Preliminary Report on the Role of Flu Information and Triage Lines in Reducing Surge in Healthcare Facilities and Increasing Access to Antiviral Medication During the 2009 H1N1 Pandemic
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Executive Summary

The Nurse Triage Line Project
The Nurse Triage Line (NTL) Project is a collaborative effort among the Centers for Disease Control and Prevention (CDC), the Association of State and Territorial Health Officials (ASTHO), and the National Association of County and City Health Officials (NACCHO) to explore the acceptability and feasibility of developing a telephone triage model that would operate nationwide or on a regional basis during a severe influenza pandemic. The model would utilize nurses working under a standard clinical protocol to triage callers, provide advice on whether to seek face-to-face care, and support home management of illness, including providing access to antiviral medications to symptomatic callers that meet certain criteria. Project partners include poison control centers, health insurers, physician and nursing professional societies, and a private-sector technology vendor.

During the 2009 H1N1 influenza pandemic, many state and local health departments (LHDs) established “flu lines”—toll-free numbers connected to centralized locations, known as “call centers”—staffed and technologically equipped to receive a large volume of telephone calls. Flu lines were advertised to encourage the public to call for general information about H1N1, including symptoms and treatment, prevention and vaccination, and related issues and services. In addition to providing the public with information, flu lines were intended to help divert unnecessary calls away from the community 9-1-1 system, reduce visits by non-critically ill patients to the healthcare system, and reserve these systems for actual emergency situations.

Additionally, to reduce surge on healthcare facilities, some flu lines were staffed by nurses who triaged callers with medical needs and referred them to the appropriate healthcare provider. These flu lines are also referred to as “nurse triage lines.” In a few jurisdictions, NTLs provided prescriptions for antiviral medications to reduce demand on local healthcare systems.

Callers that appropriately received nurse support and medications did not need to seek in-person healthcare and therefore did not create more opportunities for human-to-human influenza transmissions to occur.

ASTHO and NACCHO looked back to the 2009 H1N1 influenza pandemic to identify public-health-affiliated poison control centers, NTLs, and other flu lines that were staffed by nurses or other medical professionals to provide information and advice to callers, triage those who were ill, and prescribe antiviral medications over the phone.

ASTHO and NACCHO identified eight public-health-affiliated H1N1 flu lines. Three local health jurisdictions were identified: New York City Department of Health and Mental Hygiene and Public Health Region IV and Public Health–Seattle and King County, both located in Washington State. The state departments of health included Florida, Minnesota, Oregon, and New Jersey. The Denver-based Rocky Mountain Poison and Drug Center, an agency within an integrated public health and healthcare system,
operated a flu line that served multiple local and state jurisdictions. These flu lines are presented and discussed as case studies in this paper and represent three different approaches to flu lines and NTLs that were active during the 2009 H1N1 pandemic: information lines staffed by nonclinical personnel, NTLs that did not provide antiviral medications and NTLs that provided antiviral medications over the telephone.

**Conclusion**
The case studies represent capabilities that form the fundamental building blocks of a national model for comprehensive telephone-based triage services in an influenza pandemic, including (1) disseminating information to ill people to keep them informed and up to date on the status of the pandemic and what to do or where to go to seek medical care; (2) providing an alternative to face-to-face medical visits for triage; (3) triaging the caller to determine the level of medical care needed; and (4) prescribing antiviral medications telephonically to symptomatic callers who need them. Some case studies demonstrate how call center activities such as uniform data collection and sentinel reporting could strengthen the public health and healthcare response in a pandemic.

**Recommendations**
Federal, state, and local public health preparedness planners for operation during a severe influenza pandemic should consider the requirements and costs of implementing a national flu line network. A national network should be ready for activation at any time and be able to provide services 24/7 nationwide. A national, systematic approach would create the opportunity to deliver unified messages and provide consistent standards and protocols for call screening, routing, and nurse triage.

To implement a national approach, planners should examine the patchwork of federal, state, and local laws and the gaps that have been identified by practitioners as obstacles to efficient and effective public health emergency response. Planners should explore mechanisms that could support the infrastructure required to manage surges in call volumes across state boundaries in an emergency.

NTLs are widely available in the United States to serve those who are insured by large health plans and large hospital networks and for a broad array of pediatric and primary care practices. To create an NTL capability for those who do not have a “medical home” with triage line capabilities, a closer look at the U.S. poison control system sights a mechanism for an infrastructure to support a national flu line. All 50 states, American Samoa, the District of Columbia, the Federated States of Micronesia, Guam, Puerto Rico, and the U.S. Virgin Islands are served by at least one poison control center. While not all poison control centers have the same resources and capacities, telephone consultation is their primary activity, and their operational capabilities are planned to extend across geographic boundaries and respond to mass events 24/7.
A national flu line is only part of the solution to ensure nationwide access to antiviral medications in a virulent influenza pandemic. A national flu line must operate in concert with other efforts to improve distribution and dispensing of antiviral medications. The CDC and state and local partners can and should play a significant role in developing and testing a model for a nationwide integrated flu line network.
The Role of Flu Information and Triage Lines in Reducing Surge in Healthcare Facilities and Increasing Access to Antiviral Medication During the 2009 H1N1 Pandemic

H1N1 Lessons and Opportunities
While the 2009 H1N1 influenza pandemic was not so severe as to overwhelm the ability of public health and healthcare systems to respond to upsurges in patient volumes, it significantly increased the workload in emergency departments in many communities and the public demand for information. Meeting these challenges provided opportunities to test new approaches to providing information, support, and treatment, which may have important future implications for public health and medical responses in a more severe pandemic.

Providing the public with prompt, current, and comprehensive information is a core function of any health emergency response. Public information seeks to improve many emergency response outcomes, not the least of which is building public trust and cooperation with efforts to prevent the spread of disease and reduce the burden on local healthcare resources. During the H1N1 influenza pandemic response, new partnerships and approaches to operating public information lines emerged to achieve these goals. A few communities used triage lines staffed by nurses who discussed symptoms with ill individuals, suggested treatment steps, and in some instances also recommended prescriptions of antiviral medication to symptomatic callers.

The CDC estimates that a severe pandemic could infect up to 200 million people and cause between 200,000 and 1,900,000 deaths in the United States alone. This paper will discuss new public health interventions tested during the H1N1 influenza pandemic response that could limit illness, suffering, and death if a more virulent and deadly influenza strain were to emerge.
The Nurse Triage Line Project

The NTL Project is collaboration among ASTHO, the CDC, NACCHO, and partners that include poison control centers, health insurers, physician and nursing professional societies, and a private-sector technology vendor. The NTL Project is exploring the acceptability and feasibility of developing a call center model that would utilize nurses working under a standard protocol to triage callers, provide advice whether to seek face-to-face care, and support home management of illness, including providing access to antiviral medications to symptomatic callers that meet certain criteria.

The NTL Project is part of a larger effort of ASTHO, the CDC, and NACCHO to improve antiviral distribution and dispensing based on the lessons gleaned from the 2009 H1N1 influenza pandemic response. The Antiviral Distribution and Dispensing Project is the sister project to the NTL Project and is exploring ways to develop partnerships among public health, pharmaceutical distributors, and private pharmacies to broadly distribute antiviral medications in an influenza pandemic.

Purpose of the Background Paper

ASTHO and NACCHO looked back to the 2009 H1N1 influenza pandemic to identify public-health-affiliated poison control centers, NTLs, and other H1N1 flu lines that provided public information and support through the use of the telephone. Of particular focus were flu lines that used nurses to triage callers and provide antiviral medications to callers that met standardized clinical criteria for treatment. This document presents examples and lessons learned that will shape the model of an integrated nationwide network of NTLs that could be activated in the event of a severe influenza pandemic. Such a model would address some of the challenges presented by the 2009 H1N1 influenza pandemic in terms of improving access to antiviral medication, reducing demand on the healthcare sector, and providing valuable event-specific information to the public.
Definition of Terms

Call Center: A call center is a centralized location staffed and technologically equipped to receive a large volume of telephone calls. A call center is typically accessed through a toll-free telephone number and staffed by personnel who are trained to provide specialized information to callers, respond to inquiries, and make appropriate referrals.

Some call centers use automatic call routing and call tracking technologies, integrated telephone and computer capabilities, or interactive voice response (IVR) technology that allows callers to retrieve prerecorded information from a touch-tone telephone.

Information Line/Crisis Hotline: An information line or crisis hotline is a toll-free telephone number that the public can call to get immediate information and assistance. Trained staff or volunteers provide specialized information and may operate around the clock; some are activated only in emergency situations.

Flu Line: A flu line is a public information or crisis hotline that was activated during the 2009 H1N1 pandemic staffed by trained public health department or healthcare facility staff. These lines provided general information about H1N1, including symptoms and treatment, prevention and vaccination, and related issues and services.

Nurse Triage Lines: NTLs are staffed by licensed healthcare professionals, usually registered nurses, who assist callers in assessing the nature and severity of their illness and direct them to the appropriate level of care. Telephone triage and nurse advice lines may be sponsored by public health departments, health insurance companies, or healthcare providers.

