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Two charities challenge company's patent on Plumpy'nut (BMJ 2010;340:c2510)

Hungry for profit

Manufacturers of a patented food to treat malnutrition are facing challenges from other companies wanting a piece of the action, **Sophie Arie** reports

The treatment of severe malnutrition has been transformed in developing countries in the past decade. Instead of bringing children back from the brink with liquid treatments in hospitals, aid workers now have a specially formulated peanut paste they can hand out in easy to use, sealed packets for mothers to feed regularly to their children.

The invention of this kind of emergency fast food has huge implications because it shifts the focus from inpatient to outpatient treatment. Put simply, it means that rather than saving tens of thousands of starving children, aid agencies now have the potential to reach millions.

Plumpy'nut—as the paste is called—is a mix of peanuts, milk powder, and micronutrients. Each 92 g packet provides 500 kcal (2 MJ) and crucial proteins and vitamins. It has been proved to be significantly more effective than previous treatments based on milk powder mixed with fresh water.¹ When it was distributed to 40 000 starving chil-

dren during the 2005 famine in Niger, 90% recovered.² In 2007, the World Health Organization and Unicef declared that this kind of treatment was the best for severe and acute malnutrition in children aged between 6 months and 2 years.³

Since then there has been a kind of shopping frenzy. Unicef, by far the largest single buyer, bought 10 500 tonnes in 2009 compared with 4000 tonnes in 2005. This year it had already bought 10 000 tonnes before the Pakistan flood crisis struck.

Patent questions

Nutriset, the small French company that makes Plumpy'nut, has seen its business boom accordingly. In 2009, Nutriset's sales were €52m compared with €16m in 2005.

Not surprisingly, perhaps, Nutriset doesn't want others making generic versions of its product. Nutriset has patented its invention in 35 countries and is defending it vigorously. Small organisations who have begun producing similar products have

had to resolve initial disputes with Nutriset or have chosen to operate in countries where Nutriset's patent is not in force, such as Haiti, Somalia and Sudan.

The small Normandy based company—which describes itself as “the only company fully dedicated to nutritional issues in developing countries”—says its aim is for more and more of its product to be made by small partner companies using local materials and generating work in developing countries. It claims it reinvests its profits in research and into a growing network of franchises in Africa that are increasing their production every year. Michel Lescanne, food scientist and director of Nutriset, says that the capacity of the African companies to manufacture Plumpy'nut is increasing dramatically and may jump from 25% of the total produced last year to 50% this year. Mr Lescanne says his company's defence of its patent amounts to defending those African company's interests.

“If companies in the North start making this,



Independence of WHO's decisions

Would-be competitors argue that Unicef's loyalty to Nutriset is odd, suspicious even. Their suspicions arise firstly from the fact that Andre Briand, the French nutritionist who developed Plumpy'nut in collaboration with Nutriset, went

on to work for the World Health Organization, and co-authored a nutrition policy paper on new developments in the treatment of severe malnutrition in the community published in 2006 by the UN's Standing Committee on Nutrition.⁴ The WHO, World Food Programme, and Unicef issued a statement endorsing ready to use therapeutic foods (RUTFs) in 2007.³

Dr Briand, a widely respected nutritionist working in the French state research body the Institut de Recherche pour le Développement, joined forces with Nutriset's Michel Lescanne to develop Plumpy'nut in 1994. Nutriset and the institute jointly filed a patent in 1997 and the institute receives royalties worth 1% of sales. Dr Briand gave up his right to any

financial gains from the invention, Nutriset and WHO confirm and he left Nutriset to work as a medical officer at the WHO's child nutrition department in 2004. He retired in 2009.

Zita Weise-Prinzo, who worked as a technical officer with Dr Briand at WHO, dismissed any concerns over a possible conflict of interests, saying that the WHO's decisions on conflict of interest are taken by the director general. In the case of Dr Briand, it was decided that “the public health interest in employing him for his expertise in the area of child nutrition outweighed any real or apparent conflict of interest, bearing in mind too, that WHO was informed he had no financial interest in Plumpy'nut. The WHO took care that Briand would not take policy decisions in his field of expertise,” she said.

It is widely recognised that RUTFs such as Plumpy'nut are revolutionary and helping to save thousands of lives. “The UN is right to support their use in the right circumstances. But it is a bit unfortunate,” says Stéphane Doyon of Médecins Sans Frontières “that Briand was personally involved in defining the WHO's position. It might have been better not to have included him.”

Mr Lescanne, his wife, and his former wife are the sole shareholders in Nutriset. Mr Lescanne confirms that shareholders receive 18% of the company's annual profits (which were €4.4m last year). He explains that the dividends are part of the remuneration package for the three shareholders, who all work at Nutriset. He also points out that most private companies award dividends worth 40% of profits.



JOHN SCHULTS/REUTERS



DIETER TELEMANS/PANOS

Plumpy'nut is boom business

there is a risk they will flood the market and put those in the South out of business," says Mr Lescanne.

