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COVID-19 Recovery: Implications for cancer care

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Background

The COVID-19 pandemic has prompted unprecedented changes in cancer care across the cancer care pathway and in many parts of the oncology sector.

The approach to cancer care during the pandemic has required balancing the risk of exposure to, and harm from, SARS-Cov-2 infection, against the benefits of treatment and the optimal use of health system resources, while maximising patient outcomes.

Some new or modified healthcare practices will be of long-term value in improving quality and resilience in cancer care.

As the acute phases of the pandemic pass and the recovery phases begin, consideration needs to be given to:

- the elements of cancer care which have changed during the COVID-19 pandemic;
- the impacts of these changes; and
- targeted strategies (at the system-level, service-level, practitioner-level, and patient-level) to retain, enhance, and embed high-value changes into practice.

Strategies to embed and enhance high-value care

COVID-19 Recovery: Implications for cancer care is informed by:

- National and international literature
- Input from leading Australian cancer experts and consumer representatives.

This report includes a number of targeted strategies to prompt considerations and future approaches to support high-value cancer care in the recovery phases of the COVID-19 pandemic.

- **System-level strategies** involve activities at the health system level (national or jurisdictional) to identify and address system-wide cancer control needs, support high-value cancer care and improve outcomes for people with cancer.
- **Service-level strategies** involve activities at the health service level (including specialist and primary care, in both the public and private sectors) to support high-value cancer care and improve outcomes for people with cancer.
- **Practitioner-level strategies** involve activities by a range of cancer control stakeholders across the Australian health system to support health professionals to deliver high-value cancer care and improve outcomes for people with cancer.
- **Patient-level strategies** involve activities directly affecting patients and consumer advocacy organisations to support high-value cancer care and improve outcomes for people with cancer.

1 Expansion of MBS telehealth items and uptake

1.1 What changed?

- The COVID-19 pandemic led to an unprecedented uptake in telehealth across the whole healthcare system in Australia. This was largely facilitated by the rapid expansion of broad-scale Medicare Benefits Schedule (MBS) items, covering General Practitioner (GP), specialist and allied health consultations.¹
- Most GP practices offered consultations via telehealth. However, of the telehealth consultations conducted by both GPs and specialists, the vast majority were carried out via telephone, rather than videoconferencing, despite Department of Health recommendation that videoconference services are the preferred substitute for face-to-face consultations.^{1,2}
- Telehealth has enabled health care workers in both clinical and non-clinical roles to work remotely during the pandemic, thereby minimising infection risk to both patients and clinicians.

1.2 Impact of change

- The expansion of the telehealth MBS item numbers has supported continuity of cancer care throughout the pandemic and enabled telehealth to be utilised across the whole Australian healthcare system.³
- Telehealth offers benefits regarding choice, convenience and safety for both the patient and clinician,^{4,5} and potentially reduces rural-urban disparity in cancer care.⁶
 - Use of telehealth contributes to the reduced exposure to SARS-CoV-2 for healthcare providers and patients, and particularly immunocompromised patients.
 - Telehealth reduces barriers in access to, and quality of, care for patients who are unable to physically attend appointments due to health concerns (such as cancer-related morbidities) or distance (such as people living in rural and remote areas accessing specialist care).⁴
 - Telehealth enables patients to interact with multiple health professionals (such as primary care providers, specialists, nurses, allied health professionals and carers) simultaneously in any consultation.
- Patients and clinicians reported administrative, coordination, software and network issues, particularly in relation to the uptake of video consultations,⁷ and challenges in using telehealth for some aspects of care, including:
 - when receiving or delivering a cancer diagnosis
 - communication about changes to care
 - lack of privacy for patients in their home when discussing personal matters

- inability for some aspects of clinical care to be delivered remotely (such as physical examinations).⁷
- These challenges may have been heightened in cases where the patient and health professional did not have a pre-existing relationship.⁷

1.3 How can high-value changes be embedded or enhanced?

The following strategies were identified in Australian and international literature and by leading Australian cancer experts and consumers. This list is provided to prompt considerations and future strategies to support high-value cancer care in the Recovery phases of the COVID-19 pandemic.

These strategies are listed at the system-, service-, practitioner-, and patient-levels and are intended to be used by a range of cancer control stakeholders across Australia to support high-value cancer care and improve outcomes for people with cancer.

System-level strategies

- Considering the revision, retention and refinement of the new MBS telehealth items to become part of 'business as usual'⁸ and to strengthen the role of telehealth in routine service delivery.⁹
- Developing system-wide mechanisms, and standards to facilitate transfer of information normally conveyed during face-to-face consultations, such as prescriptions, investigation requests, and written information.
- Developing clear governance, policies and procedures to guide safety and quality in cancer telehealth consultations and clarify the ethical, clinical and legal responsibilities of clinicians, technology providers and healthcare organisations.¹⁰
- Evaluating satisfaction among telehealth providers to improve the quality of the delivery of care through telehealth and inform the development of policies, governance and funding models.¹¹

Service-level strategies

- Strategically investing in sustainable information technology infrastructure,^{7,11} and technical and administrative personnel to support the safe and efficient delivery of cancer care via telehealth, preferably by [videoconferencing](#), including the prioritisation of data security and patient privacy, record-keeping, and transfer of information (prescriptions, investigation requests, patient information leaflets, etc).¹²
- Developing standards (or expanding existing standards) for the use of telehealth.⁸
- Developing and/or distributing guidance for health professionals on the appropriate and effective use of telehealth for cancer care, including the Department of Health COVID-19 Telehealth Items Guide.²

Practitioner-level strategies

- Improving health professional digital literacy, capabilities, and acceptability of the use of telehealth services through educational and training programs.^{13,14}
- Improving health professional capabilities in providing culturally safe telehealth consultations for Aboriginal and Torres Strait Islander people and people from culturally and linguistically diverse backgrounds. Health professionals should seek support from a culturally-trained health worker, or interpreter if required, to improve cultural safety and communication with patients during telehealth consults.⁷
- Increasing effectiveness of patient-clinician communication through training programs and the development of standardised procedures for telehealth appointments and contingency plans (such as appointment delays; actions required if the connection drops out during a consultation).⁷