Poison Control Centers: Poison control centers are staffed by physicians, nurses, pharmacists, and paramedics who manage poison exposures over the telephone and refer callers to, or directly arrange for, emergency care. All poison control centers in the United States can be contacted via a nationwide, toll-free telephone number (800-222-1222).
Methods

ASTHO and NACCHO searched for published literature on H1N1 flu lines and reviewed H1N1 after-action reports (AARs) to identify health department information lines, poison control centers, or other community information lines that were staffed by nurses or other medical professionals to provide information and advice to callers, triage those who were ill, and prescribe antiviral medications over the phone during the 2009 H1N1 pandemic. While many health agencies across the nation operated flu lines during the H1N1 influenza pandemic, very few of those flu lines met the criteria required for inclusion in this paper.

The review of literature on H1N1 flu lines found eight public-health-affiliated H1N1 flu lines that met the search criteria—three under the auspices of local health jurisdictions and four under state health departments. The local health jurisdictions identified included two in Washington state—Public Health Region IV in southwestern Washington and Public Health–Seattle and King County—and the New York City Department of Health and Mental Hygiene. The state departments of health included Florida, Minnesota, Oregon, and New Jersey. The Denver-based Rocky Mountain Poison and Drug Center, an agency within an integrated public health and healthcare system, operated a flu line that served multiple local and state jurisdictions.

The NTL Project also reviewed AARs collected by ASTHO and NACCHO for the Antiviral Distribution and Dispensing Project that were used to gain perspective into the management of antiviral medications in state and LHDs for examples of H1N1 flu lines and NTLs. The project acquired 21 state-specific AARs from the Department of Homeland Security’s Lessons Learned Information Sharing website. The review yielded no examples of flu lines that had not been found previously through the literature search.

In addition, NACCHO conducted an online survey of and follow-up interviews with members of the NACCHO H1N1 Sentinel Network, a group of 296 public health responders in local and state health departments across 39 states. There were 107 (36%) responses to the survey; of those, five (4%) indicated that their jurisdiction had used an H1N1 flu line that met the survey criteria. Only one of the flu lines identified had not been previously found through the literature search.

ASTHO and NACCHO also queried the advisory bodies of their respective members for this project, the ASTHO NTL Advisory Committee (eight members) and the NACCHO NTL Workgroup (11 members), to guide the overall project, inform research, and provide subject-matter expertise.
Case Studies

While tools for establishing public health-affiliated information lines to facilitate standardization and encourage the use of best practices exist, the process for implementing and managing hotlines is not uniform nationwide. The eight case studies discussed in this paper represent communities of various sizes and available resources, capacities, and capabilities for operating flu lines during the H1N1 influenza pandemic response. These call centers used various approaches to capture data such as call volume, disposition of callers, call outcomes, or data to inform situational awareness of trends throughout the pandemic. The majority of these H1N1 flu lines provided the public with general information about H1N1, symptomatic treatment and infection control advice, and referral to healthcare providers. Two public health call centers—in Minnesota and Public Health Region IV (WA)—were designed to enable nurses to follow an established medical protocol and standing orders to prescribe antiviral medications over the telephone when necessary. In some instances, the systems that supported flu lines collected surveillance data electronically; captured data were integrated with existing systems and shared with public health agencies in real time to support situational awareness and program evaluation.

H1N1 flu lines shared many similarities, as shown in Table 1. In each of the eight flu lines discussed in this document, the public accessed the flu lines through a toll-free number. Callers heard recorded messages and were given the option of being routed to a live screener, who determined the disposition of the caller according to a basic assessment protocol. If a caller was seeking general H1N1 information, the screener provided this information. If the caller was seeking clinical guidance (to care for an ill person) or was symptomatic, the screener routed the call to clinical staff, who provided clinical advice and referral for medical evaluation based on clinical triage protocols. Flu lines usually provided English and Spanish language capabilities.

Five of the flu lines in the case studies provided interactive voice response (IR) technology that allowed callers to retrieve prerecorded information about H1N1 via touch-tone telephone as shown in Table 1.

In two examples, flu lines were staffed by registered nurses operating under standing orders from a public health official to perform clinical assessments of callers and prescribe antiviral medications over the phone. Two flu lines operated across state lines, and two collected surveillance data (Table 1).
# Table 1. Comparison of Selected 2009 H1N1 Flu Lines

<table>
<thead>
<tr>
<th>Call Center Service Area</th>
<th>Rocky Mountain Poison and Drug Center</th>
<th>Florida</th>
<th>New Jersey</th>
<th>Oregon</th>
<th>New York City</th>
<th>Seattle-King County, WA</th>
<th>Minnesota</th>
<th>Region IV, Southwestern Washington*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (rounded to millions)</td>
<td>11.6</td>
<td>19</td>
<td>8.8</td>
<td>3.9</td>
<td>8.2</td>
<td>1.9</td>
<td>5.3</td>
<td>545,700</td>
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<td>Toll-free number</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Interactive voice response</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>“Live” screener option</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td></td>
<td>Creole</td>
<td>Russian</td>
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<td>Russian</td>
</tr>
<tr>
<td>Language service used for other</td>
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<td>No</td>
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<td>Yes</td>
<td>Yes</td>
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</tr>
<tr>
<td>Nurse consultation available</td>
<td>No**</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Triage protocol for providing clinical advice and referral to a healthcare provider</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Protocol and standing orders for providing over-the-phone prescriptions for an antiviral medication</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Designed to serve multiple state jurisdictions</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Surveillance</td>
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<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

* Clark County Public Health, Cowlitz County Health and Human Services, Skamania County Community Health, Wahkiakum County Public Health & Human Services, and the Cowlitz Indian Tribe.

**RMPDC referred symptomatic Denver residents to the Denver healthcare system nurse triage line during H1N1, which is an ongoing service for Denver residents. A nurse triage line was not available to callers from other jurisdictions served by the flu line.
Information Lines—No Nurse Advice or Antiviral Prescriptions

The following case studies document three different approaches to flu lines and NTLs that were active during the 2009 H1N1 pandemic—information lines staffed by nonclinical personnel, NTLs that did not provide antiviral medications, and NTLs that provided antiviral medications over the telephone.

Rocky Mountain Poison and Drug Center
The Rocky Mountain Poison and Drug Center (RMPDC) is the poison control center situated within Denver Health, an integrated, comprehensive healthcare system and associated “safety net” provider for the uninsured. The RMPDC routinely provides public-health-related services, including medical management of poisoning exposures (human and animal), drug identification, collection of adverse event information, exposure support for hazmat events, toxicology surveillance, and public health emergency information lines. The RMPDC’s services cover the states of Colorado, Hawaii, Idaho, Montana, and Nevada, serving 11.6 million residents.

In 2003, the RMPDC developed, tested, and implemented a call center model to enable call centers, such as poison control centers and public-health-associated information lines, to help the public make informed decisions to care for themselves during severe health emergencies. The RMPDC adapted its capabilities during the 2009 H1N1 pandemic to operate a multistate emergency flu line for Colorado, Hawaii, and Nevada to minimize surges in the demand for health and event information. A toll-free number was advertised and available 24/7 and tied to an inbound IR telephone application that allowed callers to use their touch-tone phones to automatically navigate through a library of frequently asked questions to retrieve information relative to their H1N1 concerns. The Hawaii Department of Health discontinued use of and referral to the Rocky Mountain Poison Control Center by the end of June 2009.

The IR also allowed callers with health concerns or flu-like symptoms to select the option to speak one-on-one between 7:00 AM and 11:00 PM with trained staff (non-clinicians), who screened calls and referred callers to a healthcare provider, if clinical support was needed. This allowed symptomatic callers to be screened and assisted without the delay of listening to a recording. Each call was documented in a database used for collecting data for reporting illness/injury (situational awareness). The RMPDC provided aggregated zip code and city-specific information to support state and local public health surveillance efforts. Between April 2009 and January 2010, the RMPDC triaged 59,928 calls from the three states during the two waves of influenza.
Table 2. RMPDC

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
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<tbody>
<tr>
<td>Population (rounded to millions)</td>
<td>11.6</td>
</tr>
<tr>
<td>Toll-free number</td>
<td>Yes</td>
</tr>
<tr>
<td>Interactive voice response</td>
<td>Yes</td>
</tr>
<tr>
<td>“Live” screener option</td>
<td>Yes</td>
</tr>
<tr>
<td>Languages</td>
<td>English, Spanish, Language service used for other</td>
</tr>
<tr>
<td>Nurse consultation available</td>
<td>No*</td>
</tr>
<tr>
<td>Triage protocol for providing clinical advice, and referral to a healthcare provider</td>
<td>Yes</td>
</tr>
<tr>
<td>Protocol and standing orders for providing over-the-phone prescriptions for an antiviral medication</td>
<td>No</td>
</tr>
<tr>
<td>Designed to serve multiple state jurisdictions</td>
<td>Yes</td>
</tr>
<tr>
<td>Surveillance</td>
<td>Yes</td>
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</tbody>
</table>

*The RMPDC referred symptomatic Denver residents to the Denver healthcare system nurse triage line during H1N1, which is an ongoing service for Denver residents. A nurse triage line was not available to callers from other jurisdictions served by the flu line.

