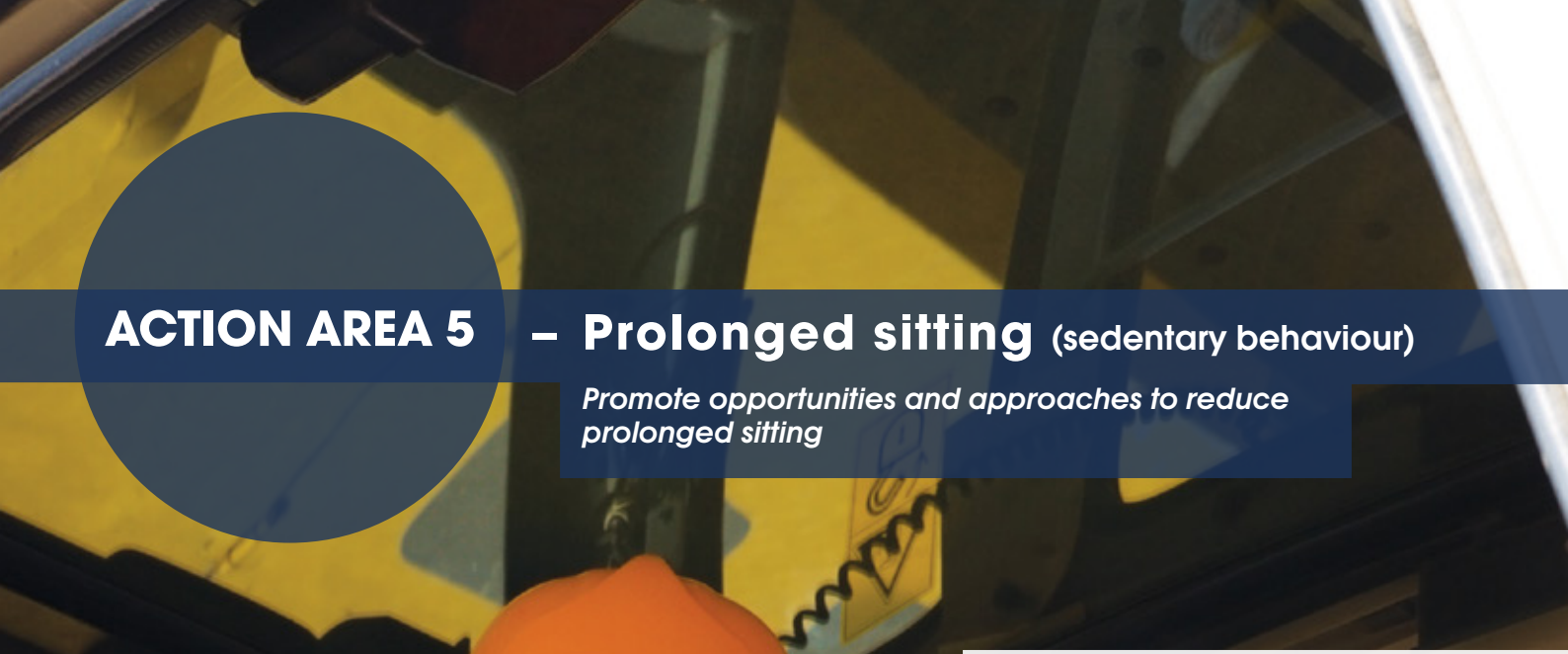

ACTION AREA 5 – Prolonged sitting (sedentary behaviour)

Promote opportunities and approaches to reduce prolonged sitting

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> ***There is now strong evidence that too much sitting is associated with an increased risk of developing cardiovascular disease and type 2 diabetes and for premature death from all-causes and cardiovascular disease.***

WHY IS THIS IMPORTANT?

Sitting is one of the most common physical human behaviours and, for many Australians, this is the position in which they spend much of their everyday life.[1]

Sitting time (sedentary behaviour), as distinct from too little exercise, is now being recognised as a population-wide, ever-present health risk, manifested in children, adults and older people.[2] There is now strong evidence that too much sitting is associated with an increased risk of developing cardiovascular disease and type 2 diabetes and for premature death from all-causes and cardiovascular disease.[3] The hazardous effects of too much sitting are strongest in physically inactive people (< 30 min/day).[4] Indeed, only very high volumes of moderate-to-vigorous activity (60-75 minutes per day - > twice the recommended level) appear to provide protection from the risks associated with sitting, whilst the greatest risk is evident in those who sit for > 8 hours per day and do less than 5 minutes/day of moderate-to-vigorous physical activity.[4]

Of course, some sitting is ok, as our bodies need to rest and recover. However, there is emerging evidence showing that being sedentary for long, unbroken periods may be particularly detrimental to health and wellbeing.[5, 6] In contrast, there is now consistent experimental evidence to support the benefits of regularly breaking up sitting time[7] with light-to moderate-intensity physical activity. The Physical Activity and Sedentary Behaviour Guidelines[8] published by the Australian Government's Department of Health now contains explicit messages relating to sitting time that are specific to age groupings. For adults, they advocate that, to reduce health risks, 'minimise the amount of time spent in prolonged sitting' and 'break up long periods of sitting as often as possible'.