Patient-level strategies

- Understanding patient experience of receiving care through telehealth to inform better quality care.
- Incorporating the collection of patient-reported outcomes into telehealth service delivery models to identify areas of need for patients.¹¹
- Improving patient digital and health literacy.
- Improving patient access to telehealth solutions including providing access to telehealth coordinators, providing devices to patients, and facilitating health consultations in safe and accessible locations such as in local hospitals and outpatient clinics, Aboriginal Medical Services, community centres, general practice clinics and libraries (with or without a clinician present).^{7,13,14}
- Facilitating access and technical support to utilise telehealth, including for Aboriginal and Torres Strait Islander people and people from culturally and linguistically diverse backgrounds, people with diverse needs and people with disabilities (including people with vision or hearing impairment⁵).^{8,9}

2 Population cancer screening programs and early detection

2.1 What changed?

- In Australia, the COVID-19 pandemic has caused disruptions to all three national population cancer screening programs for breast, cervical and bowel cancers.
- The BreastScreen Australia program was [temporarily paused](#) across Australia due to workforce and safety considerations,¹⁵ and its recommencement has been limited in some areas, particularly related to ongoing physical distancing considerations.
- While the National Cervical Screening Program and the National Bowel Cancer Screening Program continued to operate throughout the pandemic, reduced participation is indicated by a decrease in the use of relevant MBS items for testing and follow-up of positive results.¹⁶
- Internationally, reports have emerged of fewer cancer referrals and notifications, including the [Netherlands Cancer Registry](#) reporting a decline in cancer incidence of about 25%.¹⁷ In Australia, some cancer hospitals also reported [reduced referrals of new patients](#). For example, average daily pathology notifications to the Victorian cancer registry falling by 28% during the March to May national lockdown.¹⁸
- In addition to a reduction in screening participation, reductions in cancer referrals [reported in some jurisdictions](#) may also have been related to a reduction in incidental findings from other investigations, fewer people attending their GPs for non-COVID related issues, travel restrictions, fears of patients to attend health professional consultations, and a reduction in elective surgery.^{19,20}

2.2 Impact of change

- The temporary pause of the BreastScreen Australia program helped to maintain public trust in the program by limiting exposure to SARS-CoV-2 infection in patients and staff, and enabled BreastScreen Australia staff to be redeployed for COVID-19-related care. Similarly, fewer colonoscopies also reduced risk of exposure to patients and staff.⁷
- Disruptions in population screening programs have resulted in a backlog of missed appointments and potentially reduced capacity to deliver follow-up examinations to patients with a positive screening test.⁷
- Potential diagnostic delays due to disruption of screening programs, delayed GP visits and delayed access to diagnostic pathways, have been modelled to result in patients potentially presenting with more advanced diseases (a shift in the disease stage at treatment initiation), the need for more complex treatments, including systemic therapies, and poorer outcomes.²⁰

- The temporary pause in screening may have resulted in some patients moving to the private system, potentially resulting in greater out-of-pocket costs for patients.⁷ In some areas (for example in Western Australia) agreements were made with private radiology providers and hospitals to offer assessments and procedures to patients, with no out-of-pocket costs where public services were overwhelmed.⁷

2.3 How can high-value changes be embedded or enhanced?

The following strategies were identified in Australian and international literature and by leading Australian cancer experts and consumers. This list is provided to prompt considerations and future strategies to support high-value cancer care in the Recovery phases of the COVID-19 pandemic.

These strategies are listed at the system-, service-, practitioner-, and patient-levels and are intended to be used by a range of cancer control stakeholders across Australia to support high-value cancer care and improve outcomes for people with cancer.

System-level strategies

- Prioritising available services for population subgroups who are most likely to benefit. This may involve utilising a risk stratification approach for screening services as they resume, including 'catch-up plan' approaches for patients who had missed screening and follow-up appointments.

Service-level strategies

- Using remote radiology services to facilitate local BreastScreen Australia services and follow-up assessments.
- Increasing strategic communication to target populations to promote participation in population screening programs.⁷
- Prioritising available services for investigation of symptoms and signs suggestive of cancer and follow-up of positive results, according to evidence-based clinical practice guidelines.

Practitioner-level strategies

- Encouraging patients to participate in population screening programs and promoting the importance of early detection.
- Encouraging face-to-face consultations where appropriate to investigate 'red flag' symptoms.
- Adopting a systematic approach to timely and evidence-based, investigation and referral of symptoms and signs suggestive of cancer.

Patient-level strategies

- Promoting and facilitating access to participation in population screening programs.

- Improving patient health literacy and encouraging patients to see their doctor about 'red flag symptoms' suggestive of cancer.

3 Virtual multidisciplinary team meetings

3.1 What changed?

- In response to the COVID-19 pandemic, cancer care multidisciplinary team (MDT) meetings transformed rapidly from in-person to virtual meetings.²¹

3.2 Impact of change

- Virtual MDTs helped to reduce the risk of exposure to, and harm from, SARS-CoV-2 infection for clinicians.²²
- Virtual MDTs has improved the ease of clinician attendance²³ and enabled engagement of the MDT with primary care for improved care planning.⁷
- There is an opportunity for virtual MDTs to become a standard component of future clinical workflows,²³ including a mixture of in-person and virtual attendance for MDT members to support communication and coordination of care across diverse locations and optimise clinician time.⁷

3.3 How can high-value changes be embedded or enhanced?

The following strategies were identified in Australian and international literature and by leading Australian cancer experts and consumers. This list is provided to prompt considerations and future strategies to support high-value cancer care in the Recovery phases of the COVID-19 pandemic.

These strategies are listed at the system-, service-, practitioner-, and patient-levels and are intended to be used by a range of cancer control stakeholders across Australia to support high-value cancer care and improve outcomes for people with cancer.

System-level strategies

- Promoting incentives to support greater utilisation of MDTs, in both face-to-face and virtual formats.

