



COVER ART: NIK SPENCER

**Supplement Editors**Apoorva Mandavilli,  
Michelle Grayson**Art & Production**Martin Harrison,  
Sarah Lorient, Karl Smart**Production Controllers**

Susan Gray, Emilia Orviss

**Web Production Editor**

Terhi Raukko

**Sub Editor**

Victoria Kitchener

**Marketing**Elena Woodstock,  
Hannah Phipps**Managing Editor**

Nick Campbell

**Magazine Editor**

Tim Appenzeller

**Project Manager**

Claudia Deasy

**Editor in Chief,  
Nature Publications**

Philip Campbell

**Sponsorship**Gerard Preston, Reya Silao,  
Stephen Russell

nature publishing group

If you are only a casual follower of the trends in HIV/AIDS research, you would be forgiven for thinking that there is nothing new to say about this field.

The miraculous drugs that keep so many HIV-positive people alive have, ironically, blunted the urgency with which the press, policy makers and the general public used to talk about the epidemic.

In fact, as this *Nature Outlook* shows, there is a renaissance afoot in the field. There is, for instance, hushed talk of something most people had given up on: a cure for HIV/AIDS. With more powerful new drugs and a clearer understanding of the virus' ways, some researchers are quietly exploring approaches to flush the virus out of the body completely.

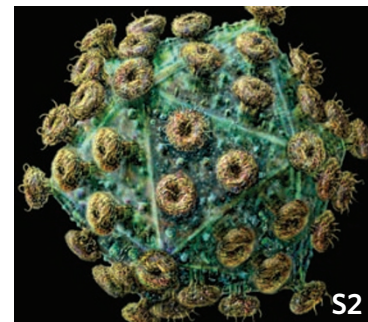
In the past few years, researchers have also made remarkable progress in understanding how HIV literally exhausts the immune system by keeping it on high alert, and how exquisitely different each individual's immune response is to the virus. Scientists are learning, slowly but surely, how to build antibodies that can neutralize the virus, and vaccines that can prevent it from infecting people in the first place.

Some of these lessons come from unexpected places — ranging from monkeys in Asia to sex workers in Africa and haemophiliacs in the United States. They are also the result, as is often the case with big advances in science, of multidisciplinary collaborations.

Outside the laboratory, too, there is new hope. Experts are combining every tool at hand — such as mobile telephones, male circumcision and microbicides laced with antiretroviral drugs — to prevent new infections. Even South Africa, that hotbed of AIDS denialism, is finally facing up to its epidemic.

We are pleased to acknowledge financial support from ViiV Healthcare in producing this Outlook. As always, *Nature* carries sole responsibility for all editorial content.

**Apoorva Mandavilli, Consultant Editor**

**contents**

- S2 On high alert**  
Emma Marris
- S4 Learning from the elite**  
Bijal Trivedi
- S5 The primate connection**  
Bijal Trivedi
- S6 Dancing with an escape artist**  
Sarah DeWeerd
- S8 Tiny steps towards an HIV vaccine**  
Cassandra Willyard
- S9 Joining forces**  
Cassandra Willyard
- S11 The outlook for a cure**  
Virginia Hughes
- S14 Forgotten lessons**  
Paroma Basu
- S16 Developing solutions**  
T. V. Padma
- S18 Fighting the monster**  
Amy Maxmen
- S20 Grassroots initiatives**  
Amy Maxmen
- S21 A call for collaboration**  
Unmesh Kher
- collection**
- S23 AIDS research must link to local policy**  
Salim S. Abdool Karim & Quarraisha Abdool Karim
- S25 Public database for HIV drug resistance in southern Africa**  
Tulio de Oliveira, Robert W. Shafer & Christopher Seebregts
- S26 Is the high virulence of HIV-1 an unfortunate coincidence of primate lentiviral evolution?**  
Frank Kirchhoff
- S36 HIV-1 exploits innate signaling by TLR8 and DC-SIGN for productive infection of dendritic cells**  
Sonja I. Gringhuis *et al.*
- S44 Retroviral intasome assembly and inhibition of DNA strand transfer**  
Stephen Hare *et al.*

*Nature Outlooks* are sponsored supplements that aim to stimulate interest and debate around a subject of interest to the sponsor, while satisfying the editorial values of *Nature* and our readers' expectations. The boundaries of sponsor involvement are clearly delineated in the *Nature Outlook* editorial guidelines available at [http://www.nature.com/advertising/resources/pdf/outlook\\_guidelines.pdf](http://www.nature.com/advertising/resources/pdf/outlook_guidelines.pdf)

**CITING THE OUTLOOK**

Cite as a supplement to *Nature*, for example, *Nature* Vol XXX, No. XXXX Suppl, Sxx-Sxx (2010).  
To cite previously published articles from the collection,

please use the original citation, which can be found at the start of each article.

**VISIT THE OUTLOOK ONLINE**

The *Nature Outlook HIV/AIDS* supplement can be found at [www.nature.com/nature/outlook/HIV-AIDS/](http://www.nature.com/nature/outlook/HIV-AIDS/). All featured articles will be freely available for six months.

**SUBSCRIPTIONS AND CUSTOMER SERVICES**

For UK/Europe (excluding Japan):  
Nature Publishing Group, Subscriptions,  
Brunel Road, Basingstoke, Hants, RG21 6XS, UK.

Tel: +44 (0) 1256 329242.

Subscriptions and customer services for Americas - including Canada, Latin America and the Caribbean: Nature Publishing Group, 75 Varick St, 9th floor, New York, NY 10013-1917, USA. Tel: +1 866 363 7860 (US/Canada) or +1 212 726 9223 (outside US/Canada).

**CUSTOMER SERVICES**

Feedback@nature.com

Copyright © 2010 Nature Publishing Group