while genes associated with GPCR signaling were the major targets of HCV. Metabolic pathways were modulated by both HCV and HIV viruses.

Conclusions: This study for the first time offers gene profiling basis for HCV/HIV mono-/co- infections in human beings. HIV infection displayed the great impact on transcription profile of CD4^{+} T cells in HIV/HCV co-infected individuals. Genes related to cell cycle arrest were significantly mediated by HIV which may lead to dysfunction of CD4^{+} T cells and acceleration of HCV-related disease progression in the co-infections.

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P132-Ab0100
Susceptibility of the Upper Respiratory Tract to Influenza Virus Infection Following Desialyation

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Background: Influenza infection begins with the attachment of the viral haemagglutinin (HA) to the surface receptor of a cell. This binding involves a glycan called sialic acid (Sia). Previous studies have suggested that the affinity of influenza viruses isolated from different species depends on the linkage between this Sia and the adjacent sugar (usually galactose). In general, human and swine viruses prefer Sia with an α2-6 linkage while avian viruses prefer an α2-3 linkage. Though there are commercially available therapies that block influenza virus release, there has been limited information on controlling influenza virus infection by removing Sia from the host surface.

Objectives: The objectives of this study were firstly to identify the Sia present in the human respiratory tract and then see if these receptors were still present after sialidase treatment. We then investigated whether removal of this Sia by sialidase would reduce influenza infection in ex vivo tissues.

Methods: We used lectin histochemistry to identify the Siaα2-6 and Siaα2-3 linkage and then re-examined this lectin binding after topical sialidase treatment. We then analyzed the tissues for the presence of sialylated glycans using mass spectrometry. Finally we tested the infection of human upper and lower respiratory tract tissues after sialidase treatment with avian and human viruses.

Results: We found that there was a diffuse expression of Siaα2-6 throughout the upper and lower respiratory tract. Siaα2-3 varied according to site with more N-linked Siaα2-3 glycans in the upper respiratory tract and more O-linked glycans in the lower respiratory tract. Sialidase treatment was able to remove both types of glycans. Unexpectedly we found that the effect of desialylation was not the same in all cell lines tested.

Conclusions: We found that both prophylactic as well as therapeutic sialidase treatment was able to prevent infection with avian and human influenza viruses and that the ex vivo model was a useful study tool for testing the efficicacy of novel therapeutic agents.

Implications: Sialidase therapy offers a potentially useful clinical option and this has now being used in a Phase II clinical trial for influenza and another sialic-acid receptor based infection caused by parainfluenza viruses.

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P133-Ab0042
Analysis of Influenza Vaccination Policies Before, During and After the 2009 H1N1 Pandemic

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Background: Vaccination is generally considered to be the best primary prevention measure against influenza virus infection. Many countries encourage specific target groups of people to undertake vaccination, often with financial subsidies or a priority list. To understand differential patterns of national target groups for influenza vaccination before, during and after the 2009 influenza pandemic, we reviewed and analyzed the country-specific policies in the corresponding time periods.

Methods: Information on prioritized groups targeted to receive seasonal and pandemic influenza vaccines was derived from a multi-step internet search of official health department websites, press releases, media sources and academic journal articles. We assessed the frequency and consistency of targeting 20 different groups within populations which are associated with age, underlying medical conditions, role or occupations among different countries and vaccines. Information on subsidies provided to specific target groups was also extracted.

Results: We analyzed target groups for 33 (seasonal 2009 and 2009-10 vaccines), 72 (monovalent pandemic 2009-10 vaccine) and 34 (seasonal 2010 and 2010-11 vaccines) countries. In 2009-10, the elderly, those with chronic illness and health care workers were common targets for the seasonal vaccine. Comparatively, the elderly, care home residents and workers, animal contacts and close contacts were less frequently targeted to receive the pandemic vaccine. Pregnant women, obese persons, essential community workers and health care workers, however, were more commonly targeted. After the pandemic, pregnant women, obese persons, health care and care home workers, and close contacts were more commonly targeted to receive the seasonal vaccine compared to 2009-10, showing continued influence from the pandemic. Many of the countries provided free vaccines, partial subsidies, reimbursements or national health insurance coverage to specific target groups and over one-third of the countries offered universal subsidy regarding the pandemic vaccine. There was also some inconsistency between countries in target groups.

Conclusions: Differences in target groups between countries may reflect variable objectives as well as uncertainties regarding the transmission dynamics, severity and age-specific immunity against influenza viruses before and after vaccination. Clarification on these points is essential to elucidate optimal and object-oriented vaccination strategies.

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Aerosol Dispersion During Common Respiratory Therapies: A Risk Assessment Model of Nosocomial Infection to Healthcare Workers

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Introduction, Aims and Objectives: The exhaled air dispersion