Service-level strategies

- Strategically investing in information technology infrastructure, and technical and administrative personnel⁷ to support the workflows of virtual MDTs, including the prioritisation of data security and patient privacy when using digital platforms.¹²
- Establishing communication linkages, including software and hardware capability to allow rapid and efficient transfer of images and other data to all participants to enable team preparation and participation, to integrate decision-making and to implement comprehensive follow-up.²⁵

- Evaluating the quality of decision-making of the virtual MDT, as compared to the face-to-face format, in improving guideline adherence and patient outcomes.^{7,26,27}
- Exploring and reinforcing the sustainability of virtual healthcare and its overall impact on both clinicians and patients to support health professional uptake of virtual working practices.²¹

Practitioner-level strategies

- Increasing health professional familiarity with technical aspects of using videoconferencing platforms, including viewing imaging and pathology electronically.⁷
- Providing information and training for health professionals on the importance of protecting patient privacy in virtual settings, and the management of security (e.g. using secure, end-to-end encrypted platforms for videoconferencing).²⁴
- Providing guidance for health professionals on how to effectively run, and participate in, virtual MDT meetings (including MDTs with a mixture of in-person and virtual attendance) to support effective engagement and appropriate videoconferencing etiquette.⁷
- Educating health professionals to improve adherence to multidisciplinary care guidance.²³

Patient-level strategies

- Evaluating the extent to which a virtual MDT affects patient outcomes in comparison to a traditional face-to-face MDT, with particular reference to Cancer Australia principles of multidisciplinary care.²⁸

4 Modifications to treatment schedules

4.1 What changed?

- During the COVID-19 pandemic, refinements were considered for individual treatment plans to minimise patients' exposure to and risk of harm from COVID-19, while ensuring the best possible cancer outcomes.²⁹⁻³¹ Changes to care require careful consideration of the risks and benefits of treatments, and transparent communication with patients to enable their involvement in the decision-making process about the changes.
- Decisions to modify or delay management include enhanced uptake of existing evidence-into-practice:
 - Implementing hypofractionation of radiotherapy
 - Postponing non-urgent surgery or adjuvant chemotherapy for cancer patients with low risk of progression³²
 - Transitioning from intravenous to oral chemotherapy³³
 - Reducing duration of treatment administration or increasing intervals between doses of systemic treatments³⁴
 - Temporarily discontinuing immunosuppressive cancer therapies³⁵
 - Temporarily discontinuing medications to minimise the risk of drug interactions.³⁵
 - Adopting a lower threshold for use of more aggressive supportive care interventions such as anti-emetics, use of granulocyte colony stimulating factor (G-CSF) with chemotherapy regimens to reduce risk of febrile neutropenia, and outpatient treatment of low-risk patients with febrile neutropenia with oral antibiotics to reduce hospital admission rates.³⁶⁻³⁸

4.2 Impact of change

- The adoption of value-based healthcare practices increases effective, patient-centred cancer care, and can improve quality of life and patient experience.¹¹
- During the acute phases of the pandemic, prioritisation of patients for treatment using a risk-benefit approach aimed to reduce the impact on hospital and human resource capacity.²⁹
- However, it may have been difficult for clinicians to calculate the risk-benefit of modifications to treatment, and make judgements on the nature and extent of altering treatment plans.³⁹
- Some patients have also experienced anxiety or distress resulting from altered plans of care or changes to usual treatment.⁷

4.3 How can high-value changes be embedded or enhanced?

The following strategies were identified in Australian and international literature and by leading Australian cancer experts and consumers. This list is provided to prompt considerations and future strategies to support high-value cancer care in the Recovery phases of the COVID-19 pandemic.

These strategies are listed at the system-, service-, practitioner-, and patient-levels and are intended to be used by a range of cancer control stakeholders across Australia to support high-value cancer care and improve outcomes for people with cancer.

System-level strategies

- Establishing a unified way of disseminating nationwide, evidence-based standardised care procedures, including approaches for rapidly updating guidance based on expert-led consensus during the pandemic.^{7,29}
- Dedicating research to identify treatments with equivalent or non-inferior outcomes and areas where patients would not be disadvantaged from the de-escalation of treatment.²⁹
- Monitoring and reporting of health system performance to support change and to respond to unwarranted variations in practice.²⁹

Service-level strategies

- Developing evidence- and consensus-based guidance for health professionals, and standardised and validated risk-stratification protocols to identify patients who are eligible for modifications to treatment. Such tools and best-practice recommendations should be shared through formalised, electronic means that are accessible for all health practitioners,⁴⁰ for example, the [eviQ Cancer Treatments Online](#).⁴¹

Practitioner-level strategies

- Educating and training medical, nursing and allied health practitioners to undertake a patient-centred approach to individualising treatment plans for patients, carefully assessing personal factors and risk status when selecting anticancer therapies.³²
- Consider incorporation of psycho-oncological and evidence-based geriatric care principles into mainstream practice to yield appropriate care for all patients.⁷
- Educating health professionals on how to communicate openly and transparently, ensuring clear documentation and appropriate explanation is provided to patients who experience modifications to their treatment during the pandemic. Health professionals should seek support from a culturally-trained health worker or interpreter if required, including incorporating shared decision-making on a case-by-case basis with input from the multidisciplinary care team.⁴²
- Ensuring health professionals are appropriately educated and skilled in communication strategies, including with Aboriginal and Torres Strait Islander patients and their communities and culturally and linguistically diverse patients and carers.⁴³

For Indigenous people, this should include discussion with the patient and their family regarding the potential benefits and risks of any new or ongoing cancer treatment, ensuring information is accessible and culturally appropriate, with the support of an Aboriginal and/or Torres Strait Islander Health Worker or Hospital Liaison Officer.⁴³

- Ensuring goals of patient care are clearly documented and easily accessible in order to minimise undertreatment of patients with excellent prognosis and overtreatment of those with a poor prognosis from both cancer and COVID-19.²⁹

Patient-level strategies

- Educating and supporting consumers to increase their health literacy, confidence and ability to engage in informed, shared decision-making processes.

