hoc response activated only during crises. Participants emphasised that governance, ethics, funding mechanisms, partnerships, data systems and workforce capability must be established and maintained between pandemics, so that research can be mobilised rapidly, credibly and equitably when needed.

Scenario based discussions highlighted that early-phase research priorities focus on rapid evidence generation to inform urgent public health decisions (for example, transmission, severity, risk groups, as well as the effectiveness of vaccines, treatments and public health measures), while later-phase priorities shift towards nuanced risk–benefit analysis of interventions, longer-term impacts on health systems and society, and sustaining public trust in the face of uncertainty, misinformation and fatigue.

Insights shared from scenario-specific discussions were used to guide discussion for a potential roadmap, to inform strategic directions for research preparedness. Central themes included the need for clear national coordination, standing research and surveillance platforms, integrated social, behavioural, economic and biomedical research, strong community engagement, and collaboration across sectors and borders, particularly within the Indo-Pacific region.

The workshop concluded with acknowledgement that progress now depends on moving from discussion to action: clarifying stakeholder roles and governance responsibilities, prioritising a small number of concrete initiatives that delivers value in the interpandemic period while improving surveillance and readiness, and engaging other stakeholders across government, industry, community and international partners, to deliver Australia's pandemic research preparedness agenda together.

Context and Agenda

The NHMRC organised a one-day workshop in February 2026 aimed at examining what needs to be done now to ensure Australia is research-ready for the next pandemic, by identifying key research priorities, strategies and mechanisms. The CDC were highly supportive and involved in the workshop preparations and agenda.

The workshop agenda emphasised a forward-looking approach, refraining from critiquing the COVID-19 pandemic or operational public health responses. The primary focus was on research preparedness during the interpandemic period and addressing research-related needs and strategies for strengthened responses to future pandemic threats.

While community perspectives were included in the workshop, representation from community stakeholders was limited overall, including limited Aboriginal and Torres Strait Islander representation. This is recognised as a key gap and important to address in future engagement.

Participants

The workshop brought together a diverse group of (100) participants representing government policy and regulation, national and jurisdictional public health leadership, clinical and laboratory sciences, vaccinology and clinical trials, biosecurity and One/Planetary Health, ethics and social sciences, industry and innovation, and Aboriginal and Torres Strait Islander health. This breadth of expertise and perspective enabled multidisciplinary discussion spanning research generation, translation, regulation and community impact across all phases of a pandemic.

Agenda

The workshop commenced with presentations from senior leaders across government, research and the community, providing perspectives on pandemic research preparedness from community, policy, health system, and researcher perspectives and setting the scene for the scenario-based discussions that followed.

The agenda was structured to facilitate participant discussion around three linked components:

1. **Early-phase pandemic scenario** – research needs in the initial emergence and response period.
2. **Later-phase pandemic scenario** – research needs once interventions are available but uncertainty, trade-offs and social impacts intensify.
3. **Roadmap discussion** – reflections from scenario insights to help frame Australia's research preparedness needs and strategic directions.

See Appendix for detail about presentations, scenario and themed participant discussion.

Summary of Key Findings: Cross-cutting Themes

Research must be embedded as a core response function

- Participants questioned whether calling activities 'research' unintentionally framed them as discretionary, rather than essential evidence gathering.
- There was strong support for highlighting that research extends beyond evidence generation and public health action, spanning 4 domains: public health research, fundamental virology and immunology, clinical research and product development.
- During the COVID-19 pandemic, research was often deprioritised once operational surge began.

Ethics, governance and funding pathways must be pre-authorised

Participants identified ethics and governance approval frameworks as major friction points in early response.

Consistent issues raised:

- Ethics approvals and data-sharing agreements were seen as too slow and inconsistent across jurisdictions.
- Strong support for pre-approved protocols, platform trials, and consent models developed in 'peacetime' (the UK model of dormant but ready-to-activate protocols executed by existing research platforms and clinical trial networks was cited as a useful comparator).

National coordination mechanisms are unclear and underdeveloped

A dominant and unresolved theme was who coordinates research, and how.

Observed tensions:

- Strong expectation of national coordination, but no clarity on leadership between NHMRC, CDC, Medical Research Future Fund (MRFF), States/Territories, and other bodies.
- Reliance on informal networks rather than formalised structures.
- Concern that competition for funding and recognition, as well as political imperatives that do not serve the national best interest, undermines collaboration during emergencies.

Data infrastructure and sharing remain major bottlenecks

Data readiness was considered as foundational in all workshop sessions with recurring discussion noting:

- Fragmented clinical, pathology, surveillance and EMR data limited rapid analysis.
- Support for pathogen-agnostic surveillance, genomics, wastewater surveillance and AI-enabled synthesis.
- Data sharing between public and private systems was repeatedly identified as weak.
- Delays in data equals delays in policy decisions.
- Poor data flow erodes public trust and fuels misinformation.
- One/Planetary Health data flows (including humans, animals and environment) are limited and comprehensive health surveillance is poorly developed.