Florida Department of Health

From Aug. 24, 2009, to July 31, 2010, the Florida Department of Health operated the Florida Flu Information Line to provide information and answer questions from the public and clinicians about H1N1 influenza. During this time, 54,630 calls were received. Callers first interacted with an IR system (see Appendix B). The first option was to listen to recorded messages about H1N1 signs and symptoms, prevention, treatment, the vaccine, and school information. These messages were available 24/7 in English, Spanish, and Creole. Secondly, callers with non-clinical questions could select to speak with an operator, a non-medical screener. These callers were routed via IR to a non-clinician staffed service, operated by a contracted private sector vendor, PatLive. PatLive hours of operation were 8:00 AM to 8:00 PM. The Florida Department of Health provided the script for these screeners and updated it regularly based on new information and CDC guidelines. Clinical staff approved all script updates. If PatLive screeners were not able to answer the caller’s question, the caller was routed to the Florida Department of Health, where three non-medical staffers triaged calls, utilizing on-call clinical staff as needed. The third option was related to technical support for clinicians. From Aug. 24, 2009, to Sept. 30, 2009, physicians, laboratory technicians, and other healthcare providers with technical questions about H1N1 could select an option in the IR menu and were routed to the clinician hotline, which was staffed by registered nurses from various units within the Florida Department of Health: the Division of Emergency Medical Operations, the Office of Public Health Nursing, Children’s Medical Services, and the Division of Family Health Services. The clinician hotline operated 24/7 and offered guidance on when and how to report H1N1 outbreaks; testing guidelines,
including specimen collection, shipping, and packaging; and distribution of the H1N1 vaccine. On Oct. 1, 2009, the Florida Department of Health contracted with the Florida Poison Information Center Network to operate the clinician hotline. The Florida Poison Information Center Network was staffed by registered nurses, physicians, and pharmacists.

On Oct. 15, 2009, a fourth component, the Adverse Effects Call Center, was added to the Florida Flu Information Line, which was staffed by the Florida Poison Information Center Network to provide medical assessment, triage, and care management to recipients of the H1N1 vaccine who thought they might be experiencing adverse effects and healthcare professionals seeking guidance on how to handle potential adverse reactions to the vaccine. By addressing H1N1-vaccine-related inquiries via a phone consultation, the Florida Department of Health and the Florida Poison Information Center Network saved an estimated $694,534.40 in emergency department costs due to averted visits. The Florida Poison Information Center Network provided information to LHDs about patients that reported an adverse reaction to the H1N1 vaccine. Public health nurses at LHDs then made follow-up visits to individuals’ homes and determined whether they needed to seek further care. Information on adverse events to H1N1 immunizations was linked to the state immunization program with information on patients reporting adverse events from the H1N1 vaccination. Beginning in August 2010, the Florida Department of Health provided recorded information only on the Florida Flu Information Line; service was completely suspended on Aug. 31, 2010.

Because there was no overwhelming surge on the healthcare system, acute problem with access to antiviral medications, or widespread severe acuity among patients, the Florida Department of Health decided that offering antiviral medications through the triage line was not warranted. Access to care challenges were not severe enough to prompt additional functionality to the Florida Flu Information Line. Most notably, hospitals saw cases of ill children of indigent families who would have been admitted to healthcare facilities solely because they needed antiviral medications and could not afford them. Healthcare facilities called the Florida Flu Information Line and through cooperation with the state pharmacy were able to ship antiviral medications to these patients’ homes and thus avoid hospital admission, saving money and healthcare resources.

Health professionals fielding calls through the Florida Poison Information Center Network are legally authorized via their scope of practice to diagnose, treat, and access medical patient records. Because the Florida Poison Information Center Network is considered a provider of mandated emergency care, employees handling calls are viewed as state agents and are entitled to protection from some claims of liability through Florida’s sovereign immunity laws. These authorizations and protections prompted the Florida Department of Health to partner with the Florida Poison Information Center Network in administering the Florida Flu Information Line rather than establishing a service independently.
Table 3. Florida

<table>
<thead>
<tr>
<th>Feature</th>
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<tbody>
<tr>
<td>Population (rounded to millions)</td>
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<tr>
<td>Toll-free number</td>
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<td>Interactive voice response</td>
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<td>“Live” screener option</td>
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<td>Languages</td>
<td>English</td>
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<td></td>
<td>Spanish</td>
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<td>Creole</td>
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<tr>
<td>Language service used for other</td>
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<tr>
<td>Nurse consultation available</td>
<td>Yes</td>
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<tr>
<td>Triage protocol for providing clinical advice, and referral to a healthcare provider</td>
<td>Yes</td>
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<tr>
<td>Protocol and standing orders for providing over-the-phone prescriptions for an antiviral medication</td>
<td>No</td>
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<tr>
<td>Designed to serve multiple state jurisdictions</td>
<td>No</td>
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<tr>
<td>Surveillance</td>
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New Jersey Department of Health and Senior Services

The New Jersey Department of Health and Senior Services (NJDHSS) operated a 24/7 flu line to answer questions from the public and clinicians from April 29, 2009, to May 8, 2009. During this time, 3,855 calls were received (see Clancy et al. in Bibliography). The flu line was operated by the Central West Medical Coordination Center, located in Somerset Medical Center, Somerville, New Jersey. The NJDHSS developed the scripts for the call center. These scripts were modified according to new information and trends in caller questions. The flu line was staffed by trained public health professionals of all backgrounds, both clinical and non-clinical personnel (e.g., physicians, lawyers, health officers, nurses, paramedics, EMTs, firefighters, and college students), who provided information and referral but not advice for symptomatic callers (Neuwirth C, personal communication, Feb. 8, 2012).

Healthcare professionals also contacted the flu line. Central West Medical Coordination Center screeners transferred clinical calls to the NJDHSS Call Center, where they were answered by NJDHSS physicians and epidemiologists. All calls were answered by live screeners; no IR was used. No additional hardware was employed, beyond the base phone system of Somerset Medical Center. The flu line used the language interpretation services of Somerset Medical Center to facilitate non-English-speaking callers. Screeners recorded callers’ names; agency, county, or state; telephone number; and the type of question asked on logsheets. Approximately 31 percent of calls were about flu signs and symptoms, and 2.5 percent asked about medication availability (see Clancy et al. in Bibliography). The NJDHSS flu line received calls from 29 states and the District of Columbia (Neuwirth C, personal communication, Feb. 8, 2012).
Table 4. New Jersey

<table>
<thead>
<tr>
<th>Population (rounded to millions)</th>
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<tbody>
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<td>Languages</td>
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<tr>
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<tr>
<td>Triage protocol for providing clinical advice, and referral to a healthcare provider</td>
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</tr>
<tr>
<td>Protocol and standing orders for providing over-the-phone prescriptions for an antiviral medication</td>
<td>No</td>
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<tr>
<td>Designed to serve multiple state jurisdictions</td>
<td>No</td>
</tr>
<tr>
<td>Surveillance</td>
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</tr>
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</table>

Nurse Triage Lines—No Antiviral Prescriptions Provided

Oregon Public Health Division

In the spring of 2009, the Oregon Public Health Division (OPHD) launched a flu line first operated by OPHD staff and later, through contract, by the Oregon Poison Center (OPC). From April 29, 2009, to May 29, 2009, the flu line received 754 calls. In anticipation of more questions from the public and clinicians about the virus and vaccine, the OPHD reactivated its Oregon Public Health Flu Hotline on Sept. 15, 2009. Initially, this flu line was to provide only information, referrals, and clinician support, but the delay in 2009 H1N1 vaccine availability to the state prompted the OPHD to add an NTL component to assist those with influenza-like illness and their caregivers. The goal of this triage line was to reduce burden on the healthcare sector by encouraging appropriate use of health services.

The Flu Hotline was a single toll-free telephone number that routed callers to a recorded message. The recorded message offered callers three options: to speak with an information and referral specialist, hear recorded information about influenza, or go directly to the clinician support line. Information and referral specialists were non-medical staff employed by the nonprofit vendor 221info. The information and referral specialists answered questions from the general public regarding influenza, vaccines, and immunization locations, collected caller demographic information, and screened calls for transfer to the telephone nurse triage service or clinician support line (see Appendix C).

The information and referral specialist connected physicians, laboratorians, and other health professionals with the clinician support line. Symptomatic callers or their caregivers were routed to the nurse triage line and given advice or referral to the appropriate level of care.
The nurse triage line component was conducted by the vendor CareOregon and used registered nurses to respond to callers’ questions on symptoms and provide medical advice based on standing orders and protocols. The standing orders and protocols were developed by OPHD staff, informed by materials developed by Minnesota and Florida.

The clinical support arm was conducted by the OPC with support from OPHD physicians. The OPC also employed registered nurses who used their existing knowledge, information from the CDC, a script originally developed by the Florida Department of Health and customized by the OPHD for Oregon, and the knowledge of a consulting physician. The OPC provided technical information on influenza vaccine, prevention, and treatment recommendations to physicians, laboratorians, and other health professionals.

Flu line vendors reported to the flu line coordinator, who answered to the Agency Operations Center Incident Commander, and the OPHD Public Health Emergency Preparedness Operations Manager. The flu line coordinator worked with the Agency Operations Center Joint Information Center and Public Information Officer on message development and information distribution and coordinated with vendors to keep scripts and messages up-to-date. The OPHD played a key role in developing the information that was provided by the information and referral specialists.