5 Hypofractionation of radiotherapy

5.1 What changed?

- During the COVID-19 pandemic, a number of national and international cancer organisations and research associations, including the American Society for Radiation Oncology (ASTRO) and the European Society for Radiotherapy and Oncology (ESTRO), recommended that hypofractionated or short-course regimens be used where appropriate, to limit patient volumes in clinics and reduce risk to staff, and that increased use of hypofractionation be employed where possible for cancer patients with suspected or confirmed COVID-19.⁴⁴⁻⁴⁸
- The use of hypofractionated schedules increased in Australia and internationally for selected cancers, such as head and neck cancers, non-melanoma skin cancers and breast cancers.^{47,49,50}

5.2 Impact of change

- There is evidence to suggest that, for select patients and cancers, hypofractionation of radiotherapy is not inferior to standard fractionation in terms of local and distant recurrence, cosmetic outcomes and overall survival;⁵¹ is not associated with increased toxicity;⁵² may result in improved quality of life for patients; and may be more appropriate compared to conventional radiotherapy.^{7,51}
- Reducing the number of required clinic visits can minimise patient exposure to sources of infection and counteracts the increased pressure on the healthcare system during the pandemic.^{53,54}
- There is unwarranted variation in the use of hypofractionation for several reasons and country-based differences, including availability of schedules, differences in training of health professionals, funding models and willingness to adopt new models.^{7,50} The nature and extent of such variations during the COVID-19 pandemic is unclear.⁷

5.3 How can high-value changes be embedded or enhanced?

The following strategies were identified in Australian and international literature and by leading Australian cancer experts and consumers. This list is provided to prompt considerations and future strategies to support high-value cancer care in the Recovery phases of the COVID-19 pandemic.

These strategies are listed at the system-, service-, practitioner-, and patient-levels and are intended to be used by a range of cancer control stakeholders across Australia to support high-value cancer care and improve outcomes for people with cancer.

System-level strategies

- Undertaking an economic evaluation to determine cost-effectiveness of the use of hypofractionation of radiotherapy compared to standard fractionation, in order to support the safe and appropriate use of hypofractionated radiotherapy and help minimise unwarranted variation in practice.⁷
- Reviewing approaches to support increased uptake of hypofractionation in the delivery of radiotherapy, where appropriate for the patient.⁵¹

Service-level strategies

- Developing and distributing tumour-specific, evidence-based and validated guidance and recommendations for the use of hypofractionated radiotherapy, including information on patient eligibility, standardised dose and fractionation schedules, and safety and toxicity concerns. Best-practice recommendations should be shared formally and via electronic means;⁴⁰ this may require further research.⁷

Practitioner-level strategies

- Educating and training health professionals on the appropriate use of hypofractionated radiotherapy to minimise unwarranted variations in practice.^{50,55}

Patient-level strategies

- Increasing adoption of the use of patient-reported outcome measures to evaluate the use of hypofractionated radiotherapy in terms of patient quality of life, with a focus on safety and toxicity.^{7,56}

6 Oncology hospital in the home

6.1 What changed?

- During the COVID-19 pandemic there has been rapid uptake of in-home care, including home-based intravenous (IV) chemotherapy administration. Australian private health funds [reported](#) a 50-80% increase in patients seeking chemotherapy at home during the pandemic.
- In-home oncological care was facilitated by initiatives such as nurse-led telehealth models⁷ and the [Australian Government's COVID-19 National Health Plan](#), which provided interim arrangements for prescriptions, such as home delivery of medications.⁸⁰

6.2 Impact of change

- In-home oncology models may help to effectively utilise healthcare resources and to reduce the risk of acute care facilities being overwhelmed during the pandemic.⁷
- In-home oncological care can reduce hospital-related complications, minimise the risk of community transmission of infectious diseases such as COVID-19, protect the wellbeing of immunocompromised patients,^{35,57} and improve patient-centred care.⁵⁸
- At the same time, in some cases, in-home care has inherent risks.⁵⁹
- There are concerns around the safety of home infusions of chemotherapy drugs; routine use could potentially fail to provide the safeguards to both patients and health care providers, thereby exposing both to unnecessary risk,⁵⁹ and potential medicolegal risk in staff working outside the clinical setting to provide treatment. There are also fewer opportunities for review by other team members, for example a breast care nurse, and fewer opportunities for treatment adjustment, such as dose reduction or blood transfusion on the same day as treatment.⁷
- In-home oncology models for chemotherapy also potentially heighten inequities in access for rural and remote populations, for example, due to challenges in safely and efficiently delivering drugs requiring cold chain transport over greater distances and diverting resources from providing better access in regional areas.⁷

6.3 How can high-value changes be embedded or enhanced?

The following strategies were identified in Australian and international literature and by leading Australian cancer experts and consumers. This list is provided to prompt considerations and future strategies to support high-value cancer care in the Recovery phases of the COVID-19 pandemic.

These strategies are listed at the system-, service-, practitioner-, and patient-levels and are intended to be used by a range of cancer control stakeholders across Australia to support high-value cancer care and improve outcomes for people with cancer.

System-level strategies

- Developing and implementing policy and guidance for safe and efficient administration of IV chemotherapy in the home to ensure minimum standards for facilities to deliver chemotherapy are maintained.⁶⁰
- Developing policy and regulatory-level guidance to enable high quality and sustainable provision of home delivery of medications, including oral anticancer therapies, via community pharmacies.^{61,62}
- Undertaking cost-effectiveness evaluations of chemotherapy delivery in the home for the health system.
- Implementing electronic prescribing to improve medication safety and efficiency in the medication management process, by reducing medication errors through improved prescription legibility, dose calculation and clinical decision support; reducing administrative workloads and improving linkages between clinical information systems.^{7,60,62}

Service-level strategies

- Developing standardised triage protocols informed by patient-reported outcomes,⁷ to assess patient preference and eligibility for home-based care.¹⁴ Whilst this has the potential to reduce clinic visits, assessment of impact on patient outcomes needs to be undertaken.⁷
- Investing in medical and human resources to enable safe, quality and efficient in-home care for people with cancer.⁷
- Detailed escalation plans in place for managing treatment complications, in order to ensure delivery of safe and quality care.⁶⁰

Practitioner-level strategies

- Training for health professionals, including cancer nurses, physicians and pharmacists, to meet standards for adopting in-home oncology models for the provision of delivery, or provision of virtual support in the delivery, of anticancer therapies in patients' homes.^{7,14,61,63}

Patient-level strategies

- Empowering patients and their families to safely self-administer treatments (via oral or subcutaneous routes), with virtual support from healthcare professionals.⁷
- Increasing awareness through patient education of the benefits but also potential risks of home-based oncological care.
- Facilitate remote access to psychosocial support services for patients and their carers.

