To: Board of Health

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Re: Rabies Control Program BOH07001 (City Wide)

Council Direction:
Not applicable

Information:
This report provides an update on the rabies program delivered by Public Health Services (PHS).

Overview of Program
The City of Hamilton's rabies control program exists to protect people in the city from rabies from known or suspect rabid animals. Rabies is a viral infection that can be fatal to humans so timely investigation and treatment, where indicated, can save lives. Rabies vaccination must begin within a designated time after the exposure if it is to be effective and prevent death. Although there have been no cases of human rabies in Ontario since 1967, infections and deaths still occur in Canada. A 10 year old boy in Quebec died in 2000 and a British Columbia male died in 2003 after exposure to rabid bats.

Rabies can be transmitted to humans by both wild animals and pets. The rate of rabies in the wild has been steadily declining since the Ontario Ministry of Natural Resources (MNR) began a baiting program to reduce rabies in foxes. Since 1992, the overall number of rabid animals has dropped by 95%. Raccoons are also trapped and vaccinated and released by MNR staff and a vaccine for skunks is under development. Bats are the most common wild animal source of rabies in Ontario.

Dogs and cats can also transmit rabies. Pet vaccination and the reduction of rabies in the wild has reduced but not eliminated this risk, particularly where pets and wild animals interact. For example, in 2004, Waterloo Region identified a rabid pet dog that had been infected following a fight with a skunk. Several people in contact with the dog were vaccinated for their protection.
Hamilton, like most Ontario communities, mandates rabies vaccination for pet dogs and cats. Since 2000, it has been mandatory for pet dogs and cats over three months of age to be vaccinated against rabies. Education and enforcement activities are conducted to raise awareness and compliance. In 2006, one ticket was issued for non-compliance.

In 2006, public health inspectors working in the Health Protection Division investigated over 1400 human to animal incidents and delivered rabies vaccine and rabies immunoglobulin (RIG) to emergency rooms and physician offices for 127 people to protect them from rabies.

Table 1 (below) summarizes the species involved in human exposures within the city of Hamilton and the number of rabid animals over the past four years. The last animals positive for rabies and originating from Hamilton were bats in 2003.

Table 1: Animal Incidents reported to PHS by Animal Species
Table entries show number of investigations (number positive for rabies)

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dogs</td>
<td>486 (0)</td>
<td>547 (1*)</td>
<td>541 (0)</td>
<td>543 (0)</td>
</tr>
<tr>
<td>Bats</td>
<td>253 (6)</td>
<td>270 (0)</td>
<td>401 (18**)</td>
<td>502 (0)</td>
</tr>
<tr>
<td>Cats</td>
<td>202 (0)</td>
<td>334 (0)</td>
<td>300 (0)</td>
<td>336 (0)</td>
</tr>
<tr>
<td>All others</td>
<td>56 (0)</td>
<td>40 (0)</td>
<td>36 (0)</td>
<td>67 (0)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>997 (0)</td>
<td>1191 (1)</td>
<td>1278 (18)</td>
<td>1448 (0)</td>
</tr>
<tr>
<td># TESTED</td>
<td>74</td>
<td>134</td>
<td>102</td>
<td>175***</td>
</tr>
</tbody>
</table>

*: Person vaccinated in Philippines after exposure to known rabid dog
**: Rabies-positive bats from other parts of Ontario at McMaster research laboratory
***: 73% bats, 18% cats, 6% dogs, 3% other animal species

Mandate/standards
Rabies Control is one of the Mandatory Health Programs under the Ontario Health Protection and Promotion Act (HPPA).

The program goal and objective stated in the Mandatory Health Program and Services Guideline are:

**Goal:** To prevent the occurrence of rabies in humans
**Objective:** To maintain the incidence of rabies at zero in the human population

Rabies is covered by four regulations under the HPPA: Regulation 557 Communicable Diseases-General, Regulation 567- Mandatory Rabies Immunization, Regulation 558

The Ministry of Health and Long-Term Care has also outlined how to manage human exposure incidents under the Guidelines for Management of Suspected Rabies Exposures (December 2005 version).

Each health unit is also required to have a Raccoon Rabies Contingency Plan in the event that the raccoon strain of rabies crosses into Ontario from the United States, as occurred in 1999 in the Brockville area.

Resources
The rabies control budget is approximately $200,000 (2.5 FTE and program activity costs), cost shared (65% provincial:35% municipal for 2006 rising to 75% provincial: 25% municipal for 2007) with the province. Public health inspectors assigned to geographic districts investigate rabies incidents to confine (quarantine) all dogs, cats, and ferrets, for a period of 10 days and return for a visual inspection and release. Additionally, public health inspectors deliver vaccine, dividing the FTE inspection complement across several staff. This program delivery allows for timely response to investigations.

Impact
The Mandatory Programs and Health Services Guideline requires rabies incidents to be responded to within 24 hours of receipt of the report. Staff meet this demand through during regular business hours and at other times, through the on-call public health inspector. Failure to provide after-hours coverage would potentially put people at risk given the importance of timely response to prevent rabies infections in humans. The rabies control program is both a demand service and an essential program during emergencies.

Peer Communities
All Ontario health units are to investigate suspect cases of rabies and provide rabies vaccine when warranted. Peer communities of Windsor, Ottawa and Sudbury all mandate pet vaccination. The program focus on prevention means that it is not possible to compare health unit performance in terms of health outcomes of rabies exposure as human cases are very rare in Canada.

Emerging Issues/Opportunities
Raccoon rabies remains a threat to Ontario. In 1999 the raccoon strain of the rabies virus crossed into the Brockville area. As raccoons live in such close proximity to humans and their pets, there is increased concern that if the virus enters and remains in Ontario there will be increased cases of rabies in domestic pets, and potentially increase the risk of rabies infection for humans.

The Mandatory Programs and Health Services Guidelines require Boards of Health to offer rabies awareness education to elementary school students. There have been few requests from schools in recent years so for 2007, PHS plans to offer educational
inservices to promote rabies awareness and mandatory vaccination to public, private, and separate schools directly.

Hamilton Animal Control’s licensing information currently contains information about mandatory vaccination for pet cats and dogs. There may be an opportunity in 2007 to partner with Animal Control to further increase mandatory vaccination awareness.

In addition, veterinarians, groomers, specialty pet stores, libraries, City of Hamilton Municipal Service Centres, and Public Health Services suboffices were sent rabies pamphlets in late 2005 for distribution to the public. The pamphlet is being revised for 2007 distribution.

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