Summary of Key Findings: Cross-cutting Themes

Workforce capacity, surge and role clarity are insufficient

Workforce issues cut across all discussion.

Concerns raised:

- Limited surge capacity and over-reliance on a small pool of experts. Need to build a larger (and younger) pool of well-informed experts with national representation.
- Opportunity cost of pulling researchers into operations, hollowing out research capacity at the critical moment.
- Vulnerability of paediatric, intensive care and specialist workforces.
- Role and contribution of industry and existing partnerships to support the research workforce in pandemic preparedness.

Trust, communication and behavioural research are central, not peripheral

One of the strongest themes that have emerged post COVID-19 was trust.

Consistent messages:

- Behavioural and social research was seen as under-resourced but critical, particularly for vaccination uptake and risk communication.
- Participants stressed the importance of understanding *who* people trust, not just *what* information is shared.
- Vaccine hesitancy, fatigue, and misinformation were considered as predictable and researchable phenomena, not surprises.

Themes from Scenario Discussions

Early-Phase Pandemic

Participants agreed that the early phase of a pandemic is characterised by high uncertainty and urgent decision-making, placing a premium on rapid, coordinated research.

Priority research needs identified included:

- **Surveillance and epidemiology:** Early, nationally coordinated data to understand transmissibility, severity, case fatality, risk groups, reinfection, and potential non-human reservoirs, using a One Health lens.
- **Virology and pathogenesis:** research to understand the virus, disease, genetics, pathogen evolution, and interventional studies to understand mechanism of action for example, how viral transmission versus disease severity informs intervention strategy.
- **Diagnostics and data linkage:** Pathogen-agnostic diagnostics, genomic surveillance and novel diagnostics, serological studies, and rapid data linkage across jurisdictions to close early evidence gaps.
- **Treatment and prevention**
- **Research governance and ethics:** Pre-approved or rapidly activated national ethics processes and protocols to enable immediate research commencement without compromising trust.
- **Standing research platforms:** Existing research platforms, new clinical trials, observational cohorts and other data platforms capable of pivoting quickly to a novel pathogen.
- **Community engagement and trust:** Two-way engagement from pandemic outset, particularly with Aboriginal and Torres Strait Islander communities and culturally and linguistically diverse populations, to build legitimacy and inform research priorities early.

A strong theme was that many early-phase failures are preventable if national systems are built and maintained in advance, rather than improvised during crisis.

Later-Phase Pandemic

In the later phase, disruptions, by way of new information about interventions (for example, vaccines or antivirals with limited effectiveness or adverse effects) were introduced, shifting research priorities from speed to nuance and judgement.

Key themes included:

- **Risk–benefit analysis and considerations across populations:** Research to understand differential impacts of interventions by age, risk group, geography and social context, informing targeted rather than blanket approaches. Expanded modelling that includes the economic and social impacts of public health interventions.
- **Adaptive trials and real-world evidence:** Ongoing adaptive clinical trials, post-market surveillance and data linkage to refine guidance as evidence evolves.
- **Social, behavioural and communication research:** Understanding changing public sentiment, drivers of hesitancy, access barriers, and trusted messengers; improving communication of uncertainty and evolving evidence.
- **Misinformation and disinformation:** Recognition that misinformation, amplified by digital platforms and artificial intelligence (AI), can undermine even strong scientific responses, requiring dedicated research and ongoing mitigation strategies.
- **Health system and workforce impacts:** Research into impacts across the full health system (primary care to intensive care), workforce sustainability, and ethical considerations for healthcare workers.
- **Regional and global dimensions:** Collaboration with neighbouring countries to address shared risks, support equitable access, and strengthen regional research capacity. Participants emphasised that later-phase decisions are as much social and ethical as biomedical, and that preparedness must integrate these dimensions from the start.

Roadmap Discussion: Towards Confidence in Research Preparedness

Drawing on discussions and insights reported in earlier sessions, participants had an open discussion on what a roadmap for strengthened research preparedness should include and called for a range of strategic efforts and actions/directions.