Two US organisations are currently challenging that stance with a case in a Washington court in which they argue Nutriset's US patent is invalid. Mama Cares, based in California, and Breedlove, in Texas, argue that fortified peanut pastes like Plumpy'nut have been around for years and there is nothing unique about Nutriset's product. Both companies believe they can make a similar product at around 80% of the price of Plumpy'nut.

"Our bottom line is how many people can we feed with a dollar, not what profit can we make for our shareholders," says David Fish, director of Breedlove, which is a non-profit producer of foods for the developing world using surplus US products.

Nutriset has challenged several organisations, both commercial and non-profit, who have begun producing so called ready to use therapeutic foods (RUTFs) in recent years. And while several have resolved disputes with the French company and launched their own equivalents—Tabatchnik in the US and Norwegian company Compact—Nutriset still accounted for 90% of the RUTFs that Unicef bought in 2009.

Francisco Blanco, who manages Unicef's contracts for essential medicines and nutrition, said Unicef buys RUTFs from seven different providers and that Plumpy'nut's price and production capacity was currently among the best.

USAID, the US government's aid department, is preparing to start buying RUTFs and Breedlove and others are keen to secure contracts, which they believe could be bigger than those Unicef currently awards. Drinks companies such as Pepsi-Co are also reportedly (considering developing their capacity to tender for such contracts in future) interested in making RUTFs.

Nutriset says it would tender for contracts with

USAID through its US non-profit partner Edesia. But, Mr Lescanne fears, it is dangerous for governments rather than humanitarian organisations to distribute the product as it risks becoming politicised. Not to mention the fact that once a US market opens, the US peanut industry will dump its existing "peanut mountains" this way, at prices Southern producers cannot compete with.

The American organisations argue that without American peanuts, the demand for RUTFs to feed the world's starving cannot be met. Nutriset argues that there is actually no need for anyone else to make a product that serves the same purpose as Plumpy'nut. The French company and its franchises comfortably have the capacity to meet the demand from humanitarian organisations and to continue to do so as demand grows.

"I am for the advancement of research on nutrition," says Mr Lescanne. "But this should not be about copying without adding something. Everyone needs to bring something to the system."

Unmet need

According to United Nation figures, there are currently almost 20 million severely and acutely malnourished children worldwide. Around 80 percent of those could be treated at home. But because treatment does not reach most, around one million children under five die of starvation every year.³

But Nutriset spokesman Remi Vallet explains that without more funds, aid organisations could not expand their programmes to reach more children. Non-governmental organisations like Médecins Sans Frontières (MSF) agree. Even if the price of RUTFs comes down substantially, they say, they would need a lot more funds to set up new programmes to reach new populations.

Plumpy'nut currently sells for around €2.7 (£2.3; €3.7) a kilogramme and smaller competitors' prices are similar, MSF's procurement director Stephane Doyon says.

MSF has written formally to Nutriset calling on the firm to protect its patent less aggressively so that prices can fall. WHO and Unicef say they are strongly in favour of opening up the market so that they can feed more starving children on the same budget.

Appropriate use

However, experts warn that the easier and cheaper it becomes to get hold of RUTFs (they are not sold in retail outlets, only to humanitarian organisations) the greater the risk of reduced quality and misuse of the product.

"The problem is that it's being used as a sort of magic bullet to resolve all the problems of malnutrition, and this is not what we are trying to support," says Zita Weise-Prinzo, technical officer at the WHO's department of nutrition for health

and development. She expresses concern that Plumpy'nut is sometimes fed to the wrong aged children and for too long. Technically it should be given only to children with acute stage malnutrition and for about two months. But children have been given the product for much longer, rather than being eased back on to normal foods. "You can see the result. They are all puffy," she says.

Ms Weise-Prinzo is currently drawing up WHO official guidelines for the outpatient care of severe malnutrition but for now there is little structure or follow-up in the field once packets of Plumpy'nut have been handed out.

"There is a danger that everyone is focusing on the quick fix when we should be investing in prevention not cure of malnutrition," says Pamela Morrisson, a member of Lactation Consultants of Great Britain. She says there have been cases in Malawi where women have stopped breast feeding because they believed that Plumpy'nut could provide the same function.

Ms Morrisson argues that it would be more cost effective to develop programmes to feed mothers and encourage them to keep breastfeeding even in crisis situations where their lives are disrupted.

Some countries, most notably India, have also expressed concern that products like Plumpy'nut are distributed widely and for free, people will become dependent on them and stop growing and eating local crops. India has banned Unicef from importing Plumpy'nut for this reason.

"Donors like seeing a product," says Ms Weise-Prinzo. "They like being able to say they have distributed so many tonnes of this magic pill or whatever and it was distributed to so many thousands or millions of children."

Potentially there is a much bigger market for preventive products than curative ones because there are far more mildly malnourished children than acutely malnourished.

Nutriset has already thought of that. The company has developed a range of less concentrated products (the most widely used so far is called Plumpy'doz), all of which are also patented. These treatments—known as ready to use supplementary foods—are gaining recognition, and Mr Lescanne says in 2010 Nutriset will produce as much supplementary food as RUTF.

Ultimately the battle for the business of feeding the world's hungry rather than feeding those dying of starvation may have only just begun. And the sums involved thus far now may prove to be peanuts compared with what has been made so far.

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