- Assessing patient acceptability of home-based oncological care and potential barriers to the delivery of optimal cancer care in the home.

7 Patient support materials and guidance

7.1 What changed?

- During the COVID-19 pandemic, cancer organisations have rapidly and proactively increased support for cancer patients, providing timely information about cancer care and treatment during the pandemic, and advice about infection control.
- Cancer Australia's [Information about COVID-19 for people affected by cancer](#) web pages provide information and advice about COVID-19 for people affected by cancer, including dedicated messaging and resources to support Aboriginal and Torres Strait Islander people with cancer and adolescents and young adults with cancer, and links to a range of Australian and international resources and organisations providing information and support during the pandemic.
- Breast Cancer Network Australia's [My Journey online tool](#) provides timely and tailored online information to people affected by breast cancer, including information about reducing risk of exposure to COVID-19, managing fear and worry during the pandemic, and options for financial support during this time.⁷
- Cancer Council Australia convened a national forum of cancer support organisations to provide opportunities for collaboration in developing [patient resources](#) in response to identified needs. This aimed to provide consistent information across tumour streams and created a unified voice of the cancer community support sector.⁷

7.2 Impact of change

- The provision of responsive information and guidance for people undergoing cancer treatment, cancer survivors and carers has been critical in meeting information and support needs during the pandemic.

7.3 How can high-value changes be embedded or enhanced?

The following strategies were identified in Australian and international literature and by leading Australian cancer experts and consumers. This list is provided to prompt considerations and future strategies to support high-value cancer care in the Recovery phases of the COVID-19 pandemic.

These strategies are listed at the system-, service-, practitioner-, and patient-levels and are intended to be used by a range of cancer control stakeholders across Australia to support high-value cancer care and improve outcomes for people with cancer.

System-level strategies

- Encouraging communication and collaboration amongst the cancer community to share learnings from the pandemic and identify and address the emerging and ongoing needs of cancer patients in order to develop consistent consumer

information. It is important for information to be shared formally and in a timely manner via trusted sources.⁷

- Increasing targeted communication to meet the information needs of Aboriginal and Torres Strait Islander peoples, people living in rural and remote Australia and culturally and linguistically diverse populations.
- Evaluating the practical value of guidance materials developed.⁶⁴
- Understanding the longer-term impact of the pandemic on psycho-oncology needs of cancer patients and their families.⁶⁴

Service-level strategies

- Establishing agreed processes to support access to quality information from trusted sources for all patients.⁷
- Increasing use of electronic portals integrated with the patient's health record to assess patient reported outcomes, including toxicity and quality of life measures, to support the systematic management of patients remotely, such as Patient-Reported Outcomes for Personalized Treatment and Care (PROMPT-Care).⁶⁵

Practitioner-level strategies

- Disseminating and promoting consistent, coordinated and coherent evidence-based patient information sources can assist in promoting physical and psychological well-being of cancer patients and their families.⁶⁶
- Increasing use of information communication technologies, such as applications delivered via mobile devices for health promotion, has been highly recommended for healthcare professionals caring for patients in situation where patient are confined to their homes.⁶⁷

Patient-level strategies

- Conducting patient experience surveys to support rapid identification of emerging issues or needs of cancer patients during periods of acute stress on the health system.
- Promoting the importance of the patient voice to communicate strong, evidence-based public health messaging via organisations focused on advocacy, cancer navigation, and support.⁶⁸

8 Innovative care and hospital infrastructure models

8.1 What changed?

- Internationally, the COVID-19 pandemic has increased focus on health system organisation, highlighting the importance for hospital designs to accommodate for spaces that are readily convertible for different purposes, such as an additional intensive care unit or oncological treatment wards, and consider staff and patient flows through the hospital.⁶⁸⁻⁷¹ Hospital designs need to account for the separation of areas into COVID-19-positive and COVID-19-clear spaces.⁷⁰
- The pandemic also saw the establishment of temporary spaces for cancer treatment,⁷¹ the implementation of hub-and-spoke models for cancer centres, and synergising of public and private institutions.^{7,73}
- Some institutions adopted 'segregated-team' models to minimise the risk of COVID-19 infection and cross-contamination between teams.⁷⁴
- Novel triage protocols facilitated by telehealth and nurse-led models were also adopted for COVID-19 symptom review and for patients with treatment-related toxicities.^{29,75-77} These measures enabled assessment of patient needs for hospital care and helped to determine the required frequency of home visits.
- Use of granulocyte colony stimulating factor (G-CSF) with chemotherapy regimens to reduce the risk of febrile neutropenia, and outpatient treatment of low-risk patients with febrile neutropenia with oral antibiotics helped to reduce hospital admission rates.^{7,78,79}
- Some health practitioners across Australia moved towards e-prescribing and e-ordering of investigations, enabled through the availability of telehealth and home delivery of medications.⁸⁰

8.2 Impact of change

- Implementation of innovative hospital and infrastructure models aiming to minimise potential overloading of acute care facilities, reducing community transmission by minimising and redirecting the movement of people through medical facilities,⁵⁷ and protecting the wellbeing of staff and immunocompromised patients.³⁵
- Despite an additional administrative and technical burden, e-prescribing (where available) and e-ordering of investigations supports patient choice, quality and safety.^{62,82}

8.3 How can high-value changes be embedded or enhanced?

The following strategies were identified in Australian and international literature and by leading Australian cancer experts and consumers. This list is provided to prompt

considerations and future strategies to support high-value cancer care in the Recovery phases of the COVID-19 pandemic.

These strategies are listed at the system-, service-, practitioner-, and patient-levels and are intended to be used by a range of cancer control stakeholders across Australia to support high-value cancer care and improve outcomes for people with cancer.