From Sept. 15, 2009, to Feb. 27, 2010, the flu line received 25,851 calls, a rate of 537 calls per 100,000 population. Seven percent of callers were transferred by information and referral specialists to the NTL, and 0.8 percent were transferred to the clinician support line. The NTL received callers who, when asked by an information and referral specialist, reported experiencing influenza-like illness or concerns about exposure. The clinician support line only received calls from physicians, laboratorians, or other health professionals with technical questions about influenza vaccine, prevention, and treatment recommendations. At least 53 percent of callers to the NTL had a household income of 200 percent below the federal poverty line. The Oregon Public Health Division estimates that at least $154,000 in medical expenses and 110 hours of patient wait time were saved by diverting 110 people from emergency rooms and provider offices.
Table 5. Oregon

<table>
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</tr>
<tr>
<td>Protocol and standing orders for over-the-phone prescriptions for an antiviral medication</td>
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<tr>
<td>Designed to serve multiple state jurisdictions</td>
<td>No</td>
</tr>
<tr>
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New York City Department of Health and Mental Hygiene

The New York City (NYC) Department of Health and Mental Hygiene (DOHMH) provided the NYC FluLine from Nov. 19 to Dec. 31, 2009, seven days a week from 7:00 AM to 11:00 PM, including holidays. Through this service, the DOHMH provided a standard script to 311 community hotline operators to provide concerned New Yorkers with information on what to do if they or a family member felt sick with influenza-like illness (ILI). Callers with symptoms of influenza were connected to an NTL staffed with registered nurses who provided information and advice on whether to seek care. For concerned patients who did not have or were unable to reach a regular healthcare provider, the NYC FluLine was an alternative to visiting an overcrowded hospital emergency department and primary care provider offices. The call center nurses could not make diagnoses or prescribe treatments but would advise callers about whether to seek care at a clinic, if appropriate. When necessary, on-call nurses referred people to clinics to facilitate timely treatment while preventing unnecessary visits to emergency departments.

The DOHMH NYC FluLine received 247 calls; 82 (33%) people called the medical call center with the pre-intent to go to the emergency department; of these, 11 (4%) callers were referred to an emergency department, 24 (9%) were referred to a primary care provider, 47 (19%) were advised to stay home, and 83 (34%) called for information only. The low volume in the fall of 2009 can be attributed to the fact that the flu peaked in the spring in NYC and had begun to decline by the fall. During this period, the DOHMH conducted quality assurance activities that included contacting callers to follow up on their compliance with recommendations provided by the NYC FluLine.*

*Outcome data were not available at the date of publication of this document.
### Table 6. New York City

<table>
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<td>“Live” screener option</td>
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<td>Languages</td>
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<tr>
<td>Nurse consultation available</td>
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<tr>
<td>Triage protocol for providing clinical advice, and referral to a healthcare provider</td>
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<td>Protocol and standing orders for providing over-the-phone prescriptions for an antiviral medication</td>
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</tr>
<tr>
<td>Designed to serve multiple state jurisdictions</td>
<td>No</td>
</tr>
<tr>
<td>Surveillance</td>
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</tbody>
</table>

### Public Health–Seattle and King County, WA

The local health jurisdiction Public Health-Seattle and King County (PHSKC) partnered with the Washington Poison Center (WAPC), the local crisis clinic and 2-1-1 hotline, and a hospital to develop a new countywide H1N1 hotline to help relieve the demand on the healthcare system, community partners, and the 9-1-1 system during H1N1. The WAPC set up and maintained NTL contracts with Evergreen HealthLine (a local hospital’s flu line), Sound Consulting Nurse, and an out-of-state NTL in anticipation of heavy call volumes.

The objectives for the H1N1 Hotline were to provide up-to-date health and safety information to the public, accurately screen callers with medical needs, and direct them to the most appropriate level of care. Prior to H1N1, the PHSKC had established a fully operational public information call center (PICC), with technology, staffing plans, telephone screening protocols, and just-in-time staff training ready to go. The PICC supported the H1N1 Hotline by networking local call centers to handle thousands of calls per day for a sustained period, centrally manage and coordinate a toll-free number, and coordinate messaging using a standard call script and triage algorithm to assist callers. The H1N1 Hotline operated Monday through Friday from 9:00 AM to 5:00 PM, and the line automatically rolled over to a designated external NTL after hours and on weekends.

The H1N1 Hotline was accessed by a single toll-free number. Callers heard frequently updated recorded messages and were given the option of being routed to live screeners. Calls for medical advice were routed to registered nurses. In order to reach diverse populations, all recordings were in Spanish and English; other non-English speakers and TTY callers were automatically transferred to a live agent during staffed shifts. Interpreters were utilized via phone, and Spanish...
interpreters were often available in the PICC. The hotline used a virtual call routing and IR software system and a Web-based call logging tool to collect call data.

Between Oct. 20, 2009, and Jan. 22, 2010, the H1N1 Hotline received 23,334 calls. Of those calls, 5,338 (23%) asked to speak with a live screener; 3,164 (13%) talked with a triage line nurse; 551 (2%) required nurse triage and evaluation; and 331 (1%) limited English speakers (other than Spanish) were served.

Table 7. Seattle-King County, WA

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tr>
<td><strong>“Live” screener option</strong></td>
<td>Yes</td>
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<tr>
<td><strong>Languages</strong></td>
<td>English, Spanish</td>
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<tr>
<td><strong>Language service used for other</strong></td>
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<tr>
<td><strong>Nurse consultation available</strong></td>
<td>Yes</td>
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<tr>
<td><strong>Triage protocol for providing clinical advice, and referral to a healthcare provider</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Protocol and standing orders for providing over-the-phone prescriptions for an antiviral medication</strong></td>
<td>No</td>
</tr>
<tr>
<td><strong>Designed to serve multiple state jurisdictions</strong></td>
<td>No</td>
</tr>
<tr>
<td><strong>Surveillance</strong></td>
<td>Yes</td>
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</table>

**Nurse Triage Lines—Antiviral Prescriptions Provided**

**Minnesota Department of Health**

The Minnesota (MN) Fluline stands apart from the other case studies in that it was established principally for the purpose of screening symptomatic Minnesotans to provide access to medical evaluation and antiviral medications during the H1N1 influenza pandemic.

During the spring 2009 wave of H1N1 and the beginning of the fall 2009 wave, influenza cases in Minnesota began to stress the healthcare system. Healthcare providers raised concerns with the Minnesota Department of Health (MDH) about record numbers of patients and challenges to providing a timely response for those with underlying health conditions, a group with particular need for rapid access to care, including antivirals. Providers also raised concerns that long waiting room times could increase opportunities for the H1N1 virus to spread. The un- and underinsured faced an additional barrier in access to antiviral drugs because they could not afford treatment, which cost on average $90 per course. Patients living in rural areas that may not have easy access to care were another population of concern. The MDH was contacted by a
Minnesota-based healthcare system seeking to find a way to meet these diverse needs and challenges. This prompted a rapidly evolving collaborative effort between the MDH and 14 Minnesota-based healthcare organizations, including hospitals and insurance plans.

Normally competitors within their industry, these providers were compelled by the urgency of the pandemic in their state to work with the MDH to create a statewide telephone nurse triage network to protect the health of all Minnesotans. The MDH contracted with various healthcare plans to build a network of NTLs that together would provide coverage for all counties in the state. From October 29, 2009, to March 31, 2010, the MN FluLine operated 24/7 using a single toll-free number. A single clinical evaluation algorithm and standing orders were created by the MDH in collaboration with the participating health plans based on CDC guidance and approved by all partners to ensure that the same evaluation was provided across the system.

Following an analysis of legal and policy issues, the Minnesota Commissioner of Health delegated authority to the state epidemiologist to sign a medical protocol to authorize dispensing of antiviral medications to any person in the state meeting the medical criteria set forth in the order by protocol. Nurses were therefore able to provide prescriptions for antiviral medications to callers over the phone without requiring that they be seen in person by prescribers. If a caller had an affiliation with a health plan or healthcare provider with an NTL, the call was transferred to a provider to ensure continuity of care. If the patient did not have an existing healthcare provider, the MDH-contract NTL provided the service.

During the period of operation, the MN FluLine received 27,391 calls; of those, 6,094 (22%) were ended prematurely by the caller, 7,339 (26%) were seeking information only, and 13,958 (50%) reported symptoms of influenza-like illness (ILI) or had had contact with someone with ILI symptoms. Of those who were symptomatic or calling on behalf of a symptomatic person, 3,799 (27%) were transferred to an NTL partner and 6,468 (46%) were transferred to the MDH-contract NTL service (the others were duplicate calls, ended up being requests for information, or were non-influenza related). Fourteen percent of callers to the contract MN FluLine had no health insurance (9% of Minnesota residents overall did not have health insurance in 2009); callers were from all but one of Minnesota’s counties.

A total of 6,160 unique callers began the nurse protocol administered by the Minnesota contract services FluLine; 211 (0.3%) callers did not finish the protocol. Of the 5,949 callers that completed the nurse protocol, 2,290 (38%) callers were recommended to seek some type of in-person healthcare service (e.g., go to the emergency room, call 911, or make an appointment with a healthcare provider), and 3,659 (62%) callers were instructed not to seek in-person care. These individuals were advised in home care measures or advised to call a healthcare provider for more guidance.

An antiviral was prescribed to 374 callers (6%), of which 161 received adult formulation and 213 were prescribed pediatric formulation. MN FluLine leaders estimate that they may have
prevented up to up to 11,000 in-person healthcare encounters. When surveyed, 92 percent of a five percent random sample of callers to the contract NTL that completed the protocol indicated that they were satisfied or very satisfied.