Core Strategic Directions

1. **Preparedness as a Long-Term National Capability**
   Pandemic research preparedness should be continuously funded, governed and evaluated between pandemics, rather than treated as an emergency add-on.
2. **Clear National Coordination and Governance**
   Stronger, enduring coordination is required across CDC, NHMRC, Australian Research Council (ARC), MRFF, National Collaborative Research Infrastructure Strategy (NCRIS), jurisdictions and other portfolios such as Department of Foreign Affairs and Trade (DFAT) and Department of Defence for regional preparedness and health security. Central coordination should reduce duplication, clarify roles and support rapid mobilisation.
3. **Sovereign Capability and Industry Involvement**
   Strengthen sovereign capability through deeper industry partnership in the development and manufacture of next-generation diagnostics, vaccines and therapeutics.
4. **Standing Research and Surveillance Platforms**
   Investment in platforms (clinical trials, observational studies, surveillance, data linkage) that can be rapidly activated and adapted to new threats.
5. **Integrated Data, Infrastructure and Capability**
   Addressing barriers to data and material sharing; strengthening computational and analytic capability; and mapping national strengths, gaps and dependencies.
6. **Embedding Trust, Equity and Community engagement**
   First Nations leadership, culturally appropriate engagement, and sustained community partnerships are essential to both research effectiveness and public confidence.
7. **Broadening the Evidence Base**
   Integrating biomedical research with social, behavioural, economic and ethical research to support balanced decision-making. Also expanded pandemic modelling approaches that are rigorous and transparent.
8. **Workforce Capacity and Institutional Memory**
   Recognising pandemic expertise as a strategic asset and investing to retain and develop it across disciplines.
9. **Collaboration Beyond Health**
   Stronger engagement with industry, education, finance, defence, media and international partners, particularly within the region. Better linkage with animal and environmental health under the One/Planetary Health umbrella.

Participants: Proposed Next Steps

Immediate (System-Readiness Actions)

- Establish a cross-agency coordination mechanism to clarify roles and priorities for pandemic research preparedness.
- Identify and prioritise a small number of concrete initiatives (for example, standing platforms or test exercises) to stress-test governance, ethics and data systems.
- Consolidate existing capability mapping and explore scope for linkage with existing State/Territory investment, to avoid duplication and focus investment.

Medium Term (Capability Building)

- Develop and fund standing research platforms spanning biomedical, social and behavioural sciences.
- Strengthen data governance frameworks, especially between states and territories, including genomic and linked health data, unrestricted pathogen access and sharing with clear custodianship and community input.
- Invest in workforce development, particularly in social science, data science, ethics and communication.

Engagement with Other Stakeholders

- **Government:** Engage Treasury, Finance and non-health portfolios to embed economic and societal considerations.
- **Industry:** Strengthen partnerships across the product development pipeline (diagnostics, therapeutics, vaccines).
- **Community and Consumers:** Formalise roles for consumers and communities in research design and governance.
- **One/Planetary Health partners:** Explore linkages with Commonwealth Scientific and Industrial Research Organisation (CSIRO), ARC, primary industry and environmental surveillance agencies.
- **Regional and International Partners:** Expand bilateral and multilateral collaboration to strengthen regional preparedness and mutual benefit.

Conclusion

Overall, the workshop demonstrated strong consensus that Australia has significant expertise and capability, but that confidence in pandemic research preparedness will depend on purposeful coordination, sustained investment and inclusive governance. The scenario activity provided a practical lens to consider current arrangements, while the roadmap discussion highlighted the importance of shared action now, between pandemics, to ensure Australia has a forward path to be research-ready to provide the best possible scientific evidence, at the right time, for the right decisions.

Appendix: Summary of presentations and participant discussion

Workshop convenor and facilitator

Professor Steve Wesselingh
Chief Executive Officer, National Health and Medical Research Council

Presenters

Ms Ainslie Cahill AM
Chair, NHMRC-MRFF Consumer Advisory Group

Professor Michael Kidd AO
Chief Medical Officer of Australia, Australian Department of Health, Disability and Ageing

Dr Kerry Chant AO PSM
Chief Health Officer, NSW Health

Mr Paul McCormack
Acting Director-General, Australian Centre for Disease Control

Professor Sharon Lewin AO
Director, The Peter Doherty Institute for Infection and immunity

Presenters discussed pandemic research preparedness from the community, national, jurisdictional and research system perspectives, drawing on lessons from COVID-19 including reflections on research and capacity gaps, challenges for the research sector and policy makers, national and jurisdictional strengths to be leveraged and emphasising the critical role of community engagement, timely, coordinated and trusted evidence in informing decision-making under conditions of uncertainty, and the need for strong mechanisms to translate research into policy and practice.

Several presentations highlighted the importance of national coordination and system capability, including surveillance, data sharing, modelling, and evidence synthesis, and the role of the recently established Australian Centre for Disease Control (CDC) in strengthening connections between research, policy and public communication.

From the research perspective, speakers described pandemic preparedness as spanning the full research ecosystem, including public health, clinical, translational and fundamental research, as well as product development and manufacturing. They identified the need for harmonised pre-established platforms, partnerships and funding mechanisms that can be rapidly activated, scaled and sustained across different phases of a pandemic.

Across presentations, there was strong emphasis on equity, community engagement and trust, noting that research priorities, data systems and public health responses must account for differential impacts across populations, including First Nations communities and other groups at increased risk. Presenters also highlighted the ongoing tension between timeliness and rigour in emergency research, underscoring the value of preparedness activities undertaken in the inter-pandemic period.

