at the Nationwide Children's Hospital in Columbus, Ohio. "The manufacturers point their fingers at the FDA, and the FDA points its finger at the manufacturers," she says.

Leber found her own way around the problem. Last year, her lab colleagues hacked into her hospital's machine to upgrade the software that governs resistance categories for carbapenems. Earlier this year the machine identified a case of CRE. The patient was swiftly isolated and an outbreak averted.

Leber worries about smaller clinics that do not have advanced screening equipment, let alone the time and money to update their devices. Meanwhile, CRE cases are spreading out of urban centres. Since the microbes were first detected in North Carolina in 2001, they can now be found in nearly every US state.

Jean Patel, deputy director of the office of antimicrobial resistance at the Centers for Disease Control and Prevention in Atlanta, Georgia, wants screening devices updated faster so that her agency can conduct better surveillance. "It has been a little frustrating to watch how long this has taken." ■

Additional reporting by Elizabeth Gibney.

MEDICAL MUSEION/UNIV. COPENHAGEN

Illuminated microarrays formed part of a display at a medical museum in Copenhagen in 2011.

SCIENCE HISTORY

Museums hunt for relics from genomics' early days

Collectors band together to salvage cast-off equipment.

BY HEIDI LEDFORD

In a former envelope factory sits a boxy grey and blue machine the size of an oven — the tenth acquisition this year for a Massachusetts science museum. It is a colony picker, a robotic arm that plucks bacteria from Petri dishes and drops them into a tray with 96 wells, from which DNA is extracted, amplified and sequenced.

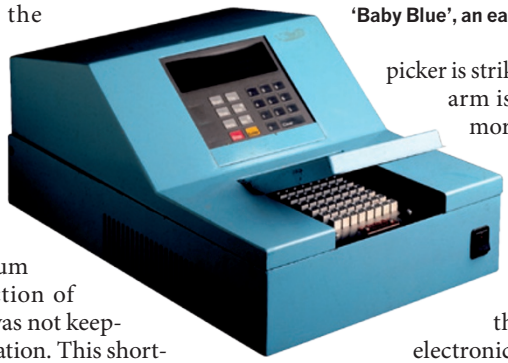
At the start of this century, the device powered genomics research at the Whitehead Institute for Biomedical Research in Cambridge, Massachusetts. Now retired, it rests in the warehouse of the Massachusetts Institute of Technology (MIT) Museum, sandwiched between a sewing machine from around the 1920s and an analog computer from the 1950s.

NATURE.COM
For a slideshow of equipment sought by curators, see:
go.nature.com/o5ruqh

Genomics researchers might find it hard to believe that museum patrons would be interested in paying homage to a piece of lab equipment as pedestrian as a colony picker. Curators of science and technology museums say that is exactly the problem.

"Very few scientists have any idea that they should preserve these things," says Thomas Söderqvist, director of the Medical Museion in Copenhagen. "They just throw them out."

But in the past two years, a confederation of about a dozen science museums has



SCIENCE MUSEUM, LONDON

'Baby Blue', an early DNA amplifier.

coalesced around the need to preserve relics of the genomics revolution, in an effort known as the Museum Genomics Initiative. It was born of a concern that, in a time of shrinking museum budgets, the collection of scientific artefacts was not keeping pace with innovation. This shortcoming has been felt across disciplines, says Simon Chaplin, head of the Wellcome Collection's library of biomedical history in London, which has also joined the initiative. But he says that an effort focused on genomics makes sense because of the field's importance for medicine, appeal to the public and rapid growth since the late 1990s. "There's a real risk that if we don't act quickly, the material legacy of genomics will be lost," he says.

Such was nearly the fate of one of the colony picker's neighbours, a machine with a conveyor belt running along its top. Its job was once to shuttle a colony picker's 96-well trays between stations (each named after a stop on the subway line that runs through Cambridge) to prepare samples for sequencing. John Durant, director of the MIT Museum in Cambridge, came across it about a year ago while rummaging through a storage facility at the nearby Broad Institute.

The machine was slated for disposal, even though it had been used during the peak of the frenzy to sequence the first human genome. "We looked at this thing and said immediately, 'We'll have it'," says Durant.

He likens his job to that of a contemporary-art collector: he has to predict what items will hold value decades from now. Scientific advisers help curators in this assessment. Robert Bud, chief curator of science and medicine at the century-old Science Museum in London — home of 'Baby Blue', a prototype machine for running the polymerase chain reaction to amplify bits of DNA — says that the Museum Genomics Initiative aims to help museums to prioritize and consolidate their efforts by creating a list of pieces recommended for acquisition. Bud declines to name all the items he would put at the top of his own wish list, however: "The moment I say something, it acquires value."

Luckily, unlike contemporary art, cast-off lab equipment rarely comes at a high price. Instead, the cost lies in storage, particularly for large pieces. And if museums want to keep the machines in working order, finding the right consulting technicians and spare parts can be costly, says Heather Erickson, president of the Life Sciences Foundation in San Francisco, California, a non-profit organization dedicated to preserving historical information about biotechnology. (A colony picker is striking when its robotic arm is working, but little more than a box when it is not.)

Sexing up the visual appeal of the artefacts is another challenge, says Söderqvist. Over the past 50 years, as electronics became miniaturized and manufacturing was standardized, the beautifully customized machines of old gave way to uninspiring grey boxes. "We are working with more and more abstract objects," he says. "Does a DNA sequencer look any different from your dishwasher?"

Söderqvist sees his role in the initiative as providing some visual pizzazz to these DNA 'dishwashers'. In 2011, he helped to create an exhibition of microarrays (slides coated with 20,000 unique DNA fragments) used in a diabetes experiment. His museum drilled holes in about 600 arrays, and strung them from the ceiling, illuminating them with fibre optics.

Some items have more obvious appeal and are objects of acute desire for curators. Durant gets a dreamy look when he discusses the display that was hung in the reception area of the Wellcome Trust Sanger Institute in Cambridge, UK, in the mid-1990s during the Human Genome Project. A digital ticker scrolled through the DNA letters that had come up in the previous day's sequencing — and the rate at which the As, Ts, Cs and Gs flew by underscored not only advances in sequencing technology, but also the institute's mission to make those sequences publicly available.

The Sanger still has the sign, and sometimes trots it out for visiting school groups, but it no longer greets visitors in reception because the system cannot keep up with modern sequencing speeds. Bud says that his museum would like to acquire it.

Also on Bud's agenda is a sequencing machine from UK company Oxford Nanopore Technologies. The machines, some of which can sequence the human genome in 15 minutes, are not yet relics; they have not been commercially released and labs around the world are queuing up to access the first batch (see *Nature* http://doi.org/p8j; 2012). "It's going to be among the hardest to acquire," says Bud. "But we've been around a hundred years. We'll wait." ■

CORRECTION

The News story 'China aims for the Moon' (*Nature* **503,** 445–446; 2013) should have said that Chang'e-3 will deploy the first near-ultraviolet telescope on the Moon (*Apollo 16* used a far-ultraviolet telescope).