



## Public Health Agency of Canada

www.publichealth.gc.ca

Français

Home

Contact Us

Help

Search

Canada.ca

Home > Surveillance > [CIPARS](#) > Reports > UPDATE - Salmonella Heidelberg Ceftiofur-Related Resistance in Human and Retail Chicken Isolates - 2006 to 2008

## Main Menu

[About the Agency](#)[Infectious Diseases](#)[Chronic Diseases](#)[Travel Health](#)[Food Safety](#)[Immunization & Vaccines](#)[Emergency Preparedness & Response](#)[Health Promotion](#)[Injury Prevention](#)[Lab Biosafety & Biosecurity](#)[Surveillance](#)

## Explore

[Media Room](#)[Acts & Regulations](#)[Reports & Publications](#)[A-Z Index](#)

## Transparency

[External Advisory Bodies](#)[Public Engagement](#)[Completed Access to Information Requests](#)[Proactive Disclosure](#)

+/- TEXT

PRINT

SHARE

## ARCHIVED - UPDATE - *Salmonella* Heidelberg Ceftiofur-Related Resistance in Human and Retail Chicken Isolates - 2006 to 2008

This page has been archived.

### Archived Content

Information identified as archived on the Web is for reference, research or recordkeeping purposes. It has not been altered or updated after the date of archiving. Web pages that are archived on the Web are not subject to the Government of Canada Web Standards. As per the [Communications Policy of the Government of Canada](#), you can request alternate formats on the "[Contact Us](#)" page.

### More Information

[Salmonella Heidelberg – Ceftiofur-Related Resistance in Human and Retail Chicken Isolates](#)

The purpose of this web-report is to update our "[Salmonella Heidelberg – Ceftiofur-Related Resistance in Human and Retail Chicken Isolates](#)" posted in 2007

(<http://www.phac-aspc.gc.ca/cipars-picra/heidelberg/heidelberg-eng.php>). The following is a simple description of the data, based on the [CIPARS 2006 Annual Report](#), together with additional data up to and including 2008. Please refer to *Section III – Integrated Surveillance* of this [2006 Annual Report](#) for an in-depth description of these surveillance findings, limitations to the data, as well as [CIPARS](#) activities in this area.

### Provincial trends

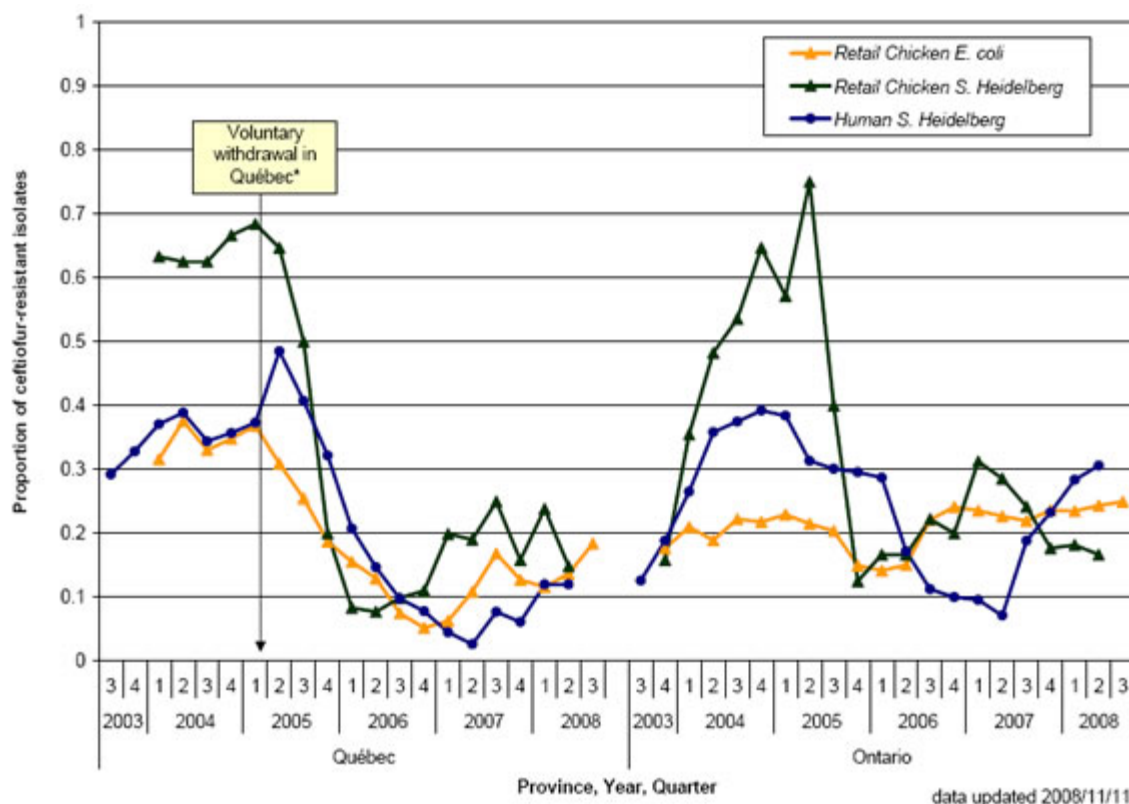
After 2006, in Québec we saw a statistically significant increase in ceftiofur resistance among retail chicken *Escherichia coli*, and an apparent re-emergence of ceftiofur resistance in isolates from retail chicken *S. Heidelberg*, with a similar (though delayed) trend occurring in human cases of *S. Heidelberg* (Figure 1, Table 1). In Ontario, increases in the proportion of ceftiofur-resistant chicken isolates had already started in early 2006. Since the last quarter of 2006, the prevalence of ceftiofur resistance in retail chicken from Ontario remained steady in *E. coli*, though the prevalence of ceftiofur-resistant isolates fluctuated in chicken *S. Heidelberg*, and ceftiofur resistance re-emerged after the second quarter of 2007 in human cases of *S. Heidelberg*.