Scenario sessions

Workshop discussions were structured around a staged, hypothetical pandemic scenario ('*Disease X*'), designed as a reasonable worst-case example of an emerging pathogen with pandemic potential. The scenario was introduced and revisited across the day to support consideration of research priorities and changing/simulated circumstances at different points in the early and later phases of a pandemic.

Context

The **early-phase** scenario was set shortly after the declaration of a Communicable Disease Incident of National Significance (CDINS) and a World Health Organization Public Health Emergency of International Concern. *Disease X* was described as a novel, highly infectious respiratory pathogen emerging in northern Australia, spreading domestically and to neighbouring countries, with transmission characteristics initially uncertain. Clinical severity ranged from mild illness to severe disease in vulnerable populations, with a proportion of cases requiring hospitalisation and intensive care. At this stage, key uncertainties included transmission dynamics, clinical spectrum, and immediate research gaps relevant to public health and clinical decision-making.

The **later-phase** scenario, introduced as an update approximately six months into the pandemic, reflected widespread transmission despite border measures, with international spill-over continuing. By this point, additional evidence on disease severity, case fatality, and neurological complications was available, alongside the emergence of candidate antivirals and vaccines with known but uncommon serious adverse effects. The scenario incorporated challenges associated with vaccine development timelines, public confidence, and risk–benefit trade-offs, prompting discussion of how research priorities, coordination mechanisms, and engagement with policy-makers, health services, and communities may evolve over time.

Together, the early and later phases were used to provide a consistent, shared frame for examining Australia's research preparedness needs across the course of a pandemic, from initial detection and response through to longer term management and recovery.

Early-phase: themed discussion

Summary

The workshop discussions highlighted the need to strengthen Australia's inter-pandemic preparedness through durable governance, faster ethics and research mobilisation pathways, and better integration across human, animal, and environmental health. Participants also emphasised that community trust, equitable engagement, and genuine regional partnerships are not 'add-ons' but determinants of operational effectiveness. Differing views emerged on the degree of centralisation required (national command-and-control versus federated, context-specific arrangements), and on the optimal balance between rapid response (speed, pre-approval, contract funding) and safeguards (ethics, legislative compliance, sovereignty and data/material custodianship).

Thematic findings

1. One Health integration and regional partnerships

Participants argued that pandemic preparedness is weakened when 'One Health' is treated as rhetoric rather than capability, particularly given the likelihood that novel pathogens emerge from animal reservoirs and ecological interfaces. The discussion connected domestic preparedness with external relationships: regional and First Nations partnerships were framed as essential to early detection, legitimacy, and sustained implementation (not merely consultation). A critical tension surfaced between extractive models of collaboration (research conducted primarily for Australian benefit) and reciprocal partnerships that share decision-making, data benefits, and long-term capacity building.

- **Operationalising One Health expertise:** Ensure animal health and ecosystem health specialists are embedded in preparedness and response structures, with clear authority to inform surveillance and countermeasure priorities.
- **Scalable investigations of vectors and hosts:** Pre-plan surge pathways to rapidly scale field and laboratory investigations into potential vectors/hosts, including access to sampling, animal models, and specialist networks.
- **Genuine regional partnerships:** Build standing partnerships with New Guinea, Timor-Leste, Indonesia, and Pacific nations that support joint preparedness objectives and equitable benefit sharing, rather than episodic research engagement.
- **Aboriginal and Torres Strait Islander leadership:** Invest in Aboriginal and Torres Strait Islander-led preparedness, including leadership structures and resourcing in jurisdictions, recognising distinct governance, kinship, and language contexts.

Early-phase: themed discussion

2. Governance, ethics, and research coordination

Participants agreed that fragmented governance and delays in ethics and data approvals significantly reduce the speed and quality of research and operational decision-making in a crisis.

However, participants differed on the solution. Some advocated stronger national coordination (including a central ethics mechanism and a national capability 'dashboard'), while others cautioned that overly centralised models may fail to reflect jurisdictional realities, platform-specific needs, and international partner sovereignty. The most robust approach proposed was a 'pre-negotiated federation': nationally consistent rules and pathways, combined with delegated decision rights and clearly defined triggers for escalation during emergencies.

- **Early governance and ethics mechanisms:** Establish in advance the governance and ethics pathways for rapid protocol approval and data/material sharing, including arrangements with international partners (for example, Indonesia) that respect local approvals and custodianship.
- **National capability mapping ('who knows what'):** Maintain an up-to-date map of research and response capabilities (expertise, platforms, labs, clinical networks) to support rapid tasking and reduce duplication.
- **Pre-approved protocols and master templates:** Develop master research and clinical trial protocols that can be rapidly activated and adapted without re-starting governance processes.
- **Clarifying agency roles:** Define how CDC, NHMRC, MRFF, ARC, and related entities would jointly mobilise, prioritise, and fund research during emergencies, including whether a national ethics committee operating under emergency protocols is required.

