

# Individual rights over public good? The future of anthropometric monitoring of school children in the fight against obesity

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**H**alting the increase in rates of obesity and then reducing its prevalence has become a key target for health professionals and governments alike.<sup>1,2</sup> Overweight or obese children are more likely to experience medical problems, such as hyperlipidaemia and glucose intolerance, and later become overweight or obese adults<sup>3</sup> with chronic health problems.<sup>4</sup> Early intervention is a key public health activity, and Australian governments have called for action to be taken against increasing weight problems in children and adolescents.<sup>5</sup> Ongoing population-based anthropometric measurement of children is fundamental to such efforts. Here, we argue this is only possible with “opt-out” consent; that is, potential participants are informed of the measurement process and their consent to participate is assumed unless they indicate otherwise.

## The need for data on childhood overweight and obesity

Inconsistencies between study methods moderate the strength of available evidence that rates of childhood overweight and obesity have been increasing over the past two decades. Recent debate around the extent to which increases in childhood obesity can be generalised to all cultures and socioeconomic groups<sup>6</sup> does not negate the need for knowledge and evidence-based action. Data on which to base, and subsequently evaluate, our efforts to curb childhood obesity trends are essential to ensure optimal resource allocation. The New South Wales Government has identified increasing our knowledge as one of seven priority areas for action on childhood obesity,<sup>7</sup> and, specifically, the need for up-to-date data on the prevalence of overweight and obesity in children and adolescents. This accords with a recommendation from the 2007 Healthy Lifestyle Forum for an ongoing population-monitoring system for children.<sup>8</sup>

National and international experts alike consider the routine weighing and measuring of children — in conjunction with other activities — a basic strategy in the campaign against rising rates of obesity.<sup>2,9</sup>

## Monitoring versus screening

It is important to distinguish between monitoring or surveillance, as has been recommended, and screening. Monitoring is an ongoing, systematic process that makes data available for public health purposes, such as the identification of population trends and outcomes of interventions. Unlike screening, the focus is not at an individual level for assessment or feedback, but rather can provide an impetus to improve policies, practices and services aimed at prevention and treatment.

Monitoring systems exist for issues deemed important to health. Organisations primarily engaged in monitoring or with a specific section for monitoring (eg, the National Injury Surveillance Unit or the National Centre in HIV Epidemiology and Clinical Research) collect information that can be used to elucidate the nature of an issue or disease, its causes and consequences and to devise prevention strategies, including new policies. State and national

## ABSTRACT

- Available evidence indicates that rates of childhood overweight and obesity have been increasing over the past two decades, but inconsistencies between study methods moderate the strength of this evidence.
- Concomitant health problems and associated costs make it imperative that primary prevention initiatives are introduced to combat the obesity epidemic.
- Fundamental to informed action is anthropometric monitoring, which if properly implemented will identify changes over time in specific populations to inform policies, practices and services aimed at prevention and treatment.
- Sample representativeness is essential for valid trend and prevalence data, but efforts to obtain population-based anthropometric data from school children with the required written parental consent have been thwarted by low participation rates.
- Notable improvements in participation rates when utilising opt-out consent, in which participation is assumed unless otherwise indicated, are evident from local as well as international studies. Opt-out consent can facilitate anthropometric monitoring, delivering a more informed, best-value-for-money response to the obesity epidemic.
- Health and education ethics committees need to acknowledge the benefits of opt-out consent for “low-risk” anthropometric measurement, which ultimately upholds the individual’s rights.

MJA 2009; 190: 140–142

health surveys, such as the NSW Health Survey Program, and the National Health and Nutrition Examination Survey (NHANES) in the United States, also provide routinely updated information about the health and wellbeing of populations. Information from these systematic data collections is regularly presented in reports and peer-reviewed journals to inform health professionals, policy-makers and the community.

Such data first enable health issues to be identified, acknowledged and available for public scrutiny, as in the case of iodine deficiency in Tasmanian children,<sup>10,11</sup> or the differences among states and territories in trends of newly diagnosed HIV infections.<sup>12</sup> Awareness and concern can generate public pressure and demand for government action,<sup>11,13</sup> and research findings can be the impetus for new policies and action.<sup>14,15</sup> With time, monitoring can reveal trends,<sup>16</sup> changes following interventions,<sup>17</sup> and even allow investigation of health risk factors.<sup>18</sup>

## Anthropometric monitoring as currently conducted in Australia

Successful anthropometric monitoring requires recruitment of a representative sample of the population and standardised meas-

urement, thus avoiding the pitfalls observed in some areas of national nutrition surveys.<sup>13</sup> But herein lie fundamental challenges in implementing a monitoring system for overweight and obesity — firstly, ensuring sufficient participation for monitoring to produce sound findings and, secondly, obtaining accurate anthropometric data, which cannot be obtained through self-report.

Currently, anthropometric monitoring is dependent on returned, signed, consent forms. The National Health and Medical Research Council (NHMRC) *National statement on ethical conduct in human research*<sup>19</sup> recommends consent of the parent, and of “the child or young person whenever he or she has the capacity to make this decision”. Ethics committees have tended to adhere to the strictest interpretation of these guidelines, requiring written parental consent and sometimes the consent of the child.