System-level strategies

- Promoting greater deliberation in the design of future hospitals to include readily-convertible spaces that consider flexible patient and staff flows through the hospital.
- Enabling the ongoing process of e-prescribing of medicines, such as through the progressive roll-out of the national Active Script List Model.⁸²

Service-level strategies

- Implementing software and embedding of e-prescriptions and e-ordering of investigations within existing workflows, supported by change management, to enable consistent and ongoing patient access.⁶⁰
- Adopting models of care that incorporate patient-reported outcomes to support risk prioritisation, with consideration of ethical principles of equity, proportionality and transparency in their application to resource allocation decisions.^{83,84}
- Establishing new models of care, such as nurse-led Symptom and Urgent Review clinics within oncology outpatient units and Community Cancer Centres to keep immunosuppressed patients out of emergency departments and away from hospitals as much as possible.⁷⁷

Practitioner-level strategies

- Developing and promoting educational and training programs and guidance for health professionals to increase acceptance of, and skills in, delivering new models of care, including outpatient and home-based oncological care. This includes increasing confidence in staff capabilities in using telehealth; e-prescribing (particularly for therapies not usually prescribed by community pharmacists, such as oral chemotherapy agents) and e-ordering investigations; and in nurse-led models of care.

Patient-level strategies

- Developing and promoting consumer information and disseminating through relevant channels, such as via pharmacists, on the process of e-prescribing.
- Educating patients and their carers to increase awareness and promote acceptance of new models of care.

9 Shared follow-up care and survivorship care

9.1 What changed?

- With increased pressures on the health system during the COVID-19 pandemic, some patients who were unable to visit their cancer service for their follow-up appointments or were concerned about visiting the cancer service, have reported having their follow-up care shared between their cancer specialists and their GP.⁸⁵
- Internationally, many post-treatment follow-up care appointments for cancer survivors were conducted using telehealth in specialist and primary care, and some non-urgent surveillance consultations were delayed in response to the pandemic or transferred between specialist and primary care.¹⁴

9.2 Impact of change

- Minimising unnecessary presentations to acute care facilities by transitioning patients to primary care for their follow-up and survivorship care and utilising telehealth, aimed to reduce the risk of survivors contracting COVID-19 infection while still providing continuity of follow-up care.¹⁴ Some GPs reported not being adequately prepared to provide follow-up care as clinical information exchange was limited.⁷
- The increased uptake of these alternative care models, such as shared follow-up care, increased the capacity of specialists to focus on patients requiring urgent care and relieved pressure on specialist and hospital-based services.¹⁴ In particular, [shared follow-up and survivorship care](#) better leverages the skills and expertise of the specialist and primary care workforce to support the delivery of high quality, safe and sustainable follow-up and survivorship care.
- In conjunction with telehealth, shared online consultations allow engagement between the patient, the specialist primary care provider, allied health specialists, and/or family members in diverse locations.⁶¹
- The use of telehealth to support shared follow-up and survivorship care prompted some concerns regarding patient privacy, providing informed consent, and the increased risk of anxiety and distress among cancer survivors relating to the use of telehealth.¹⁴

9.3 How can high-value changes be embedded or enhanced?

The following strategies were identified in Australian and international literature and by leading Australian cancer experts and consumers. This list is provided to prompt considerations and future strategies to support high-value cancer care in the Recovery phases of the COVID-19 pandemic.

These strategies are listed at the system-, service-, practitioner-, and patient-levels and are intended to be used by a range of cancer control stakeholders across Australia to support high-value cancer care and improve outcomes for people with cancer.

System-level strategies

- Implementing national evidence-based and collaborative models of shared follow-up and survivorship care, including for early breast cancer, low-risk endometrial cancer,⁸⁵ and prostate cancer.
- Developing evidence-based consensus guidance for implementation of telemedicine in follow-up care addressing safety concerns, including surveillance practices requiring physical examination.⁷
- Providing adequate personal protective equipment (PPE) across the entire cancer workforce, including primary care, as appropriate to level of risk.⁷

Service-level strategies

- Adopting evidence-based, innovative models of care, including shared follow-up and survivorship care.
- Establishing and embedding processes and templates to support development and sharing of patient follow-up care plans between multidisciplinary health professionals providing follow-up and survivorship care.
- Establishing agreed processes to support rapid access between primary and tertiary care settings for clinical issues requiring cancer specialist consultation or advice.
- Establishing patient portals to allow remote communication, education, care coordination, systematising of follow-up appointments (including scheduling reminders for surveillance check-ups and investigations), and electronic collection of patient-reported outcomes.

Practitioner-level strategies

- Empowering clinicians, care coordinators and allied health professionals, including Aboriginal and Torres Strait Islander health workers, to use telehealth to increase uptake of and to provide quality digitally-enabled survivorship care.^{14,61}
- Increasing access to education for health professionals on the evidence and benefits of alternative models of follow-up and survivorship care.
- Increasing access to guidance, resources, and education to support delivery of best practice, person-centred, evidence-based models of follow-up and survivorship care.
- Increasing access to standardised templates to support care coordination and agreement of alternative follow-up shared care arrangements.
- Facilitating utilisation of appropriate members of the specialist team (including specialist nurses) to support shared-care follow-up and survivorship care.⁸⁶

Patient-level strategies

- Providing timely and accessible information to support patients to understand their follow-up and survivorship care plan and take an active role in managing their health. This includes clear and transparent communication from the initial consultation about the intended treatment pathway.
- Providing assurance to patients of rapid referral to the specialist team or back to the GP if required by any follow-up care providers.⁸⁵

10 Supportive and palliative care

10.1 What changed?

- For people with cancer who are already uncertain about their future, the uncertainty about the risk of contracting COVID-19 and potentially not being able to receive their planned cancer treatment, understandably has considerable psychological consequences, including anxiety, depression, harmful alcohol use, and lower mental wellbeing.⁸⁷ In addition, COVID-19 is also likely to have adversely impacted their social support network including family members, spouse, children and friends.⁸⁸
- Hospital policies for visitors varied significantly between States and Territories, including strictly limiting or not allowing visitors, to minimise the spread of COVID-19.³⁶
- In some states, home-based palliative care services were initiated or rapidly expanded to provide care to COVID-19 patients outside the hospital.