3. Research preparedness and rapid response (surveillance, platforms, and funding)

Participants emphasised that 'speed' is a function of pre-existing infrastructure: integrated surveillance, standing platforms, and financing mechanisms that can be activated immediately. A recurring criticism was that competitive funding and bespoke protocol design are poorly matched to the early phase of a pandemic, where time-to-start is decisive. At the same time, participants noted that rapid mobilisation can create blind spots (for example, narrow endpoint choices, limited representativeness, or insufficient community input). Discussion pointed to the value of readiness investments that improve speed without trading off quality, such as pre-agreed platforms, transparent prioritisation criteria, and governance that protects scientific independence while enabling rapid tasking.

- **Embedded, integrated surveillance:** Strengthen integrated surveillance (including genomics) with agreed pathways for sharing data and specimens across laboratories to support early detection and variant tracking.
- **Standing research platforms:** Establish standing research platforms and networks that can pivot to new threats while maintaining quality assurance, interoperability, and national coverage.
- **Rapid funding models:** Use contract or commissioned funding in the earliest phase of a pandemic to mobilise priority capabilities quickly, with a planned transition to competitive grant schemes once objectives and evidence gaps stabilise.
- **Technical and legislative friction points:** Address constraints in computational infrastructure and streamline legislative/regulatory requirements (for example, diagnostics, animal models, tissue access) to reduce avoidable delays.

Early-phase: themed discussion

4. Community engagement, communication, and legitimacy

Reports from group discussions considered communication as an operational capability rather than a media function. Two-way engagement was framed as necessary for uptake of public health measures, participation in research, and prevention of stigma. Participants also highlighted that 'community' is not homogeneous; trusted messengers, language, and governance differ across First Nations communities and culturally and linguistically diverse groups. A key point of nuance was that rapid centralised messaging can improve consistency but can also undermine trust if it fails to adapt to local contexts. This discussion pointed toward layered communication models – national transparency paired with locally led translation, feedback loops, and shared decision-making.

- **Community consultation networks:** Map and partner with existing community consultation networks to enable two-way dialogue (not one-way messaging) between researchers, public health agencies, and communities.
- **First Nations language, kinship, and governance:** Design engagement and research approaches that reflect language needs and kinship structures, including consideration of a First Nations technical body to guide preparedness decisions.
- **Stigma, mental health, and unintended impacts:** Anticipate and monitor stigma and mental health impacts (including on children), and evaluate interventions (for example, school closures) for proportionality and downstream harms.
- **Public knowledge and agency:** Strengthen public-facing education that supports informed participation and agency, including clarity on uncertainty and trade-offs in decision-making.

5. Funding models and industry–regulator collaboration

Industry-focused discussions highlighted that market incentives do not align with low-probability/high-impact scenarios noting that without pre-committed public funding and clearer demand signals, private investment may be insufficient for rapid scale-up. Participants also argued that coordination must extend beyond funding into regulatory alignment, endpoint standardisation, and technology transfer pathways. A point of difference concerned the extent to which government should direct product priorities versus enabling flexible, portfolio-based approaches. A more nuanced view was that direction is most valuable where interoperability and standards are required (for example, trial endpoints, reference materials), while diversity is beneficial where innovation and redundancy reduce single-point failure.

- **Public funding where markets fail:** Establish pre-defined mechanisms for government funding of R&D and deployment when private investment is unlikely (including manufacturing readiness and supply chain assurance).
- **Pooled and coordinated funding:** Explore pooled funding across NHMRC, MRFF, ARC, industry, and philanthropy with rapid deployment rules, transparent governance, and accountability for timeliness and relevance of advice.
- **Industry–regulator–researcher alignment:** Pre-align on clinical trial endpoints, animal models, and evidence standards to reduce delays and rework during countermeasure development.
- **End-to-end product capability mapping:** Map national capabilities and gaps across discovery, diagnostics, manufacturing, and technology transfer to inform targeted readiness investments.

Early-phase: themed discussion

6. Health system and workforce readiness (equity and sustainability)

Workforce capacity was discussed as both a bottleneck and a risk exposure. Discussion included that surge models often assume that staff can simply be redeployed, yet sustained crises erode capacity through fatigue, infection risk, and competing care demands. Participants highlighted particular vulnerabilities in rural and remote settings, where baseline staffing is lower and service access is more fragile. An issue raised was the interaction between operational pressures and research participation; healthcare workers may be essential to specimen collection and trials though may reasonably decline if protections and support are inadequate, suggesting preparedness must factor workforce safety, logistics, and research enablement as interdependent rather than separate workstreams.