In NSW, even when the school setting provides access to our children and youth, participation in data collection has been reported to be inadequate, introducing the risk of dubious data. In 2007, we undertook an anthropometric measurement project in western Sydney in conjunction with the NSW School Based Immunisation Program. The participation rate varied between schools from 15% to 78%, with a mean of 49% (unpublished data). Similarly low participation rates were reported from an anthropometric measurement project on the Central Coast (NSW) (Ms H Taylor, Senior Public Health/Community Nutritionist, Central Coast Health, NSW, personal communication, October 2007), and a project in the Hunter region (NSW) not linked to immunisation also had some participation rate concerns (Dr C Bell, Program Director, Good for Kids. Good for Life, Hunter New England Health; and Conjoint Associate Professor, School of Medicine and Public Health, University of Newcastle, NSW, personal communication, November 2007). The earlier (2004) NSW Schools Physical Activity and Nutrition Survey (SPANS)<sup>20</sup> achieved somewhat better participation rates, with 70% in primary school students, and 63% and 50%, respectively, in Years 8 and 10. Higher participation rates — upwards of 71% in secondary school students and over 90% in primary school children — were obtained in 1997 in the NSW Schools Fitness and Physical Activity Survey.<sup>21</sup> Declining participation over time may indicate waning community interest despite the increasing prevalence of overweight and obesity.

One component common to each of these school-based studies was the requirement for written parental consent — cumulative evidence indicates this could be crucial in not achieving sample representativeness. Aside from parents’ or children’s sensitivity about weight status, a likely factor ultimately contributing to low participation rates may be the requirement for a signed and returned consent form, which may be overlooked amid the numerous issues vying for parents’ attention.

### Written consent versus opt-out consent

Participation rates when written parental consent was not required have been 90% in NSW<sup>22</sup> and 80% in the United Kingdom.<sup>23</sup> A study in Middlesbrough (UK) exemplifies the disparity in participation rates obtained by the two methods, reporting rates of 48% and 71% for written consent and opt-out consent, respectively.<sup>24</sup> The difference in rates would have been greater had it not been for whole classes in the opt-out group being excluded because of excursions and administrative oversights. Opt-out consent normalises the measurement process as a routine activity. Students

and/or parents sensitive about weight may therefore be less inclined to refuse to participate.

A positive relationship between participation rate and the apparent prevalence of obesity suggests that, as the participation rate increases, prevalence estimates more closely approach the likely true prevalence.<sup>23</sup> Support for this comes from anecdotal reports from our project nurses and from other studies (Ms H Taylor, personal communication, December 2007),<sup>24</sup> which indicate that overweight children seem less likely to participate in measurement surveys if written parental consent is required. At the same time, evidence, although limited, suggests that most parents support sensitively conducted school-based measurement of children, when their privacy is assured and they are treated respectfully (Ms H Taylor, personal communication, December 2007).<sup>25</sup>

### Adopting opt-out consent

Adopting opt-out consent is an efficient means of improving participation. The NHMRC *National statement on ethical conduct in human research* requires respect and concern for fellow human beings,<sup>19</sup> upholding the right of the individual to autonomy and privacy. Opt-out consent, which ultimately maintains informed individual decision making, can facilitate the achievement of anthropometric monitoring, delivering the public good of a more informed, best-value-for-money response to the obesity epidemic without compromising an individual’s rights. An opt-out process may be a less appropriate recipient of ethics concern<sup>26,27</sup> than the alternative — actions not grounded in evidence, with questionable returns on invested resources. Anthropometric monitoring fits the NHMRC’s criteria of “low risk” research,<sup>19</sup> which some have argued should by default have opt-out consent to maximise scientific rigour.<sup>27,28</sup>

The Health Service Regulations in the UK allow for the collection and processing of information related to public health risks without prior consent.<sup>29</sup> Accordingly, the National Childhood Measurement Programme gives parents the opportunity to withdraw their child via an opt-out letter, and children can withdraw at the time of measurement.<sup>2</sup> Although a less standardised approach exists in the US, monitoring in the state of Arkansas provides another example of the successful implementation of opt-out consent.<sup>9</sup> The introduction of Act 1220 in 2003, mandating statewide body mass index (BMI) assessments in public schools, has resulted in high levels of participation by both schools and students, with only 5%–6% of students refusing to be measured.<sup>9</sup> There are no indications that opt-out consent has been controversial in either of these settings. None of the feared consequences of BMI measurements, such as increased teasing, dieting and unhealthy eating behaviours, misuse of diet pills or excessive concern about weight, has increased among Arkansas students.<sup>30</sup> Notably, the proportion of overweight and obese children has remained steady since the passing of the Arkansas Act,<sup>9</sup> an achievement desired by other US states experiencing a steady upward trend throughout the 1988–2004 period.<sup>16</sup>

Effective anthropometric monitoring requires specially trained nurses to undertake the measurements on all students (except those with a written note of withdrawal) in specified school years. Linking measurement with immunisation programs would reduce organisational requirements and inconvenience to schools. The inclusion of a primary-school cohort would be beneficial. Frequency and the year groups to be measured would best be coordinated to enable cohort reporting.

Ideally, a monitoring system at the state or area health service level would be introduced alongside efforts to increase awareness and understanding of weight issues and engage with children and families about healthy lifestyles.<sup>2</sup> At the area level, monitoring would provide particularly valuable childhood obesity data needed to:

- identify subgroups at greatest risk of obesity;
- inform planning and targeting of resources and interventions;
- describe and monitor trends; and
- assess the effectiveness of local, including school-based, programs and policies by tracking local progress towards achieving stated objectives.<sup>2</sup>

### Getting serious about tackling childhood obesity

If we as a nation, and as researchers, are serious about tackling childhood obesity, we must overcome the problem of non-participation bias. Efforts to collect valid and meaningful population-based anthropometric data consume valuable resources, and may yield data that are of limited use or even misleading. Health and education ethics committees must act decisively to allow opt-out consent. Our call for the approval of opt-out consent is not one of particularism, but rather an elucidation of its importance in monitoring, which is a fundamental component of our endeavours to confront the challenges of childhood obesity.

### Competing interests

None identified.

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(Received 28 Jul 2008, accepted 25 Nov 2008)

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