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Childhood obesity, BMI calculators, and medical software

Time for an upgrade?

■ **National Health and Medical Research Council (NHMRC) guidelines for the management of childhood obesity¹ recommend active screening of children aged 2–18 years, and intervention for those with a body mass index (BMI) (kg/m²) above the 85th percentile for age and gender. However, guidelines and BMI for age percentile charts are not well utilised in the general practice setting. In addition, there is a tendency for clinicians and parents to visually underestimate body mass in children.^{2,3}**

It is important that a child's BMI is calculated and interpreted. In adults, BMI is readily assessed and cutoff values are fixed and universal.⁴ In children, BMI needs to be interpreted on age and gender based percentile charts. The most commonly used charts are the Center for Disease Control BMI for age percentile charts.¹

The most logical way to simplify this process is with the aid of a tool on clinical management software. A fast and readily accessible tool to calculate and interpret a child's BMI would empower general practitioners to more easily recognise overweight (BMI for age percentile >85th) and/or obese children (BMI for age percentile >95th) and institute earlier intervention and management. Calculation of BMI for shorter heights (younger children) is not enabled in most currently used software. Equally important, as teenagers are generally tall enough for

BMI to be calculated, this can give a false impression if their BMI is not interpreted according to age and gender.

The authors were involved in a childhood obesity project (ethics approval granted by Monash University, Victoria) that used the NHMRC guidelines. During the project, we noted that many commonly used clinical management software packages do not include a tool to calculate BMI in children as a first step, nor do they provide a method of interpreting any calculated BMI. We planned a formal assessment of the clinical management software available for use in Australian general practice looking at two questions:

- Can the software calculate and interpret BMI for children?
- Is the calculation and interpretation into BMI for age percentile a standard software feature?

With the assistance of the divisions of general practice involved in the childhood obesity project and via discussions with a broad range of GPs and an internet search, we identified 14 software packages. These were Best Practice, Genie, GP Complete, Locum, Medical Director, Medical Spectrum (iSOFT), MedTech32 (Intierra), Monet, Pracsoft, practiX (iSOFT), Profile (Intrahealth), Promedius, Synapse and ZedMed.

A literature search was performed to identify any information about the software and tools. We found one article that reviewed eight of the above packages (Best Practice, Genie, Locum, Medical Director, MedTech32, practiX, Profile and ZedMed), but the article did not include

Table 1. Summary of responses from the final sample of six clinical management software organisations contacted

Program	Interprets calculated BMI of child into BMI for age percentile	Comes as standard feature in package	Considering inclusion
Best Practice			√
Genie			
Locum			√
Medical Director			√
iSOFT (Medical Spectrum, practiX)	√		
ZedMed	√	√	

information about tools for calculating and interpreting BMI for age percentiles for children.⁵

Next, we searched for the websites of each software package. We found contact details for 11 of the 14 packages and contacted the organisations by phone and/or email. Contact details for GP Complete, Monet and Pracsoft were not found. Of the 11, two did not respond to our contacts (Profile and Synapse). From their websites, it appeared that Profile and Synapse primarily provide business practice software, not clinical management software. Of the remaining nine, it appeared that Medical Spectrum and practiX are now both part of iSOFT, leaving eight organisations. Staff from each of these eight organisations responded to our queries. Two of the eight organisations advised that their software did not appear to be relevant to our query; MedTech32 is designed primarily for the radiology market; Promedicus advised that their software is not 'medical'.

Six organisations remained and only two of these (iSOFT and ZedMed) included the tools to calculate and interpret BMI in children. Only one (ZedMed) included this tool as standard. Staff from three organisations (Best Practice, Locum and Medical Director) indicated very strong interest in our survey. They asked about the importance of including tools to calculate and interpret BMI in children and/or indicated that the matter would be brought to the attention of the relevant staff member in their organisation for discussion and decision in the future (*Table 1*).

Conclusion

The NHMRC guidelines for the management of childhood obesity¹ recommend using BMI for age percentile charts. However, we have found that most of the commonly used software packages do not have this function available. Let's encourage our clinical software developers to incorporate this tool to help busy GPs provide best practice screening and intervention in childhood overweight and obesity.

Conflict of interest: none declared.

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