- **Surge capacity and infection control:** Plan for surge capacity across jurisdictions, with clear infection control standards and mechanisms to sustain services in rural and remote areas.
- **Workforce gaps and training:** Address shortages in epidemiology, modelling/mathematics, and other critical disciplines through training pipelines and transdisciplinary workforce development.
- **Healthcare worker protection and participation:** Strengthen protections (including for household transmission risk) and support arrangements to enable workforce willingness to engage in care delivery and research activities.
- **Integrated system response:** Strengthen integration across primary care, hospital systems, and Aboriginal and Torres Strait Islander health services to support equitable access and consistent operational readiness.

7. Data/material sharing and computational infrastructure

Participants identified data and material sharing as a decisive enabler of both situational awareness and countermeasure development though noted that ‘sharing’ is constrained by infrastructure, legislation, and trust. A recurring theme of discussion was that technical solutions (platforms, pipelines) will underperform without clear rules for custodianship, credit, and permissible use, particularly across jurisdictions and international borders. Discussion also highlighted that computational capacity is now core national infrastructure for outbreak response; without adequate scale and interoperability, even high-quality surveillance data cannot be converted into timely insight.

- **Immediate data and material sharing:** Implement systems and agreements that enable rapid sharing of genomic and laboratory data, as well as specimens/materials, to accelerate early response and countermeasure development.
- **Computational infrastructure investment:** Invest in nationally scalable computing and analytics capability to support surveillance, modelling, and rapid evidence synthesis during emergencies.
- **Legislative harmonisation:** Harmonise interpretations of relevant legislation (for example, Human Tissue Act) and streamline processes with regulators (for example, Therapeutic Goods Administration, Office of the Gene Technology Regulator) to enable timely access to diagnostics and animal models.

Early-phase: themed discussion

8. Inter-pandemic preparedness and readiness exercises

A strong theme was that preparedness must be built and tested in peacetime, because governance and capability cannot be reliably invented under crisis conditions. Participants recommended mapping exercises and long-lived mechanisms, but also noted that mapping alone risks becoming static and performative if not tied to decision rights, funding triggers, and routine drills. A productive suggestion was to treat readiness as measurable performance, using practical exercises (for example, rapid ethics approvals and first-wave testing) to identify bottlenecks and iterate governance arrangements before they are needed.

- **Capability mapping and gap analysis:** Conduct regular mapping to identify gaps, overlaps, and single points of failure across agencies and sectors, and link findings to funded remediation plans.
- **Governance mechanisms:** Establish durable mechanisms for coordination and investment across inter-pandemic and pandemic periods, with defined triggers for escalation and rapid mobilisation.
- **Balancing top-down and contextual governance:** Combine national coordination with platform- or stream-specific arrangements that reflect operational contexts and jurisdictional responsibilities.
- **Readiness demonstrations (fitness-for-purpose):** Run practical exercises (for example, rapid centralised ethics approval and first-wave testing) as KPIs to validate and improve governance and operational pathways.

Participant recommendations/suggested actions

- **Establish a durable governance mechanism for research coordination:** Create a standing, cross-jurisdictional mechanism to coordinate research mobilisation, prioritisation, and funding across inter-pandemic and pandemic periods.
- **Map national research and response capabilities:** Undertake a comprehensive mapping exercise to identify gaps, overlaps, and duplication across surveillance, laboratories, clinical networks, modelling, manufacturing, and community engagement capabilities.
- **Form a priority-setting coordination committee:** Convene a committee with funders, Chief Health Officer/ Chief Scientific Officer representation, jurisdictional leads, and relevant stakeholders to set research priorities and oversee rapid-response pathways.
- **Implement centralised (or mutually recognised) ethics approval pathways:** Develop a centralised approval process and/or mutual recognition arrangements supported by pre-approved master protocols to enable rapid research and clinical trial initiation.
- **Strengthen Chief Scientist Network governance:** Formalise governance and national/international linkages to support multidisciplinary and transdisciplinary activation during health emergencies.
- **Clarify roles of key agencies under shared governance:** Document the roles and decision rights of CDC, NHMRC, MRFF, ARC, and other entities for research prioritisation, funding deployment, and evidence translation during incidents.
- **Test governance fitness through rapid-deployment exercises:** Set measurable readiness KPIs (for example, ability to commence early testing and priority studies nationwide under a rapid ethics pathway) and run regular exercises to identify and fix bottlenecks.

Later-phase: themed discussion

1. Risk–benefit assessment of vaccines and antivirals

Participants emphasised that credible risk–benefit assessment depends on rapidly generated, decision-grade evidence rather than perfect evidence. One view prioritised establishing (or re-activating) adaptive platform trials early, using existing manufacturing capability and international collaborations to broaden the set of interventions that can be evaluated in real time. This was framed as a practical response to uncertainty; trials become part of the response system, not a parallel academic exercise.