10.2 Impact of change

- Supportive care and follow-up care of cancer survivors have dramatically changed as a result of COVID-19, with face-to-face appointments replaced with telehealth and many international health services reporting insufficient capacity to respond to cancer survivors' needs.¹⁴
- Virtual supportive and palliative care enables safe contact between healthcare providers and immunocompromised patients who are particularly vulnerable to serious infection with COVID-19.⁶⁰ However, socially-distanced care limits the opportunity for hands-on care and small gestures of support and solidarity, leading to care feeling impersonal for some patients.^{14,89}
- Inappropriate, inconsistent or sub-optimal delivery of virtual supportive and palliative care may negatively impact the psychosocial wellbeing of vulnerable patients and their carers.^{7,14}
- Nonetheless, the virtual supportive and palliative care model supports continuity of care and may have future applications for cancer management across the care pathway.
- Advance care planning promotes autonomy for the patient and their family.¹⁴ and proactive care coordination,⁹⁰ but can also help with resource allocation, by preventing unnecessary emergency presentations and hospitalisations.^{14,91}

10.3 How can high-value changes be embedded or enhanced?

The following strategies were identified in Australian and international literature and by leading Australian cancer experts and consumers. This list is provided to prompt

considerations and future strategies to support high-value cancer care in the Recovery phases of the COVID-19 pandemic.

These strategies are listed at the system-, service-, practitioner-, and patient-levels and are intended to be used by a range of cancer control stakeholders across Australia to support high-value cancer care and improve outcomes for people with cancer.

System-level strategies

- Developing, implementing and evaluating innovative models to enhance and improve access to supportive care services, including psychology and social services, dietary and exercise advice, geriatric care and rehabilitation and allied health services.¹⁴
- Coordinating resource allocation to plan for potential scarcities in equipment, staffing and access to medications for symptom management.⁹²
- Improving access, and equity of access, to appropriate prescription medicines, allowing palliative care services to continue care for patients outside the hospital.^{7,91}
- Developing standardised policies and guidance about supportive and palliative care for health services to minimise unwarranted variation in practice, particularly during times of stress on the health system.³⁶

Service-level strategies

- Increasing confidence among health professionals to incorporate virtual and home care models into practice.⁶³
- Developing guidance on the appropriate delivery of virtual supportive and palliative care.
- Promoting use of the *Optimal Care Pathways* for people with cancer, which encourage patients and their carers to develop an advance care plan, where appropriate, which has multiple benefits such as ensuring his or her preferences are known and respected after the loss of decision-making capacity.⁶³
- Embedding advance care planning into everyday practice may avoid intensive life-sustaining treatments when unwanted by patients, and avoid nonbeneficial or unwanted high-intensity care which may place additional stress on health care capacity and may put other patients, family members, and health care workers at higher risk of transmission of COVID-19.¹⁴
- Establishing a digital wellbeing hub to enable staff, carers, volunteers and their families to access relevant support when they need it, and provide a range of self-care and wellbeing resources designed to aid resilience to the whole cancer care workforce.⁹³

Practitioner-level strategies

- Implementing and evaluating standardised methods to screen for, and manage, the needs of cancer patients, including with the use of electronic patient reported outcomes measures.⁸⁸

- Developing guidance for and promoting advance care planning interventions to health practitioners, including specifically for Aboriginal and Torres Strait Islander populations.⁹⁴
- Providing psychosocial support for staff providing virtual supportive and palliative care to avoid compassion fatigue in the workforce.³⁶
- Developing and reviewing risk and continuity plans to support preparedness and wellbeing of staff in providing supportive and palliative care.⁸⁹

Patient-level strategies

- Using validated screening tools to assess 'fear of COVID-19', to individualise psychological care, including to regularly assess and address patients' specific cancer and COVID-19 concerns, including frank conversations about patient preferences for end-of-life care and the worries they may have about surviving hospitalisation. Such consultations can be facilitated by telehealth.¹⁴
- Providing psychosocial support for patients and their carers to prevent psychological distress and carer fatigue. Specifically, normalising anxiety may help and adopting mindfulness, compassion and value-based approaches.⁸⁸
- Self-care advice on healthy strategies may be offered by healthcare practitioners including good sleep habits, good nutrition and exercise.⁸⁸
- Improving access for patients to optimal, culturally appropriate supportive care, including for people living in rural and remote Australia, Aboriginal and Torres Strait Islander peoples, and culturally and linguistically diverse communities.⁹⁵
- Increasing consumer understanding of advance care planning, and promoting uptake of consumer resources for advance care planning.⁹⁰
- Increasing carer confidence in using personal protective equipment (PPE) through development and promotion of training and guidance documents.³⁶
- Empowering patients and their carers to administer treatments, such as enemas and subcutaneous or intramuscular injections, for symptom relief.⁷
- Enabling access to opportunities for providing feedback to supportive and palliative care providers, and guidance on how to provide feedback.⁷

11 Cancer research and clinical trials

11.1 What changed?

- The COVID-19 pandemic has had a major impact on cancer research due to the inability for some researchers to work from home effectively, safely or ethically.^{7,95}
- Laboratory research and grant programs have been disrupted and in some cases, suspended,⁷ and cancer research has been impacted by a marked reduction in philanthropic funding.⁷
- Ethics committees have prioritised research for COVID-19, thereby significantly deferring some cancer-related research.⁷ Many fast-tracked COVID-19-related clinical trials have been launched internationally, some testing repurposed anticancer drugs.^{77,97}
- Trials of some cancer medicines with immunosuppressive effects were considered too great a risk to continue, and have been suspended.⁷
- The pandemic has prompted the rapid deployment of digital health trials worldwide,⁹⁸ particularly for trials offering essential treatments not otherwise available to the patient.⁷ This underscores the benefits of telemedicine, and importance of streamlining of ethical and regulatory processes.⁷

11.2 Impact of change

- Tele-trials can facilitate access to trials and trial drugs, as well as allowing trial participation of patients in more remote parts of Australia,⁹⁶ and have prevented postponement or termination of some cancer clinical trials.⁹⁷
- The tele-trials model has addressed issues with scientific integrity,^{99,100} safety concerns and operational burdens of regular clinical trials through:
 - enabling remote monitoring through wearable patient devices¹⁰² and telehealth consultations¹⁰³
 - minimising the number of protocol-required procedures^{97,104}
 - assessing outcomes and conducting quality of life assessments electronically¹⁰⁴
 - delivering trial drugs to patients' homes.¹⁰⁴
- However, there are concerns that the impact of the pandemic will have long-lasting effects in the research sector, including reduced opportunities for funding^{105,106} and potential loss of expertise from the cancer research sector workforce.⁷
- Globally, the pandemic has had a considerable negative impact on cancer clinical trials, as research staff have been redeployed to frontline clinical activities, global travel restrictions have hampered international collaboration, and reduced numbers of eligible patients have been able to attend trial visits. A global analysis found a 60%

decrease in enrolment of new patients in oncology clinical trials in April 2020 compared with April 2019.⁹⁵

11.3 How can high-value changes be embedded or enhanced?

The following strategies were identified in Australian and international literature and by leading Australian cancer experts and consumers. This list is provided to prompt considerations and future strategies to support high-value cancer care in the Recovery phases of the COVID-19 pandemic.