Since 2005, [CIPARS](#) identified only one ceftiofur-resistant isolate out of 37 *S. Heidelberg* collected from retail chicken from Saskatchewan. In British Columbia, 56% of the nine *S. Heidelberg* detected in chicken through pilot retail surveillance conducted in 2005, 2007, and 2008<sup>1</sup> were resistant to ceftiofur (Table 1).

Between 2007 and 2008, ceftiofur resistance in retail chicken *E. coli* went from 29% (12/42) to 46% (29/63) in British Columbia, 22% (35/157) to 26% (31/121) in Ontario, 13% (17/128) to 18% (20/110) in Québec, and 13% (10/75) to 18% (14/76) in Saskatchewan (Table 1).

The decreasing prevalence of *S. Heidelberg* in both retail chicken and humans highlighted in the previous *S. Heidelberg* report was confirmed after 2006 in the provinces of Ontario and Québec. This decrease appears to be independent of the susceptibility profile.

**Figure 1: Proportion (moving average of previous three quarters) of isolates resistant to ceftiofur among retail chicken *E. coli*, and retail chicken and human clinical *S. Heidelberg* isolates from 2003 to 2008 (preliminary) in Québec and Ontario.\***



\* The yearly averages of the quarterly values presented in Figure 1 do not necessarily match annual proportions presented in Table 1, because in Figure 1 each of these data points represents the average of the previous three quarters.

**Table 1. Annual proportion of human and retail chicken *S. Heidelberg* isolates and chicken *E. coli* isolates resistant to ceftiofur.**

Annual proportion of isolates resistant to ceftiofur proportion (number resistant/total number tested)

Province	2003	2004	2005	2006	2007	2008*
<b>Human clinical <i>Salmonella Heidelberg</i></b>						
Ontario	0.18 (31/171)	0.38 (70/185)	0.30 (41/139)	0.10 (12/122)	0.22 (21/95)	0.32 (7/22)
Québec	0.31 (52/167)	0.36 (42/116)	0.35 (37/106)	0.08 (8/96)	0.06 (4/63)	0.21 (3/14)
<b>Chicken retail <i>Salmonella Heidelberg</i></b>						
British Columbia			0.50 (1/2)		0.60 (3/5)	0.50 (1/2)
Saskatchewan			0 (0/5)	0.08 (1/13)	0 (0/9)	0.00 (0/10)

<b>Ontario</b>	0.16 (3/19)	0.59 (19/33)	0.33 (3/9)	0.21 (3/14)	0.21 (9/42)	0.17 (3/18)
<b>Québec</b>	0.65 (13/20)	0.61 (18/29)	0.36 (4/11)	0.07 (1/14)	0.19 (6/32)	0.20 (5/25)
<b>Chicken retail <i>E. coli</i></b>						
<b>British Columbia</b>			0.47 (9/19)		0.29 (12/42)	0.46 (29/63)
<b>Saskatchewan</b>			0.04 (3/82)	0.06 (5/85)	0.13 (10/75)	0.18 (14/76)
<b>Ontario</b>	0.18 (24/136)	0.21 (32/150)	0.17 (25/145)	0.22 (34/152)	0.22 (35/157)	0.26 (31/121)
<b>Québec</b>	0.32 (36/111)	0.34 (53/157)	0.25 (35/142)	0.06 (8/135)	0.13 (17/128)	0.18 (20/110)
* preliminary data						

<sup>1</sup> In this document, 2008 data are preliminary.

Date Modified: 2009-03-27

  
[Top of Page](#)

[Terms and Conditions](#)