**Table 8. Minnesota**

<table>
<thead>
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<td></td>
<td>Spanish</td>
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<tr>
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<td>Yes</td>
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<tr>
<td>Triage protocol for providing clinical advice, and referral to a healthcare provider</td>
<td>Yes</td>
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<tr>
<td>Protocol and standing orders for providing over-the-phone prescriptions for an antiviral medication</td>
<td>Yes</td>
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<tr>
<td>Designed to serve multiple state jurisdictions</td>
<td>No</td>
</tr>
<tr>
<td>Surveillance</td>
<td>No</td>
</tr>
</tbody>
</table>

**Region IV, Washington State**

In southwest Washington State, four local health jurisdictions and the Cowlitz Indian Tribe combine efforts and resources as one regional incident command Region IV to plan for and respond to emergencies affecting one or more jurisdictions. There is one health officer for Region IV, which consists of Clark County Public Health, Cowlitz County Health and Human Services, Skamania County Community Health, Wahkiakum County Public Health and Human Services, and the Cowlitz Indian Tribe. During H1N1, a Region IV medical evaluation call center located at Clark County Public Health operated from Sept. 17, 2009, to Dec. 8, 2009. The principal function of the multijurisdictional flu line was to provide information to the public and healthcare providers and screen and refer ill callers to healthcare providers. However, hotline planners recognized that a minority of local residents were uninsured or underinsured or did not have a healthcare provider located within a reasonable proximity. Standing orders and physician-approved protocols developed and approved by the Region IV Health Officer enabled registered nurses in Region IV to perform clinical evaluations of symptomatic callers without access to a face-to-face healthcare provider and authorize antiviral medications over the phone following the standing orders. The call center registered nurses called in or faxed the order for the antiviral to pharmacies or ensured delivery of the medication to the individual by local public health staff or Medical Reserve Corps volunteers.
Table 9. Region IV, Southwestern Washington*

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<td>Triage protocol for providing clinical advice, and referral to a healthcare provider</td>
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<tr>
<td>Protocol and standing orders for providing over-the-phone prescriptions for an antiviral medication</td>
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<tr>
<td>Designed to serve multiple state jurisdictions</td>
<td>Yes</td>
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<tr>
<td>Surveillance</td>
<td>No</td>
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* Clark County Public Health, Cowlitz County Health and Human Services, Skamania County Community Health, Wahkiakum County Public Health and Human Services, and the Cowlitz Indian Tribe.

Discussion

The call center case studies exhibit the various types of services that can be offered through structured call center capabilities; each added service potentially increases the value of the flu line to pandemic response efforts.

H1N1 flu lines served to increase public understanding of the health effects of the virus and the behaviors required to slow its spread; they may have prevented unnecessary calls to the 9-1-1 system and visits to the healthcare system by people who were either not ill or who could be safely cared for at home. This public education effort may have also helped prevent the spread of disease by reducing the volume of sick individuals gathering in healthcare facilities. Additionally, some flu lines provided “decision support” for symptomatic callers by helping them determine whether they needed to seek in-person medical care or were able to care for themselves at home. Still other flu lines engaged registered nurses to assess patients and recommend and provide access to antiviral prescriptions when appropriate. Using physician-approved algorithms and standing orders, these NTLs were able to meet the needs of insured, uninsured, and underinsured callers and those without easy access to healthcare.

Call flow charts, decision trees, and message scripts were used by screeners handling calls and in some cases were programmed into IR technology to manage higher call volumes. The use of these tools in each jurisdiction ensured that consistent information was provided to every caller, every time. Information was updated and modified as the characteristics of the pandemic and the response changed.
The flu lines presented in this paper did not share a standard approach to capturing call data (call volumes, disposition of callers, call outcomes, or data to inform situational awareness) and may not represent the total number of flu lines and call center operations activated during the 2009 H1N1 influenza pandemic. However, some amount of call data was documented for most of the eight flu lines, as shown in Table 10. Among the case studies, the documented total call volume for the spring and fall waves of the pandemic was 116,357; nine percent of those callers were assessed by a registered nurse, and 3.5 percent of those evaluated by a nurse were given an antiviral prescription.

Table 10. Flu Line Data

<table>
<thead>
<tr>
<th>H1N1 Flu line</th>
<th>Rocky Mountain Poison and Drug Center Denver</th>
<th>Florida</th>
<th>New Jersey</th>
<th>New York City</th>
<th>Seattle/King County, WA</th>
<th>Oregon</th>
<th>Minnesota</th>
<th>Region IV, Southwestern Washington</th>
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</tr>
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<tbody>
<tr>
<td>Total Calls</td>
<td>35,679</td>
<td>54,630</td>
<td>3,855</td>
<td>247</td>
<td>23,334</td>
<td>25,851</td>
<td>27,391</td>
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<td>Nurse Contact</td>
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<td>N/A</td>
<td>144</td>
<td>3,164</td>
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<td>6,160***</td>
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<td>Number of Prescriptions Given</td>
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<td>none</td>
<td>none</td>
<td>374</td>
<td>N/A</td>
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*N/A indicates no documentation is available.

** Referral to a nurse triage line was available to Denver residents only. No data were captured on the numbers of callers referred to nurse triage line.

***An additional 6,468 calls were transferred to the contract nurse triage line, which in turn connected callers to their private health insurers.
Flu line capabilities may represent the fundamental building blocks of a national model for comprehensive telephone-based health services in an influenza pandemic. These services include (1) disseminating information to ill people about the status of the pandemic, what protective actions to take, and where to go to seek medical care; and (2) providing an alternative to face-to-face medical visits by triaging callers to determine the level of medical care needed and by prescribing antiviral medications telephonically to symptomatic callers. Other activities such as uniform data collection and sentinel reporting could strengthen the public health and healthcare response in a pandemic.

**Recommendations—A National Integrated Flu Line Network**

Given the disparate resources, capacities, and capabilities of communities, public health, and healthcare entities nationwide, the requirements and costs of implementing a national flu line network should be considered by federal, state, and local public health preparedness planners. A national network should be ready for activation at any time and able to provide services 24/7 nationwide. A national, systematic approach would create the opportunity to deliver unified messages and provide consistent standards and protocols for call screening and routing and nurse triage.

To implement a national approach, planners should examine the patchwork of federal, state, and local laws and the gaps that have been identified by practitioners as obstacles to efficient and effective public health emergency response. Planners should explore mechanisms that could support the infrastructure required to manage surges in call volumes across state boundaries in an emergency.

NTLs are used every day in the United States to serve those who are insured by large health plans, those served by large hospital networks, and those covered by a broad array of pediatric and primary care practices. To create an NTL capability for those who do not have a “medical home” that has triage line capabilities, a closer look at the U.S. poison control system may offer a model for an infrastructure to support a national flu line. All 50 states, American Samoa, the District of Columbia, the Federated States of Micronesia, Guam, Puerto Rico, and the U.S. Virgin Islands are served by at least one poison control center. While not all poison control centers have the same resources and capacities, telephone consultation is the primary activity and their operational capabilities are planned to extend across geographic boundaries and to respond to mass events. Public access is provided through 24/7 toll-free telephone lines staffed by personnel with clinical training in toxicology and subspecialties and in rapid, efficient call handling. The poison control system
also conducts disease surveillance, contributing to situational awareness in an evolving health emergency. The system also maintains a fully integrated electronic medical record for each caller for the purpose of treating a poisoning episode and to ensure continuity of care. Some of the larger poison control centers are technologically-advanced operational hubs that currently deliver telephone consultation services to meet the local needs of multiple counties and states.

The poison control system is cost-effective and may also be a model for controlling healthcare costs in an influenza pandemic. A 2005 study funded by the Health Resources and Services Administration Poison Control Program found that pre-hospital management of poison exposures saves $653 million due to a reduction of emergency department visits and an additional $993 million resulting from reduced length of inpatient hospital stay. According to the Institute of Medicine, every dollar spent on poison control center services saves seven dollars in medical expenditures.

A national flu line is only part of the solution to increase access to antiviral medications in an influenza pandemic. A national flu line must operate in concert with other efforts to improve distribution and dispensing of antiviral medications.

A national flu line approach would support a high-quality, robust, and adaptable response to a future influenza pandemic. The CDC and state and local partners can and should play a significant role in developing and testing a model for a nationwide integrated flu line network.
Acknowledgment
The authors thank the members of the ASTHO NTL Advisory Committee and the NACCHO NTL Workgroup and the CDC Senior Advisor for this project, Lisa Koonin, MN, MPH, Lead, Pandemic Medical Care and Countermeasures, Influenza Coordination Unit/Office of Infectious Diseases, for their extensive support. They are especially thankful to the state and local health departments for taking the time to answer questions and provide invaluable information.

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2 Centers for Disease Control and Prevention, Division of Healthcare Quality Promotion, Oak Ridge Institute for Science and Education. (2009). *Coordinating Call Centers for Responding to Pandemic Influenza and Other Public Health Emergencies: A Workbook for State and Local Planners*.


4 Ibid.
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Appendices
Appendix A:
Rocky Mountain Poison and Drug Center
How Can Call Centers HELP?

