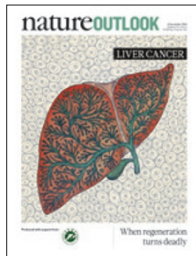


# natureOUTLOOK

## LIVER CANCER

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Unless liver cancer is caught early, a patient's odds are dismayingly low. The disease hits hard and fast: survival rates vary by country, but in the United Kingdom, just 20% of people with the disease are still alive one year after diagnosis. It is also the sixth most common form of cancer worldwide, with nearly 800,000 cases reported in 2012. Yet despite liver cancer's growing prevalence, there is a startling lack of treatments. Beyond physical approaches such as radiation, transplant and surgery (page S17), there is only one approved therapy, which has been followed by a string of expensive failures and a slim list of candidate drugs (page S4).

Liver cancer is nearly always caused by underlying disease, but the source of that disease varies widely around the world (page S2) and includes hepatitis B virus (HBV), poor diet and inactivity, and fungal toxins. For each of these, public-health initiatives have the potential to make a difference: vaccines can prevent HBV (page S12), improved health practices can slow or even halt the progression of fatty liver disease (page S8), and better agricultural practices and storage conditions can limit fungal growth (page S7).

Researchers do not yet understand why some people can live with liver disease for many years, whereas others develop fatal cancer. They think that a sequence of biological hits must happen in order for liver disease to become malignant, but identifying these hits is proving challenging. Scientists are looking for clues far and wide, from the bacteria that live in our gastrointestinal tracts (page S14) to the gender differences that cause many more men than women to develop the disease (page S10).

We are pleased to acknowledge that this Outlook was produced with the support of Tongji Hospital. As always, *Nature* retains sole responsibility for all editorial content.

**Lauren Gravitz**

*Contributing Editor*

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