New WHO child growth standards catch on

Since 2006, when the World Health Organization launched the new Child Growth Standards, over 140 countries have adopted them. Gozde Zorlu talks to Dr Mercedes de Onis about why these represent a new approach and why they are useful.

Q: What are the WHO Child Growth Standards?
   A: These charts are a simple tool to assess whether children are growing and developing as they should. They can also be used to see whether efforts to reduce child mortality and disease are effective. The new standards demonstrate for the first time ever that children born in different regions of the world, when given the optimum start in life, have the potential to grow and develop within the same range of height and weight for their age. The WHO standards are being widely used in public health and medicine and by governmental and health organizations for monitoring the well-being of children. The standards are also used for detecting children not growing to full capacity or those who are under- or overweight on average.

Q: What was the method of measuring children’s growth before?
   A: Before the Child Growth Standards were developed, WHO had been recommending the use of the US National Center for Health Statistics growth references since the late 1970s.

Q: How does today’s growth standard differ from the growth references used before?
   A: The new standard establishes breastfeeding as the biological norm and the breastfed infant as the standard for growth and development. Previous reference charts were based largely on the growth of infants fed formula milk. The WHO Child Growth Standards are global and for all children, in contrast to the previous international reference based on children from a single country – the United States of America (USA).

Q: What is the difference between a growth standard and a reference?
   A: A growth reference provides a basis for making comparisons but deviations from the pattern it describes are not necessarily evidence of abnormal growth. A standard, on the other hand, embraces the notion of a norm or desirable target, a level that ought to be met, and therefore is a more effective guide to, and evaluator of, interventions to improve healthy development and growth. In 1993, WHO undertook a comprehensive review of these growth references. It concluded that they had biological and technical drawbacks and recommended a novel approach: a standard rather than a reference.

Dr Mercedes de Onis is the coordinator of the Growth Assessment and Surveillance Unit at the World Health Organization (WHO). She led the WHO Multicentre Growth Reference Study from its inception to the establishment of the WHO Child Growth Standards. A 1981 graduate of the University of Medicine in Madrid, Spain, de Onis completed training 1984–1986 in public health and epidemiology at the School of Public Health, Johns Hopkins University. She then joined the US National Institutes of Health where she wrote her doctoral dissertation on fetal growth retardation.

Q: How were the WHO growth standards developed?
   A: The WHO growth standards are based on data from the WHO Multicentre Growth Reference Study (1997–2003), which applied a rigorous method that serves as a model of collaboration for conducting international research. The study provided a solid foundation for developing a standard because the sample was based on healthy children raised in environments that do not constrain growth. Furthermore, the mothers of the children selected for the construction of the standards engaged in fundamental health-promoting practices, namely breastfeeding and not smoking. Rigorous methods of data collection and standardized procedures across the six study sites (Brazil, Ghana, India, Norway, Oman and the USA) yielded very high-quality data.

Q: How many countries have adopted the WHO growth standards since 2006?
   A: Over 140 countries had adopted them [by early March 2011] and are at different stages of their implementation. Similarly, many scientific bodies have endorsed the use of the WHO growth standards, while United Nations agencies use them as the common yardstick to assess and monitor child growth. The shift from the old US National Center for Health Statistics reference to the new WHO growth standards has provided a unique opportunity to promote best practices. For example, many countries have started measuring height and as-

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sessen body mass index to monitor the
double burden of malnutrition, that is,
problems of undernutrition, like stunting,
and problems of overweight and obesity.

Q: What are the challenges countries face
in implementing the standards?
A: Rolling out new growth charts is
a daunting task. It affects all levels of
the country’s health system and concerns not
only clinicians and health practitioners
but also nutritionists, dietitians, public
health specialists, child and health advoc-
ates, parents/caregivers and researchers.
Many countries have redesigned their
child health records, upgraded their an-
thropometric equipment and retrained
health staff to incorporate the WHO
standards into their work. Some countries
are working also to raise awareness on the
importance and utility of monitoring child
growth, and have redesigned their surveil-
ance systems, so that they are more useful
in decision-making. Each of these aspects
has required a major effort of implementa-
tion and allocation of resources.

Q: How can the standards be used?
A: In addition to the traditional
uses of growth curves, the development
for the first time of what are known as
“growth velocity standards” provides a set
of unique tools for monitoring the rapid
and changing rate of growth in early child-
hood and thus the early identification of
children at risk of becoming under- or
overweight. Likewise, the availability
of indicators for body mass index and
skinfold thickness are particularly useful
for monitoring the growing epidemic
of childhood obesity. Additionally, the
development of what we term Windows
of Achievement for six key motor de-
velopment milestones provide a unique
link between physical growth and motor
development (sitting without support,
hands-and-knees crawling, standing with
assistance, walking with assistance, stand-
ing alone and walking alone).

Q: What does it mean when an infant
drops below or slips above the lowest level
of weight or height for their age? Or are
the WHO growth standards a one-size
that fits all?
A: It may not necessarily mean there
is anything wrong with the child; it means
that the paediatrician has to pay atten-
tion. For children up to about 10 years
of age, the WHO study and many others
have demonstrated that children have
the potential to grow similarly on aver-
age provided they are given proper care,
feeding and immunizations. There is no
such thing as a “one size” in growth pat-
terns, but a distribution of values (from 0
to 100 percentiles) that make it possible
for genetically tall and short children to
be part of the same healthy distribution.

Q: How do the growth standards help
achieve the Millennium Development
Goals (MDGs)?
A: The standards will play an im-
portant role at the national, regional and
international levels in monitoring prog-
ress towards meeting the MDGs (1, 2, 3,
4 and 5) that depend on ensuring proper
growth and development of children. Until
now, an adequate measurement tool
did not exist.

Q: So are the WHO growth standards more
useful in developing countries?
A: No, they are intended to mon-
itor the growth of every child worldwide,
regardless of ethnicity, socioeconomic sta-
tus and type of feeding. Many developed
countries are concerned about obesity
in young children, for example, but have
local growth curves that identify the prob-
lem only after a child has become obese.
For such countries, the WHO standards
are also a useful tool for identifying over-
weight and obesity before they become
too difficult to prevent or control.

Q: What difference will the WHO growth
standards make for the children themselves?
A: The WHO standards represent
an important step towards achieving the
right of every child to grow and be
healthy. They provide sound scientific
evidence that young children from differ-
ent regions experience, on average, similar
growth patterns when their health and
nutrition needs are met. As such, they
can also be used to assess compliance
with the UN Convention on the Rights
of the Child, which recognizes the duties
and obligations to children that cannot be
met without attention to normal human
development. Derived from a worldwide
sample of children, the WHO Growth
Standards show that environmental
differences rather than genetics are the
principal determinants of disparities in
physical growth.

Q: How will the WHO growth standards
support implementation of the WHO
Global Strategy on Infant and Young Child
Feeding?
A: The standards are a crucial new
tool for monitoring infant and child
growth and for evaluating efforts to
implement the global strategy. As such,
they provide a means to advocate for
the protection, promotion and support
of breastfeeding and adequate comple-
mentary feeding. Full implementation
of the objectives of the global strategy
will enable supportive environments
for mothers to breastfeed their children.
The WHO growth standards provide the
necessary measurement and evaluation
tool for parents, caregivers, health prac-
titioners, policy-makers and advocates
with which to monitor healthy growth,
ensure timely screening and treatment
and recommend and follow appropriate
nutritional practices.