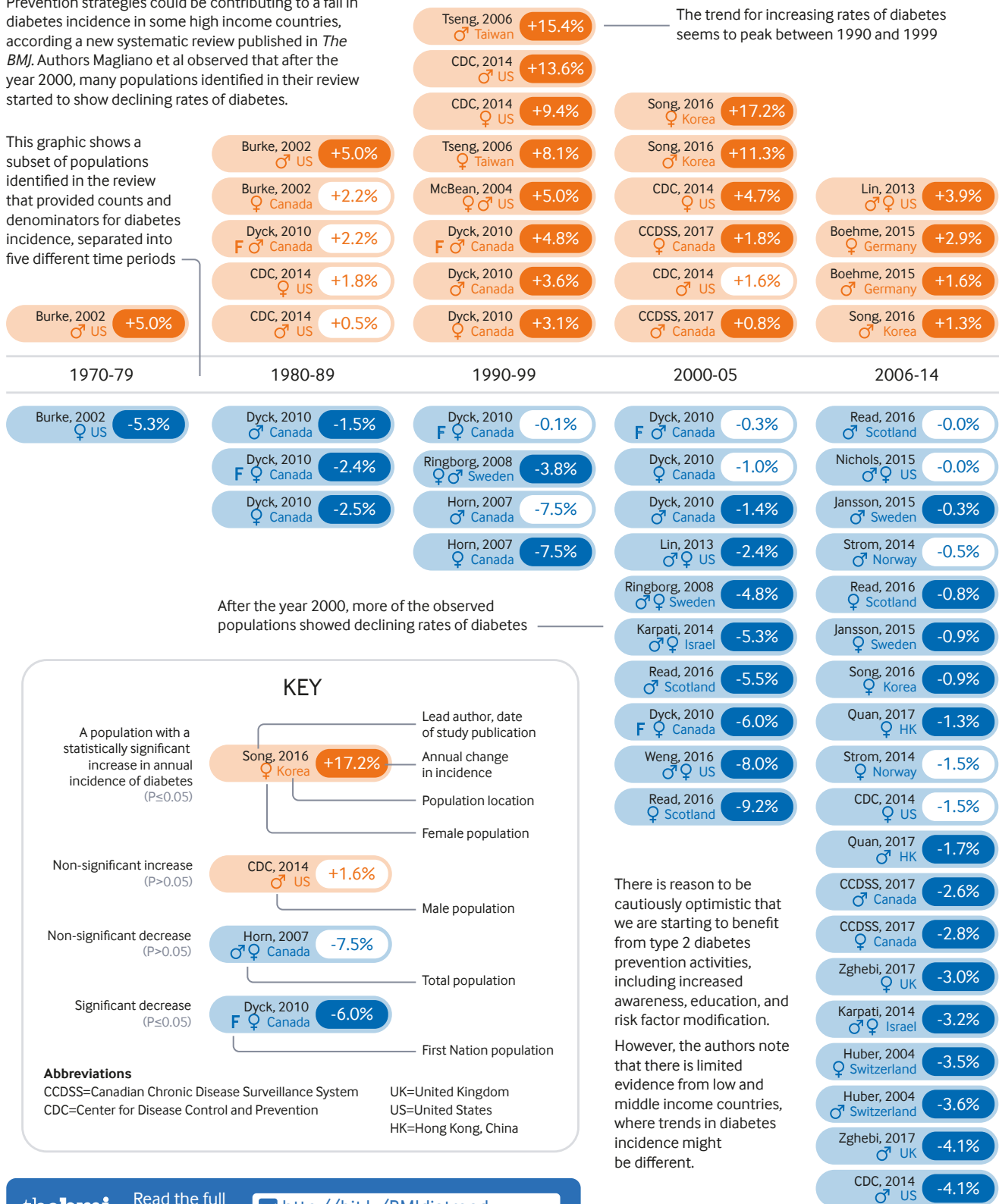# A turning point for diabetes?

Results of a systematic review of trends in diabetes incidence

Prevention strategies could be contributing to a fall in diabetes incidence in some high income countries, according a new systematic review published in *The BMJ*. Authors Magliano et al observed that after the year 2000, many populations identified in their review started to show declining rates of diabetes.