Public Health/Safety agencies announce health emergency

Uncontrolled Messages

Public will initially receive information from the mass media

Information partners relay accurate, up-to-date, consistent messages and collect data from public

Poison Center

Nurse Line

Health Hot Line

Perhaps up to 25% of the public will have questions which call centers can help with

“Tools” for Call Center Responses
CO HELP - Integrated Response

- Poison Center
- Local Health Agencies
- State Health
- Healthcare Providers

Caller

Exposure

CO HELP (info and data)

Levels of Care:
- Home
- Care Station
- Clinic
- Hospital

In Denver County or if activated for response

Nurse Line

SX Management
Appendix B:
Florida Flu Information Line
H1N1 Call Center Triage Process

Last Update: August 6, 2009

**PUBLIC**

**INCOMING**

**MEDICAL GUIDANCE**

MAIN MENU/Automated Message – General, Short Statement, then Caller can choose option:
1. Signs & Symptoms
2. Prevention
3. Treatment
4. School Information

Different Recorded Message for Each Option

Caller chooses to return to main menu, speak to operator or end call

Operator

Transferred to PAT LIVE

Call ended

Answer caller's inquiry; call ended

YES

NO

Transfer to appropriate resource (may be sent to 'medical guidance' center below)

Answer caller's inquiry, call ended

**PUBLIC**

1-877-FLAFLU1

English, Spanish or Creole?

[Placeholder: Not part of INITIAL call center center...]

Side Effects/Adverse Reactions?

[Placeholder: Not part of INITIAL call center center...]

Public OR Healthcare Provider?

Health Care Provider?

Students (pharmacy, nursing, medical) answer phones

Script provides answer to caller's inquiry?

YES

NO

Refer to 1st referral list to determine transfer extension

Nurse, physician or pharmacist answers phone

Need additional resources to answer call?

YES

NO

Answer call inquiry; call ended

Transfer to appropriate resource

Answer call inquiry, call ended

Answer caller's inquiry

YES

NO

Answer caller's inquiry; call ended
2000 - Main Menu

For Flu & Vaccines, press 1

For Flu & Symptoms, press 2

For information on protecting yourself or your family from the flu, press 3.

For information about schools and the flu, press 4.

5000 - Main Menu Options

5000 - Vaccine Message

6000 - School Information Message

4000 - Prevention Message

3000 - Signs & Symptoms Message

Repeat Menu

* 

# 

Operator

8000 - PatLive Call

Please hold while we transfer your call.

Are hours?

Y

N

Operators are available from 8am to 8pm, 7 days a week. Please try your call again during those hours.

PatLive Menus and Prompts for the FDOH Flu Information Line

(1-877-352-3581)

Revised January 6, 2010

The content of this phone line is provided by the Florida Department of Health (FDOH) and is intended to inform the public of flu-related information. The FDOH cannot provide medical advice or treatment. For medical advice, please contact your healthcare provider. For information about vaccines, please call 1-888-238-2623.
Appendix C:
Oregon Flu Line
1.) The Caller calls the Flu Hotline at 1-800-978-3040. Caller might have flu questions and/or may need to speak with a nurse, or may be a clinician or laboratorian.

2.) Caller is routed to a phone menu and can listen to recorded information and/or select to be transferred to a live Information and Referral Specialist (I&R). Menu also includes option for direct transfer to clinician support service.

3.) I&R Specialist answers questions about vaccine, immunization locations, and can transfer caller to nurse triage or clinician support.

4.) Telephone nurses provide medical advice to callers about flu-like symptoms.

5.) Clinician support service is staffed by nurses who can answer technical questions about H1N1 from clinicians and laboratorians. Communicable disease physicians advise clinician support as needed.

6.) Hotline Coordinator works with the other service components to provide information, resolve problems, and align messaging.
H1N1 Hotline
King County, WA

Call Path

General Public → FLU HOTLINE Toll-free Number → Health Care System, 911, 2-1-1, internal

Greeting and Interactive Voice Response (IVR) Menu:
Spanish press 1, English press 2

Spanish → RECORDERD FLU TOPICS
Option to speak with hotline staff during business hours

English → MEDICAL ADVICE / TRIAGE
Speak with nurse; after-hours recorded message instructs caller to contact health care provider.

Operator UCD (queue) → INTEGRATED external surge support and/or after-hours call center partners (when activated)

- King County Crisis Clinic/2-1-1
- Washington Poison Center
- Future Commercial, Business, and/or Nonprofit Call Center Partner(s)

Over-the-Phone Interpreter → Nurse UCD (queue)

- Sound Consulting Nurse Svc.
- AnswerMed Consulting Nurse Svc.
- Evergreen Health Line
- Washington Poison Center

Developed and Operated by Public Health - Seattle & King County in Collaboration with Washington Poison Center
Appendix E:
Minnesota Department of Health
Influenza Call Triage and Standing Orders
MN FluLine System Design

Callers to MN FluLine

Medical Screener
Contract Provider

Not ill, not exposed -
Information only

• 211
• MDH public hotline
• Websites (MDH, CDC, Mayo)
• Other community resources

Ill or exposed to someone with ILI

Health plan participating in the MN FluLine

Partner administers MDH protocol

No insurance or health plan not participating in MN FluLine

Contractor administers MDH protocol
Characterization of Calls

Total call volume
N=27,391

Call ended prematurely by caller
N=6,094

Information only
(Not ill, not exposed)
N=7,339

Reporting symptoms
(Ill or exposed to person w/ ILI)
N=13,958

Non-flu related call/general info.
only call/Duplicate calls
N=3,691

Transferred to Partner NTL
N=3,799

Began protocol administered by
contract NTL
N=6,468
Characterization of Calls (cont.)

Began protocol administered by contract NTL
N=6,468

Non-flu related call/ Information only call/ Duplicate calls
N=308

Unique callers beginning protocol
N=6,160

Did not complete nurse protocol
N=211

Completed nurse protocol
N=5,949
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**Attachments:**
- Fact Sheet: The Public Readiness and Preparedness Act (PREP): What you need to know for antivirals
- Roche: TAMIFLU (oseltamivir phosphate) Capsules and for Oral Suspension
- Emergency Use Authorization of TAMIFLU: Fact Sheet for Health Care Providers
CPN – Call Center Triage for Influenza

Is the person you are calling about currently sick or has the person had close contact with someone else who is currently sick?

□ No to both
  ➔ Refer to websites:
    - http://www.mdhflu.com
    - http://www.cdc.gov/h1n1flu
    - http://mayoclinic.com
    - 211
    - MDH Epidemiology 1-800-657-3903 from 8:30-4:30.

□ Yes to one or both
  ➔ Read, "I have some more questions to ask you. Your answers are voluntary, but we can’t serve you without this information. This information will be kept private but may be shared with other providers involved in your care and the Minnesota Department of Health."
  ➔ What is the name of the person you are calling about?
  First ________________________________ Last_____________________________________
  DOB___/___/___ or age__________ (in years, months, days)
  County of residence: ______________________________________
  What is your name? ______________________________________  Phone #____-____-____
  Relationship to the person you are calling about:
    □ Parent        Other: ____________________________
  Who is your health insurance provider? _____________________________________________
  Clinic you usually attend? __________________________________________________
  Call transferred to__________________________________________ at ___:___ ___/___/___

□ Not currently sick but has had contact with someone who is currently sick
  ➔ Go to Evaluation for Possible Influenza Exposure

□ The person is currently sick:
  ➔ Is the individual 18 years or older?
    □ Yes ➔ Go to Call Center Triage for Influenza: ADULT – CLINICAL EVALUATION
    □ No ➔ Go to Call Center Triage for Influenza: PEDIATRIC – CLINICAL EVALUATION
Call Center Triage for Influenza:
ADULT – CLINICAL EVALUATION

Is the patient experiencing ANY of the following?
- Unconscious or unresponsive
- Difficulty breathing
- Blue or dusky lips, skin, or nail beds
- Chest pain
- Seizures that are ongoing
- Severe confusion or delirium
- Severe dehydration or signs of shock
- Patient sounds very sick to the triage nurse

☐ Yes to ANY of the above → Call 911 immediately
☐ No to ALL of the above

Is the patient experiencing ANY of the following?
- Fever greater than 104 degrees Fahrenheit (40 degrees Celsius), or shaking chills
- Wheezing with minimal response to usual wheezing medications or new wheezing
- Repeated vomiting or diarrhea with signs of dehydration (no urination within last 12 hours)
- Seizure(s) just occurred but now have stopped
- Flu-like symptoms improved but then returned within a few days with fever and worse cough

☐ Yes to any of the above → Patient should be taken to an Emergency Department now
☐ No to all of the above

Does the patient currently have any of the following?
- Fever with a measured temperature ≥100 degrees Fahrenheit (37.8 degrees Celsius)
- If unable to measure temperature, is patient experiencing chills or does (s)he feel very warm to touch
- A cough
- Sore throat

☐ Yes to fever and sore throat or cough, the patient has an influenza-like illness. → Go to Call Center Triage for Influenza: ADULT – EVALUATION for ANTIVIRAL MEDICATION
☐ No to fever and sore throat or cough

Is the patient pregnant or have an underlying health condition leading to a compromised immune system?