These strategies are listed at the system-, service-, practitioner-, and patient-levels and are intended to be used by a range of cancer control stakeholders across Australia to support high-value cancer care and improve outcomes for people with cancer.

System-level strategies

- Undertaking opportunities to streamline cancer trial methodology and documentation, harmonise responses of individual Human Research Ethics Committees and secretariats to new national standards,⁷⁷ reduce unnecessary 'red tape', and reduce the number of mandatory hospital visits will facilitate access to clinical trials.⁹⁶
- Promoting collaboration among funding agencies to increase support for cancer researchers, such as through enabling extensions on funding applications, grants and salaries.^{105,106}
- Encouraging, facilitating and evaluating digital approaches to working, such as virtual peer-review panels and holding virtual meetings, to support the continuity of cancer research.¹⁰⁶

Service-level strategies

- Incorporating contingency plans and digital adaptation approaches into design of trials.¹⁰² Examples include enabling home delivery of trial drugs and remote laboratory collections, conducting remote monitoring site visits by trial sponsors, allowing e-signatures for study documents, and electronic review of patient symptoms and adverse events.^{95,99,102}
- Implementing systems for electronic recruitment and collection of patient-reported outcome measures to support the tele-trials model, and evaluating the acceptability and efficacy of these systems.
- Surveying academics and clinicians to identify and address emerging issues or barriers to conducting research in a post-pandemic environment.
- Extending opportunities for early career researchers by increasing dissemination of and access to scientific knowledge, and enabling greater interactions with international leaders in the sector, such as through the development of innovative peer mentoring programs.¹⁰⁷

Practitioner-level strategies

- Adopting telehealth to facilitate remote review of patient symptoms and adverse events.⁹⁹
- Encouraging increased participation in mentoring programs to support early career researchers.¹⁰⁷

Patient-level strategies

- Using patient-centred measures such as telemedicine as part of the standard approach to oncology clinical trials.⁹⁶
- Encouraging participation in clinical trials, including for patients from remote areas of Australia, providing patients with information and resources to support participation.¹⁰⁸

12 Collaboration in the oncology sector

12.1 What changed?

- The COVID-19 pandemic prompted strengthened collaboration among national and international academic and clinical bodies within the oncology sector in the sharing of data and information, and timely publishing of content.
- A lack of access to timely and real-time health data remains inherently challenging for the health system and health professionals in delivering evidence-based and personalised cancer care. This issue has been particularly highlighted during the COVID-19 pandemic as real time data is required to measure the impact of the pandemic on cancer outcomes and mitigate the risks related to COVID-19 in cancer patients.¹⁰⁹
- There has been an unprecedented collaborative response by the cancer community, both in Australia and internationally, to coordinate data collection, and develop patient support materials and guidance. Examples include:
 - National COVID-19 Clinical Evidence Taskforce¹¹⁰
 - COVID-19 and Cancer Taskforce Global Modelling Consortium¹¹¹
 - COVID-19 and Cancer Consortium¹¹²
 - ESMO-CoCARE¹¹³
 - TERA-VOLT¹¹⁴
 - Victorian COVID-19 Cancer Network⁷⁷

12.2 Impact of change

- Collaborative efforts to collect, share and analyse observational data has enabled the findings to inform clinical practice in real-time. This has helped to improve outcomes for cancer patients.¹¹⁵
- Additionally, pooling of real-world data made it possible to rapidly accumulate knowledge and support dissemination of information and guidance for people affected by cancer.^{110,113}
- The sharing of experiences and literature has increased the consistency and timeliness of evidence-based care recommendations.⁷

12.3 How can high-value changes be embedded or enhanced?

The following strategies were identified in Australian and international literature and by leading Australian cancer experts and consumers. This list is provided to prompt

considerations and future strategies to support high-value cancer care in the Recovery phases of the COVID-19 pandemic.

These strategies are listed at the system-, service-, practitioner-, and patient-levels and are intended to be used by a range of cancer control stakeholders across Australia to support high-value cancer care and improve outcomes for people with cancer.

System-level strategies

- Supporting continuation of national and international collaborations post-pandemic, with consideration of how to improve the feasibility and sustainability of such collaborations.
- Facilitating collaboration between State and Territory cancer registries, the Commonwealth Department of Health and government agencies, such as the Australian Institute of Health and Welfare and Cancer Australia, to enable timely access to cancer data for clinicians and researchers.
- Identifying opportunities for further leveraging collaboration in the oncology sector, such as to better incorporate mathematical oncology (the use of mathematics, modelling and simulation to study cancer¹¹⁶) and bioengineering expertise into clinical trial design and decision-making tools to more effectively manage cancer in the future.¹¹⁷
- Establishing a system-wide accreditation processes to share cancer workforce across public and private institutions, and metropolitan and rural sites.⁷⁷

Service-level strategies

- Increasing close cooperation between clinicians and health administration to allow issues of concern to be discussed, with plans and new procedures made with rapid decision-making, clarity and unity of purpose.¹¹⁸
- Increasing collaboration between cancer services and specialist palliative care services when developing COVID-19 contingency plans.³⁵
- Increasing support for clinical community forums, such as the Cancer Implementation Science Community of Practice¹¹⁸ and the Victorian COVID-19 and Cancer Network,⁷⁷ to enable improved and timely data collection.

Practitioner-level strategies

- Encouraging health practitioner engagement in collaborative studies in the oncology sector.

Patient-level strategies

- Encouraging patient engagement in collaborative studies in the oncology sector.

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