

Why are our hospitals throwing away the blood that could save so many lives?

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Amy Winston-Hart spent many months preparing for the worst as her three-year-old daughter Eva fought a particularly vicious form of leukaemia.

The disease was apparently curable only with an infusion of healthy blood stem cells from a bone marrow donor.

However, a trawl of more than 11 million people registered on the world's databases of bone marrow donors produced not one single match.



Fresh hope: Leukaemia patient Eva Winston-Hart, with her campaigning mum, Amy and father, David

"It was just terrible," recalls Amy. "Eva was getting worse and there was nothing we could do to save her."

In desperation, the family spoke to the media to encourage more bone marrow donors to come forward, and more than 500 people queued at emergency donor recruitment clinics in the family's home town of Market Harborough, Leicestershire.

Again, no one was suitable.

"It was agonising," says Amy.

"We were doing everything we could, but as time went by we really thought nothing would be found to save her life."

A few months ago, however, Eva finally

underwent lifesaving treatment.

But instead of bone marrow stem cells, she was given blood stem cells from the umbilical cord of a baby born thousands of miles away in a small town in New Jersey, America.

These immature baby stem cells can generate new cell production.

Not only that, their immaturity means they are much less likely to trigger a reaction from the recipient's immune system, even if they are not fully matched.

Doctors are now optimistic about Eva's future.

But that's thanks only to the decision by American authorities to store cord stem cells. Previously, this material was discarded, but now in some American states, the stem cells are stored as a matter of course; in others, the family can request it.

The U.S. is also one of a number of countries allowing stored cells to be used by other than the immediate family.

"Thank God the Americans are doing this, otherwise Eva just simply would not be here," said Amy, 28, who works as a party organiser.

Every year 500 children are diagnosed with leukaemia.

A further 20,000 adults develop the disease and related blood cancers such as lymphoma.

For many sufferers, the disease is curable thanks to the latest generation of anti-cancer chemotherapy drugs.

But for at least one in five, the condition is resistant to drugs, leaving a transplant of blood stem cells from a matched donor as the only hope.

Such matches are extremely rare, and at least 4,400 people with leukaemia - more than half those diagnosed - die every year.

For the past two decades, scientists have known that stem cells from the umbilical cords of newborn babies can generate new cell production, and the cells have been used in hospitals around the world to treat more than 85 other rare diseases.

However, just three NHS hospitals in Britain are collecting umbilical cord blood, producing a supply of just 1,200 units for the whole of last year because of limited funding.

The National Blood Service defended its modest record of cord blood banking, and said that although 95 per cent of new mothers are happy to donate the tissue for general use, the practice of freezing and storing the cells is limited by the funding made available by the Department of Health.

"I just cannot understand it," said Colin McGuckin, professor of regenerative medicine at Newcastle University's prestigious Centre

for Life.

"We have shown that these cord blood stem cells can not only save the lives of blood cancer patients but have many other uses as well.

"We have shown it is possible to grow them into pancreatic and liver tissue, as well as nerve cells, but unless we have enough cord blood stored, we can't really do more research or help people."

A bill is to be presented in Parliament this month calling for the routine NHS collection of umbilical cord blood from all new babies unless the mother declines.

"Britain is lagging behind in recognising the treatment potential from this source of stem cells,' said David Burrowes, the MP behind the bill.

"It is ridiculous that we are not exploiting it."

Meanwhile, a number of private companies already collect and store cord blood for families as an insurance policy against their child developing a disease which could be treated by stem cells.

Private stem cell storage costs £1,500.

Richard Branson, whose Virgin empire runs a charitable arm called Virgin Unite, has also become interested.

He has just set up a cord blood bank which provides a cord blood collection and storage service, but will at the same time provide samples free for research projects.

Becki Josiah is the mother of one tragic leukaemia victim.

She lost her 14-year-old daughter Billie to leukaemia following a twoyear battle against the disease.

Billie had a particularly aggressive form of the cancer and her chances of survival were further reduced because her father, Aubrey, comes from Guyana.

Once children such as Billie contract cancerous diseases such as leukaemia, they face a double difficulty because mixed race stem cell donors, as well as donors from many ethnic minorities, are almost always unavailable from any donor bank.

Now Becki, 40, is expecting a new baby in December. She is desperate that the baby's umbilical cord blood is saved in the hope of helping in the future a mixed race child, but has been told she can only do this by paying a private cord blood bank to accept the donation.

"Being in hospital with Billie, I saw so many young teenagers die needlessly from this disease," she says.

"I can't afford to pay to store the baby's cord blood to help others, but am trying to raise awareness for the public good."