☐ Yes → Contact your health care provider if respiratory symptoms alone or fever alone are present.
☐ No → Go to Home Care Education

Additional triage algorithms and resources should be used if indicated by patient’s symptoms, for example fever but no respiratory symptoms.
Call Center Triage for Influenza:

**ADULT – EVALUATION FOR ANTIVIRAL MEDICATION**

Adults at increased risk for more severe complications of influenza:

- Chronic pulmonary disease including asthma or COPD
- Heart Disease (e.g. congestive heart failure, history of coronary artery disease or bypass, chronic anticoagulation due to heart arrhythmia [excluding hypertension])
- Liver disease (e.g. history or liver cirrhosis, chronic hepatitis)
- Kidney disease (e.g. chronic renal failure or insufficiency, patient on dialysis)
- Metabolic disorders (e.g. diabetes)
- Neuromuscular disorder (e.g. muscular dystrophy, multiple sclerosis, amyotrophic lateral sclerosis, myasthenia gravis)
- Compromised ability to handle respiratory secretions (e.g. cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders)
- Hematologic disorders (e.g. sickle cell disease)
- Morbid obesity
- Compromised immune system including:
  - HIV/AIDS
  - Chemotherapy or radiation within the last 3 months
  - Received an organ or bone marrow transplant
  - Taking prednisone greater than or equal to 20 mg daily (or an equivalent dose of another steroid)
- 65 years or older
- Pregnant, thinks she may be pregnant, or within 2 weeks post-partum
- Resident of a chronic care facility

- **Yes** to ANY of the above → Go to Standing Orders for Use of Antivirals for the Treatment of Influenza: Adults (age >18 years)
  Antivirals should be started even if it has been more than 48 hours from the onset of symptoms unless symptoms are significantly improving at the time of the call.

- **No** to ALL of the above → Go to Home Care Education
Call Center Triage for Influenza:
PEDIATRIC – CLINICAL EVALUATION

Is the patient experiencing ANY of the following?

- For ages newborn to less than 18 months:
  - Severe lethargy or floppiness
  - Currently struggling to breathe, even while inactive or resting (nasal flaring, grunting, or skin pulling between ribs)
  - Unable to stay alert and awake

- For ages newborn to less than 18 years:
  - Unconscious or unresponsive
  - Unable to stay alert and awake, unable to recognize family members, unable to interact with others in a normal manner
  - Short of breath while inactive or resting
  - Blue or dusky lips, skin, or nail beds
  - Seizures that are ongoing
  - Completely unable to swallow (drooling rather than swallowing saliva)
  - Patient sounds very sick to the triage nurse

- Yes to ANY of the above → Call 911 immediately
- No to ALL of the above

Is the patient experiencing ANY of the following?

- For ages less than 3 months:
  - Temperature greater than 100.4 degrees Fahrenheit (38 degrees Celsius)

- For ages newborn to less than 18 months:
  - High-pitched, weak, or moaning cry
  - No tears when crying
  - Bulging or tense fontanel (when not crying)
  - Passing little or no urine for 8 hours (should have at least one reasonably wet diaper in 8 hours)
  - Sunken eyes or fontanel

- Age newborn to less than 18 years
  - Passing little or no urine for 12 hours (19 months to 18 years)
  - Temperature greater than 104 degrees Fahrenheit (40 degrees Celsius), or shaking chills
  - Chest pain
  - Unable or refusing to move neck
  - Inconsolable crying or moaning
  - Wheezing with minimal response to usual wheezing medications or new wheezing
  - Extremely dry mouth.
  - Dizzy when sitting or standing.
  - Seizure(s) just occurred but now have stopped
  - Flu-like symptoms improved but then returned within a few days with fever and worse cough
□  Yes to ANY of the above → Patient should be taken to an Emergency Department now

□  No to ALL of the above  
↓
Does the patient have ANY of the following:

□  Fever with a measured temperature of ≥100 degrees Fahrenheit (37.8 degrees Celsius). If unable to measure temperature, is patient experiencing shaking chills or does (s)he feel very warm to touch?

□  A cough

□  Sore throat

□  Yes to fever and sore throat or cough, the patient has an influenza-like illness. → Go to Call Center Triage for Influenza: PEDIATRIC – EVALUATION FOR ANTIVIRAL MEDICATION

□  No to fever and sore throat or cough  
↓

Is the patient pregnant or have an underlying health condition leading to a compromised immune system?

□  Yes → Contact your health care provider if respiratory symptoms alone or fever alone are present.

□  No → Go to Home Care Education

Additional triage algorithms and resources should be used if indicated by patient’s symptoms, for example fever but no respiratory symptoms
Call Center Triage for Influenza:
PEDIATRIC – EVALUATION FOR ANTIVIRAL MEDICATION

Children at increased risk for more severe complications of influenza:

- 2 years or younger
- Chronic pulmonary disease including asthma or recurrent wheezing
- Chronic daily aspirin therapy
- Heart disease (e.g. congestive heart failure, rheumatic heart disease, congenital heart anomaly)
- Liver disease (e.g. liver failure, hepatitis)
- Kidney disease (e.g. renal failure or insufficiency, patient on dialysis)
- Metabolic disorders (e.g. diabetes)
- Neuromuscular disorder (e.g. muscular dystrophy, cerebral palsy)
- Compromised ability to handle respiratory secretions (e.g. cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders)
- Hematologic disorders (e.g. sickle cell disease)
- Morbid obesity
- Compromised immune system including:
  - HIV/AIDS
  - Chemotherapy or radiation within the last 3 months
  - Received an organ or bone marrow transplant
  - Taking prednisone greater than or equal to 2 mg/kg or 20 mg daily (or equivalent dose of another steroid)
- Pregnant, thinks she may be pregnant, or within 2 weeks post-partum
- Resident of a chronic care facility

- Yes to ANY of the above → Go to Standing Orders for Use of Antivirals for the Treatment of Influenza: Pediatrics (age <18 years)
  Antivirals should be started even if it has been more than 48 hours from the onset of symptoms unless symptoms are significantly improving at the time of the call.

- No to ALL of the above → Go to Home Care Education
Evaluation for Possible Influenza Exposure

ADULTS:
Adults at increased risk for more severe complications of influenza:
- Chronic pulmonary disease including asthma or COPD
- Heart Disease (e.g. congestive heart failure, history of coronary artery disease or bypass, chronic anticoagulation due to heart arrhythmia [excluding hypertension])
- Liver disease (e.g. history or liver cirrhosis, chronic hepatitis)
- Kidney disease (e.g. chronic renal failure or insufficiency, patient on dialysis)
- Metabolic disorders (e.g. diabetes)
- Neuromuscular disorder (e.g. muscular dystrophy, multiple sclerosis, amyotrophic lateral sclerosis, myasthenia gravis)
- Compromised ability to handle respiratory secretions (e.g. cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders)
- Hematologic disorders (e.g. sickle cell disease)
- Compromised immune system including
  - HIV/AIDS
  - Chemotherapy or radiation within the last 3 months
  - Received an organ or bone marrow transplant
  - Taking prednisone greater than or equal to 20 mg daily (or an equivalent dose of another steroid)
- 65 years or older
- Pregnant, thinks she may be pregnant, or within 2 weeks post-partum
- Resident of a chronic care facility

PEDIATRICS:
Children at increased risk for more severe complications of influenza:
- 2 years or younger
- Chronic pulmonary disease including asthma or recurrent wheezing
- Chronic daily aspirin therapy
- Heart disease (e.g. congestive heart failure, rheumatic heart disease, congenital heart anomaly)
- Liver disease (e.g. liver failure, hepatitis)
- Kidney disease (e.g. renal failure or insufficiency, patient on dialysis)
- Metabolic disorders (e.g. diabetes)
- Neuromuscular disorder (e.g. muscular dystrophy, multiple sclerosis, amyotrophic lateral sclerosis, myasthenia gravis)
- Compromised ability to handle respiratory secretions (e.g. cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders)
- Hematologic disorders (e.g. sickle cell disease)
- Compromised immune system including
  - HIV/AIDS
  - Chemotherapy or radiation within the last 3 months
  - Received an organ or bone marrow transplant
  - Taking prednisone greater than or equal to 2 mg/kg or 20 mg daily (or equivalent dose of another steroid)
- Pregnant or thinks she may be pregnant
- Resident of a chronic care facility
Does the patient have ANY of the conditions listed above placing them at high risk for complications of influenza?

☐ Yes
  → Did the individual have close contact\(^1\) with a person with influenza-like illness during that person's infectious period\(^2\)?

  ☐ Yes  → Contact your health care provider with in the next 24 hours to discuss the possible need for antiviral medication.

  ☐ No  → Contact your health care provider (or call back if you do not have a health care provider) if you develop fever, respiratory symptoms, or sore throat

☐ No
  → Is the individual a health care worker, public health worker, or first responder?

  ☐ Yes  → Contact your Occupational Health Provider as soon as possible (ideally within the next 24 hours) for further assessment

  ☐ No  → Contact your health care provider (or call back if you do not have a health care provider) if you develop fever, respiratory symptoms, or sore throat

---

1 Close contact is defined as having cared for or lived with a person who has an influenza-like illness, or having been in a setting where there was a high likelihood of contact with respiratory droplets and/or body fluids of such a person. Examples of close contact include sharing eating or drinking utensils, performing a physical examination, or any other contact between persons likely to result in exposure to respiratory droplets. Close contact typically does not include activities such as walking by an infected person or sitting across form a symptomatic patient in a waiting room or office.

2 The infectious period for influenza is defined as one day before until 24 hours after fever ends. Infected persons may shed influenza virus, and potentially be infectious to others, beginning one day before they develop symptoms to up to 7 days after they become ill. Children, especially younger children, and persons who are immune compromised can shed influenza virus for longer periods. However, the amount of virus shed generally correlates with magnitude of fever.
Standing Orders for Use of Antivirals for the Treatment of Influenza: Adults (age ≥18 years)

1. Does the patient have a history of allergy or hypersensitivity to oseltamivir?
   □ Yes → DO NOT PRESCRIBE. ADVISE PATIENT CONTACT HEALTH CARE PROVIDER AS SOON AS POSSIBLE, IDEALLY WITHIN 8 HOURS
   □ No → Proceed to question 2.

