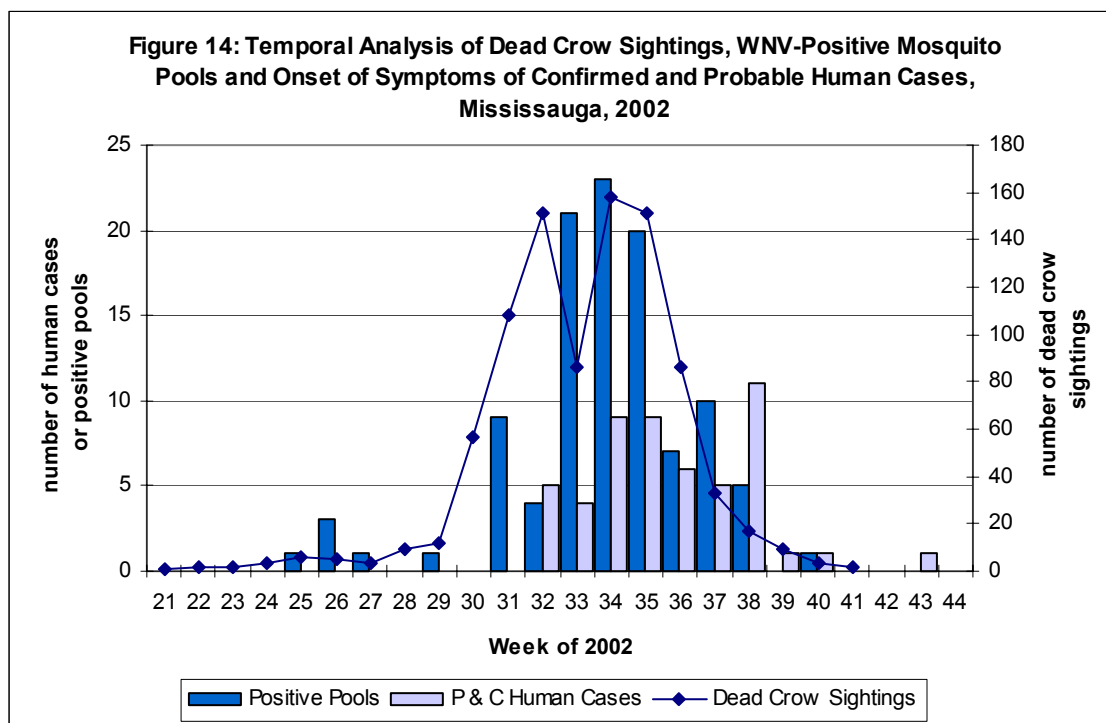


COMPARISON OF THE TIMING OF DEAD CROW SIGHTINGS, WNV-POSITIVE MOSQUITO POOLS AND HUMAN CASES IN MISSISSAUGA

It has been suggested that one of the key surveillance factors which serves as a predictor of potential human infection is the reporting of dead birds of the crow family.^{13,26} A recent U.S. study using data from 2001 and 2002 found that areas where a WNV-infected bird had been found early in the season were several times more likely to also report a human case than were areas that did not find infected birds early in the season.³⁴

Figure 14 shows dead crow sightings, WNV-positive mosquito pools and onset of human WNV confirmed and probable cases by week in Mississauga. While dead crow sightings began to occur during week 21, the first WNV-positive mosquito pool was collected during week 25 and the first human case of WNV occurred during week 32. The initial peak in dead crow sightings preceded the peak of positive mosquito pools by approximately two weeks.



As previously mentioned the location and intensity of dead crow sightings correlated fairly well with the location and intensity of human illness from WNV (Figures 3 & 11). The first peak of human cases occurred approximately one-to-two weeks after both the peak of dead crow sightings and WNV-positive mosquito pools. The second peak in human cases seems to have occurred one week after a second smaller peak in positive



mosquito pools. The decrease in dead crow sightings is most likely due to low numbers of crows remaining after the intense outbreak of WNV in this population rather than a decrease in the amount of WNV in mosquitoes and birds.

The period of sustained and high rates of WNV infection in mosquitoes also coincided with human illness from WNV. The number of WNV positive mosquito pools seems to precede the number of human cases of WNV by a week or two, showing the value of this monitoring system.

Thus, dead crow sightings, adult mosquito trapping and testing of specimens are critical surveillance activities for the early identification of the presence of WNV in a given area, and provide key information in the assessment of human health risk among residents in the Region of Peel.