Children and adolescents spend approximately 64% of the whole day and 60% of the school day sitting, yet the National Physical Activity and Sedentary Behaviour Guidelines recommend that children 'not be sedentary, restrained or kept inactive for more than 1 hour at a time during waking hours'

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Consider the case for change:

- there are both long-term and short-term impacts of too much sitting. These include increased risk of type 2 diabetes, cardiovascular disease and premature mortality[9], risk of anxiety[10], an increased number of musculoskeletal conditions[11, 12] and eye strain[13]
- there are economic implications associated with these conditions: long-term health conditions such as type 2 diabetes, cardiovascular disease and musculoskeletal disorders contribute substantially to health expenditure in Australia (estimated to be >$11 billion)[14]
- children and adolescents spend approximately 64% of the whole day and 60% of the school day sitting, yet the National Physical Activity and Sedentary Behaviour Guidelines recommend that children 'not be sedentary, restrained or kept inactive for more than 1 hour at a time during waking hours'[15-17]
- recently updated 24-hour guidelines recognise that the majority of children's waking hours are spent sitting, therefore limiting prolonged periods of sitting is crucial for their health and wellbeing[15]
- sedentary time increases most during the transition from primary school to high school, and older adolescents are the second-most sedentary group in the population after older people[18]
- high levels of television viewing and screen time are related to unfavourable body composition, higher cardiometabolic risk scores, lower cardiorespiratory fitness, and poorer self-esteem in children.[19] However, objectively measured sedentary time (using accelerometers) is not consistently associated with health outcomes in children or youth[19, 20]
- on average, Australian adults sit for nearly nine hours per day.[21] A considerable proportion of the time spent sitting throughout the day is accrued in bouts of 30 minutes or more (prolonged sitting)[5]
- high levels of sitting time (>8 hours per day) and television viewing time (>3 to 4 hours per day) have been linked to several adverse health outcomes, including all-cause and cardiovascular disease mortality[9]
- people may meet the physical activity guidelines (≥150 minutes of moderate-to-vigorous intensity physical activity per week) and yet sit for many hours each day[4]
- evidence suggests that the potentially harmful effects of sitting are most pronounced in those who are insufficiently active (<30 mins/day) and that only very high levels of moderate-intensity physical activity (60-75 mins/day) are protective against the hazards associated with high amounts of sitting[4]
- there is consistent experimental evidence that regular interruptions from sitting (starting with standing, with more benefit from moving) may help to reduce risk factors for developing coronary heart disease and diabetes[7], and can reduce musculoskeletal pain and discomfort[22]
- time spent sitting in different sedentary behaviour settings (domestic, school, workplace, transportation, aged care) is likely to have distinct determinants; as such, behaviours will be shaped by the attributes of the settings in which they occur and the social frame around such settings[23, 24]
- interventions have shown that it is feasible and acceptable to reduce children's and adult's sedentary time in key settings such as workplaces and schools.[25-27]

WHAT MUST BE DONE?

Sitting time can be highly contextually driven and is often dictated by the setting in which it occurs. Sitting occurs across the key domains of workplace, school, childcare, aged-care, transportation and domestic settings. Accordingly, initiatives to reduce sitting are likely to be most effective when implemented with attention to the multiple influences on behaviour in these settings, including those at the individual, intra-personal, environmental, and policy levels.[28] Importantly, such setting-based approaches have strong potential for rapid, scalable and potentially sustainable changes in sitting time.[23, 24] The following interventions are recommended to support these changes.

Implement policies that reduce the amount of time people spend sitting:

- develop evidence-based and contextually appropriate policies for use in schools, workplaces, aged services and other settings to guide the reduction of prolonged and total sitting time
- change education curricula to integrate movement into traditional academic areas[29]
- integrate reduction of sitting time and sedentary behaviour into national policies and guidelines on physical activity and chronic disease prevention with reference to best-practice frameworks (e.g. World Health Organization Workplace Health Promotion Framework)[30] that attend to the organisational, individual and environmental drivers of prolonged sitting
- develop workplace policies that encourage and support regular changes between sitting and standing postures, as well facilitating incidental movement throughout the day[31], including through work task allocation and break schedules
- establish best-practice frameworks and supporting materials for use in schools, workplaces, aged services and other settings seeking to adopt changes that target reductions in prolonged sitting time.[32]

Plan, develop and retrofit environments to discourage sitting:

- design workplace, institutional, health-care and educational environments that are 'activity-permissive'[33]
- provide both sitting and standing options in environments with which individuals interact on a daily basis: for example, public transportation, work and domestic settings; this includes providing mixed height furniture options and height-adjustable desks and workstations.

Implement social and community interventions that reduce sitting:

- modify activities that normally involve prolonged sitting to enable regular postural and activity breaks (e.g. a stand and stretch break)
- provide early childhood educators and school teachers with evidence-based information about the benefits of breaking up total sitting time during childcare and school times[8, 15]
- develop initiatives and programs to reduce total time spent sitting, including low-cost approaches such as using point-of-choice prompts to encourage active alternatives and to avoid prolonged sitting, conducting standing and walking meetings or creating standing agenda items within meetings or classes[34]
- develop criteria for reducing prolonged sedentary time that are relevant to the circumstances and needs across life stages and for those with differing levels of health and function
- introduce family-based educational approaches that encourage parents to limit their children's total sitting time, particularly their recreational screen time (e.g. via web-based resources and information from schools); parents monitor and then selectively or non-selectively target a reduction in recreational screen-time pursuits[35]
- educate workers and students how to safely operate height-adjustable furniture to best effect from both a behavioural and ergonomic perspective.[36]

Help individuals understand the health effects of too much sitting:

- educate community members about the health impacts of too much sitting and ways to break up prolonged sitting time.

See also Action area 2 – Workplaces; Action area 4 – Active travel; Action area 9 – Children and adolescents

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