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With the world on high alert and the press inundated with articles alerting us to an imminent influenza-virus pandemic, Stanley Perlman and Ajai Dandekar (page 917) take a step back to consider what we have learned since the outbreak of severe acute respiratory syndrome (SARS). SARS hit the headlines at the end of 2002, when the first cases of humans infected with a novel strain of coronavirus (SARS-CoV) emerged, and led to considerable mortality and morbidity in the following year. With no animal model that accurately mimics SARS in humans, lessons about the pathological processes of this syndrome must be drawn from studies of animals that are infected with other coronaviruses. Such studies point to immune cells, in particular activated macrophages and other pro-inflammatory cells, as the instigators of clinical disease and tissue destruction in SARS. More on the biology and heterogeneity of macrophages can be found in the article by Siamon Gordon and Philip Taylor on page 953.

Another topic on the agenda of health organizations is the development of alternatives to needle-based immunization, which is reviewed by Samir Mitragotri on page 905. Needle-free methods of immunization, such as liquid-jet injectors and topical application to the skin, would circumvent the risks of cross-contamination, owing to needle re-use, and needle-stick injuries to health-care workers.

Finally, a topic that researchers hope will reach the headlines is the story of 'supernatural' T cells, which are T cells that have been genetically modified to enhance antitumour efficacy. Michael Kershaw and colleagues (page 928) introduce us to this approach for cancer therapy and discuss how these cells can overcome barriers that are inherent to the tumour microenvironment.



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