A consistent thread was heterogeneity of risk. Participants cautioned against treating 'the community' as a single risk group. They argued for stratified assessment across settings (primary care, hospital wards, ICU) and across clinical endpoints (infection, severe disease, mortality, long COVID and functional outcomes). However, there were differing emphases on what should drive recommendations. Some favoured a conservative approach anchored to hard outcomes (for example, ICU admission and death), while others argued that morbidity and health-system disruption warrant greater weight, particularly when surge capacity is limited.

The limited availability of vaccine/antiviral candidates and the expectation of non-trivial adverse effects sharpened discussion about acceptable trade-offs. Participants noted that preliminary safety and immunogenicity signals may be sufficient to begin targeted use in higher-risk groups, but that broader roll-out should be contingent on clearer net benefit. A tension emerged between speed and legitimacy: moving quickly can save lives, yet inconsistent or rapidly changing advice can erode trust if the rationale and uncertainty are not communicated transparently.

Given these constraints, participants argued for 'no-regrets' optimisation of complementary measures, including diagnostics, isolation, quarantine and infection prevention, particularly where pharmaceutical tools are immature. Some positioned these measures as bridging strategies until better products emerge; others framed them as enduring capabilities that reduce reliance on a single intervention. Across views, there was agreement that standardised, accessible processes (for example, consistent testing pathways and clear operational guidance) are essential to avoid fragmented implementation across jurisdictions and services.

2. Community engagement and communication

Participants strongly supported transparent, timely release of curated data to underpin public communication and policy decisions. Transparency was described as necessary but not sufficient: releasing data without interpretation can amplify confusion. One view favoured 'full visibility' (publishing assumptions, uncertainty ranges and data caveats) to build credibility; another cautioned that overly technical communication can be misinterpreted and lead to misinformation, arguing for layered messaging (simple core messages with optional technical annexes for those who seek detail).

Trusted community networks, including GPs, pharmacists, community leaders and technical authorities, were repeatedly identified as key intermediaries for two-way communication. Participants noted that these relationships cannot be 'surged' at the onset of a crisis; they require maintenance during inter-pandemic periods. A pragmatic concern raised was resourcing: maintaining networks is labour-intensive, and responsibility can become diffuse across agencies unless roles, funding and accountability are clarified.

Later-phase: themed discussion

On misinformation and disinformation, participants emphasised the importance of understanding the social drivers and information ecosystems shaping beliefs, especially within culturally and linguistically diverse communities. Some advocated for proactive 'pre-bunking' and rapid rebuttal mechanisms through trusted messengers; others argued that direct rebuttal can entrench false beliefs and preferred approaches centred on relationship-based engagement and meeting practical needs (for example, access and navigation support) as a route to rebuilding trust.

Participants highlighted a capability gap in risk communication across the frontline. Suggested actions included upskilling health workers, using systematic sentiment surveys, and communicating uncertainty explicitly so that changes in recommendations are perceived as evidence-responsive rather than inconsistent. A nuanced point was the need to align 'what we know' with 'what we can operationalise'; even strong guidance can fail if it is not deliverable through primary care, pharmacies and local services.

3. Data infrastructure and research collaboration

A central concern was the loss of 'always-on' data capability after the acute pandemic phase, including linkages between key datasets (for example, immunisation, prescribing and health service utilisation). Participants argued that switching off linkages undermines preparedness and slows evaluation when a new threat emerges. At the same time, the discussion acknowledged legitimate constraints – privacy, consent, jurisdictional governance and cost – and the need for pre-agreed protocols that enable rapid access with appropriate safeguards.

Participants called for continuity of platform studies between pandemics (including community-based studies) so that governance, sites and analytical pipelines remain active. Readiness was framed as more than protocols on paper: it includes trained staff, ethics pathways, data-sharing agreements and community partnerships that can be activated within days rather than months. Some participants stressed the importance of answering 'real-world' questions (effectiveness, uptake, equity), not only efficacy questions, as these are often the binding constraints on impact.

There was support for closer alignment between research groups and industry to accelerate development and evaluation. However, participants noted that current funding and incentive structures can promote competition over collaboration, fragmenting expertise and duplicating effort. A differing view cautioned against over-reliance on industry priorities, advocating for governance arrangements that protect public interest questions (for example, comparative effectiveness, safety monitoring, and equity impacts) even when these are not commercially driven.

Participants advocated for flexible, standardised data systems that support rapid reviews, trials and post-market monitoring, including better use of electronic medical records for safety and effectiveness evaluation. A recurring nuance was that standardisation must not eliminate local adaptability: a minimal common dataset and shared definitions were seen as essential, but implementation should accommodate different service contexts (metro, rural, remote) to avoid excluding settings with the highest burden and the least infrastructure.