This graphic shows a subset of populations identified in the review that provided counts and denominators for diabetes incidence, separated into five different time periods

The trend for increasing rates of diabetes seems to peak between 1990 and 1999

1970-79	1980-89	1990-99	2000-05	2006-14
		Tseng, 2006 ♂ Taiwan +15.4%		
		CDC, 2014 ♂ US +13.6%		
		CDC, 2014 ♀ US +9.4%	Song, 2016 ♀ Korea +17.2%	
	Burke, 2002 ♂ US +5.0%	Tseng, 2006 ♀ Taiwan +8.1%	Song, 2016 ♂ Korea +11.3%	
	Burke, 2002 ♀ Canada +2.2%	McBean, 2004 ♂♀ US +5.0%	CDC, 2014 ♀ US +4.7%	Lin, 2013 ♂♀ US +3.9%
	Dyck, 2010 F ♂ Canada +2.2%	Dyck, 2010 F ♂ Canada +4.8%	CCDSS, 2017 ♀ Canada +1.8%	Boehme, 2015 ♀ Germany +2.9%
	CDC, 2014 ♀ US +1.8%	Dyck, 2010 ♂ Canada +3.6%	CDC, 2014 ♂ US +1.6%	Boehme, 2015 ♂ Germany +1.6%
Burke, 2002 ♂ US +5.0%	CDC, 2014 ♂ US +0.5%	Dyck, 2010 ♀ Canada +3.1%	CCDSS, 2017 ♂ Canada +0.8%	Song, 2016 ♂ Korea +1.3%

1970-79	1980-89	1990-99	2000-05	2006-14
Burke, 2002 ♀ US -5.3%	Dyck, 2010 ♂ Canada -1.5%	Dyck, 2010 F ♀ Canada -0.1%	Dyck, 2010 F ♂ Canada -0.3%	Read, 2016 ♂ Scotland -0.0%
	Dyck, 2010 F ♀ Canada -2.4%	Ringborg, 2008 ♀♂ Sweden -3.8%	Dyck, 2010 ♀ Canada -1.0%	Nichols, 2015 ♂♀ US -0.0%
	Dyck, 2010 ♀ Canada -2.5%	Horn, 2007 ♂ Canada -7.5%	Dyck, 2010 ♂ Canada -1.4%	Jansson, 2015 ♂ Sweden -0.3%
		Horn, 2007 ♀ Canada -7.5%	Lin, 2013 ♂♀ US -2.4%	Strom, 2014 ♂ Norway -0.5%
			Ringborg, 2008 ♂♀ Sweden -4.8%	Read, 2016 ♀ Scotland -0.8%
			Karpati, 2014 ♂♀ Israel -5.3%	Jansson, 2015 ♀ Sweden -0.9%
			Read, 2016 ♂ Scotland -5.5%	Song, 2016 ♀ Korea -0.9%
			Dyck, 2010 F ♀ Canada -6.0%	Quan, 2017 ♀ HK -1.3%
			Weng, 2016 ♂♀ US -8.0%	Strom, 2014 ♀ Norway -1.5%
			Read, 2016 ♀ Scotland -9.2%	CDC, 2014 ♀ US -1.5%
				Quan, 2017 ♂ HK -1.7%
				CCDSS, 2017 ♂ Canada -2.6%
				CCDSS, 2017 ♀ Canada -2.8%
				Zghebi, 2017 ♀ UK -3.0%
				Karpati, 2014 ♂♀ Israel -3.2%
				Huber, 2004 ♀ Switzerland -3.5%
				Huber, 2004 ♂ Switzerland -3.6%
				Zghebi, 2017 ♂ UK -4.1%
				CDC, 2014 ♂ US -4.1%

After the year 2000, more of the observed populations showed declining rates of diabetes

KEY

A population with a statistically significant increase in annual incidence of diabetes (P≤0.05)
— Song, 2016 ♀ Korea +17.2%
- Lead author, date of study publication
- Annual change in incidence
- Population location
- Female population

Non-significant increase (P>0.05)
— CDC, 2014 ♂ US +1.6%
- Male population

Non-significant decrease (P>0.05)
— Horn, 2007 ♂♀ Canada -7.5%
- Total population

Significant decrease (P≤0.05)
— Dyck, 2010 F ♀ Canada -6.0%
- First Nation population

Abbreviations
CCDSS=Canadian Chronic Disease Surveillance System
CDC=Center for Disease Control and Prevention
UK=United Kingdom
US=United States
HK=Hong Kong, China

There is reason to be cautiously optimistic that we are starting to benefit from type 2 diabetes prevention activities, including increased awareness, education, and risk factor modification.

However, the authors note that there is limited evidence from low and middle income countries, where trends in diabetes incidence might be different.