Later-phase: themed discussion

4. Social science research and public sentiment

Participants argued that social science capability should be treated as core infrastructure, not an optional add-on. Continuous tracking of community perspectives was positioned as essential because attitudes, trust and risk perception shift across phases of a crisis. A key nuance was that 'engagement' is not equivalent to 'broadcast communication': participants emphasised mechanisms for listening and co-design, particularly with groups that experience disproportionate harm or barriers to access.

Discussion highlighted the need to tailor approaches for culturally and linguistically diverse communities and Aboriginal and Torres Strait Islander communities, recognising that trust, preferred channels and decision drivers differ. Participants noted that 'one-size-fits-all' campaigns can inadvertently widen inequities. There were differing views on the best organising principle for tailoring; some favoured demographic segmentation (language, geography, age), while others preferred place-based, relationship-led models that reflect local community structures.

Behavioural research priorities included understanding access barriers, workforce impacts and patterns of movement that influence transmission and service delivery. Participants stressed that hesitancy is often intertwined with logistics (time off work, transport, appointment systems) and institutional experience, not solely beliefs about efficacy. This implies that policy responses should pair communication with service design improvements and measurable equity metrics.

A practical challenge raised was sustaining investment post-crisis. Participants suggested articulating a clearer economic case for engagement and preparedness (for example, avoided costs through higher uptake, reduced health-system strain and fewer disruptive restrictions). This was linked to the need to retain people capability and institutional memory – without stable funding and career pathways, expertise is lost between events and must be rebuilt at the next emergency.

5. Regional and global collaboration

Participants emphasised that effective preparedness requires sustained regional research partnerships, particularly with neighbouring countries and in high-risk or remote settings. Collaboration was framed as mutually beneficial: shared surveillance, shared learning, and faster access to context-specific evidence. A nuanced point was that partnership should not be limited to crisis periods; long-term relationships improve feasibility, trust and relevance of rapid studies when an event occurs.

The discussion supported global joint funding mechanisms and vaccine/therapeutics consortia to accelerate development and reduce duplication. Participants noted that funding arrangements can set the tone for collaboration by requiring shared governance, open protocols and equitable participation. Some cautioned that overly centralised consortia risk marginalising local priorities; others argued that standardisation through consortia is precisely what enables rapid, comparable evidence across countries.

On vaccine equity, participants considered how domestic manufacturing capability can be balanced with regional access commitments and intellectual property arrangements. A tension emerged between national self-reliance (to secure supply during scarcity) and regional solidarity (to reduce overall risk and support neighbouring health systems). Participants suggested that transparent principles, pre-negotiated agreements and technology-transfer pathways are required to avoid ad hoc decisions during crisis peaks.

Later-phase: themed discussion

6. Modelling and broader outcome evaluation

Participants advocated for modelling that integrates health outcomes with financial and societal impacts, and for engaging central agencies (for example, Treasury/Finance) earlier in the analytic process. The rationale was that pandemic decisions are inherently cross-portfolio; when models only quantify health outcomes, trade-offs are made implicitly rather than transparently. A caution raised was that broader models can be used selectively to justify predetermined positions; participants therefore emphasised agreed assumptions, peer review and clear articulation of uncertainty.

Counterfactual modelling was discussed as a way to test intervention strategies at scale and explain why recommendations change as conditions evolve. Participants highlighted that models should inform, not replace, judgement, and that outputs must be translated into decision-relevant terms (for example, thresholds for action, acceptable ranges of uncertainty, and distributional impacts across groups). Communicating model limitations was seen as essential to maintaining trust, especially when projections differ from lived experience or when multiple models produce divergent results.

Participant recommendations/suggested actions

- **Re-establish data access and linkage capability:** Reinstate and maintain linkages across key datasets (for example, immunisation, prescribing and health service data) with pre-agreed governance and privacy safeguards to enable rapid analysis by approved researchers and public health partners.
- **Sustain community engagement between crises:** Develop and document an economic case for ongoing investment in engagement infrastructure (workforce, partnerships and evaluation), including the costs of capability loss and rebuild.
- **Monitor vaccine access, uptake and equity:** Implement systematic surveillance to assess coverage, disparities and drivers of acceptance and access, with reporting that supports targeted service design improvements.
- **Strengthen regional research collaboration:** Engage regional partners (including Southeast Asia) to scope joint funding mechanisms, shared study platforms and priority research questions for high-risk and remote contexts.
- **Integrate broader outcome modelling into decision processes:** Develop modelling approaches that consider health, economic and societal impacts, with agreed assumptions and transparent uncertainty, to support cross-portfolio decision-making.
- **Build capability to understand and respond to misinformation:** Investigate misinformation/disinformation sources and dynamics, and develop response playbooks that combine trusted messengers, culturally appropriate approaches and evaluation of impact.
- **Protect research capability and institutional memory:** Identify critical roles, platforms and partnerships to maintain between events (including career pathways and training) so rapid evidence generation can be activated early in the next emergency.