2. Does the patient currently have kidney disease? (This means Chronic Kidney Disease stage 4 or 5 OR, creatinine clearance <30 mL/min if known).
   □ Yes → Proceed to question 3, If patient says yes to kidney disease but does not know kidney disease stage or creatinine clearance, Proceed to question 3.
   □ No → Proceed to NORMAL KIDNEY FUNCTION DOSING

3. Is the patient currently receiving dialysis?
   □ Yes → Proceed to DIALYSIS DOSING
   □ No → Proceed to CHRONIC KIDNEY DISEASE DOSING

NORMAL KIDNEY FUNCTION DOSING *

□ Oseltamivir (Tamiflu®) 75 mg by mouth TWICE daily for 5 days

CHRONIC KIDNEY DISEASE DOSING *

□ Oseltamivir (Tamiflu®) 75 mg by mouth ONCE daily for 5 days

DIALYSIS DOSING *

□ Oseltamivir (Tamiflu®) 75 mg by mouth ONE dose now AND CONTACT HEALTH CARE PROVIDER MANAGING KIDNEY DISEASE WITHIN 48 HOURS

* See attached Tamiflu® Package Insert for more information. To be updated as required.

Pharmacy contacted:

Pharmacy Name ________________________________________________________
Address _______________________________________ City ___________________
Phone number______ - _____ - ________     Time ____ : ____  Date ____/____/____

→ Proceed to Home Care Education

Ruth Lynfield M.D.     _________________________      ___/___/___
State Epidemiologist     ______________________________________
Acting under authority delegated by the Commissioner of Health
as of 10/14/09

Second signature as per health care system
Standing Orders for Use of Antivirals for the Treatment of Influenza: Pediatrics (age <18 years)

1. Does the patient have a history of allergy or hypersensitivity to oseltamivir?
   - Yes → DO NOT PRESCRIBE. ADVISE PATIENT CONTACT HEALTH CARE PROVIDER AS SOON AS POSSIBLE, IDEALLY WITHIN 8 HOURS
   - No → Proceed to question 2.

2. Does the patient currently have kidney disease (e.g., chronic renal failure or insufficiency)?
   - Yes → DO NOT PRESCRIBE. ADVISE PATIENT CONTACT HEALTH CARE PROVIDER AS SOON AS POSSIBLE, IDEALLY WITHIN 8 HOURS
   - No → Proceed to NORMAL KIDNEY FUNCTION DOSING.

NORMAL KIDNEY FUNCTION DOSING

For children <12 months *
   - Age <3mo - oseltamivir (Tamiflu®) 12 mg by mouth twice daily for 5 days
   - Age 3-5mo - oseltamivir (Tamiflu®) 20 mg by mouth twice daily for 5 days
   - Age 6-11mo. - oseltamivir (Tamiflu®) 25 mg by mouth twice daily for 5 days

For children >12 months
   - Weight ≤15kg (<33 pounds) - oseltamivir (Tamiflu®) 30 mg by mouth twice daily for 5 days
   - Weight 16-23kg (34-51 pounds) - oseltamivir (Tamiflu®) 45 mg by mouth twice daily for 5 days
   - Weight 24-40kg (52-88 pounds) - oseltamivir (Tamiflu®) 60 mg by mouth twice daily for 5 days
   - Weight >40kg (>88 pounds) - oseltamivir (Tamiflu®) 75 mg by mouth twice daily for 5 days

* Dosing as per Emergency Use Authorization for children < 12 months. See attached Tamiflu® Package Insert and Emergency Use Authorization of TAMIFLU®: Fact Sheet for Health Care Providers. To be updated as required. This can be also found at: http://www.cdc.gov/h1n1flu/eua/pdf/tamiflu-hcp.pdf

Pharmacy contacted:

Pharmacy Name ____________________________________________________________
Address ______________________________________ City ___________________
Phone number_____ - _____ - ________ Time ____ : ____ Date ___/___/____

→ Proceed to Home Care Education

Ruth Lynfield M.D.     _________________________      ___/___/___
State Epidemiologist     ______________________________________
Acting under authority delegated by the Commissioner of Health
as of 10/14/09

Second signature as per health care system
Home Care Education

**Instructions if oseltamivir is prescribed:**
- Take all of the antiviral medication as directed.
- The most common side effect of oseltamivir is nausea and vomiting which is usually mild, occurring in the first 2 days of treatment. Taking oseltamivir with food may reduce the chance of getting these side effects.
- If you develop an allergic reaction such as a rash, stop taking oseltamivir and contact a healthcare professional right away.
- People with the flu, particularly children and adolescents, may be at increased risk of, confusion, abnormal behavior, or seizures early during their illness. These events may occur shortly after beginning oseltamivir or may occur when flu is not treated. These events are uncommon but may result in accidental injury to the patient. Therefore, patients should be observed for signs of unusual behavior and if they develop the patient should seek medical care immediately.
- Do not receive the Live Attenuated Influenza Vaccine (FluMist®) for at least 48 hours after taking the last pill of oseltamivir. If you receive Live Attenuated Influenza Vaccine (FluMist®) within the past 14 days, repeat vaccination is recommended.
- If symptoms have not improved within the 2 days, contact your health care provider

**General home care instruction:**
- Avoid contact with people in your household who are at increased risk for more severe complications of influenza (such as pregnant women or people who have a chronic health condition, for example diabetes, heart disease, asthma, or emphysema). These people should contact their healthcare provider by phone to ask if they need any special medical care – such as antiviral medications.
- Stay home from work, school, childcare or other public places until your fever (37.8 degrees Celsius [100 degrees Fahrenheit]) has been gone for at least 24 hours, except to seek medical care. (Fever should be gone without the use of fever-reducing medications.) Use a surgical mask if available, or cover your mouth and nose with a tissue if possible if you need to seek medical care. Contact your work place, school, or daycare as they may have longer exclusion times.
- You may continue to shed virus after your fever is gone. Limit your contact with high-risk individuals for 10 days after your symptoms started and be especially careful to cover your coughs/sneezes and wash your hands.
- Cover your cough and wash your hands often, and especially after coughing, sneezing, blowing your nose.
- Drink plenty of fluids (such as water, broth, sports drinks, electrolyte beverages for children) to prevent dehydration.
- Avoid tobacco and second hand smoke.
- Get plenty of rest.
- Use over-the-counter pain relievers as needed per manufacturer instructions.
- Do not give aspirin (acetylsalicylic acid) or products that contain aspirin (e.g. bismuth subsalicylate – Pepto Bismol) to children or teenagers 18 years or younger.
- Children younger than 4 years of age should not be given over-the-counter cold medications.
- A small number of people with influenza do not have fever. If you have respiratory symptoms and are at increased risk for complications of influenza, contact your health care provider to discuss these symptoms.
For parents of infants:
☐ If possible, only family members who are not sick should care for infants.
☐ Wash your hands with soap and water, or an alcohol-based hand rub (if your hands are not visibly soiled) before caring for your infant.
☐ Cover your mouth and nose with a tissue when coughing or sneezing, and clean your hands.

Contact a health care provider to discuss the patient’s illness within 1-2 days if the patient is:
☐ Pregnant
☐ A child less than 5 years
☐ Immunocompromised

When to seek medical attention:

Call 911 if the patient experiences:
☐ Difficulty breathing or shortness of breath
☐ Pain or pressure in the chest or abdomen
☐ Confusion or less responsive than normal
☐ Blue or dusky lips, skin, or nail beds

Contact a health care provider right away if the patient experiences:
☐ A painful sore throat accompanied by fever persists for more than 48 hours
☐ Ear pain, sinus pain, persistent vomiting and/or diarrhea
☐ Oral temperature greater than 104º Fahrenheit (40º Celsius)
☐ Dehydration (e.g., mouth feeling dry, dizzy when sitting/standing, decreased urine output)
☐ Severe or persistent vomiting; unable to keep fluids down
☐ Improvement in flu-like symptoms (fever and cough or sore throat) but then return of fever and worse cough or sore throat
☐ Not drinking enough fluids
☐ Not waking up or interacting
☐ Irritability in a child such that it does not want to be held
☐ Any other concerns not stated above

Additional educational resources include:
- [http://www.mdhflu.com](http://www.mdhflu.com)
- [http://www.cdc.gov/h1n1flu/guidance/exclusion.htm](http://www.cdc.gov/h1n1flu/guidance/exclusion.htm)
Legal Authority and Findings of the Commissioner of Health on Responses to Novel Influenza A(H1N1) in Minnesota

Based on the following findings, I have determined that it is necessary for the Minnesota Department of Health to supplement the state’s health care and public health systems’ response to novel influenza A(H1N1) by supporting a statewide “800” phone line to assist and triage persons with symptoms of influenza-like-illness (ILI). In addition, I am employing authorities granted me in Minn. Statutes sections 144.4198, subdivision 2, and 151.37, subdivisions 2 and 10 (2009), to make antiviral drugs from state and federal stockpiles available as needed and at no cost to persons lacking insurance, Medicare, Medicaid, or other public assistance program support for those medicines. These actions are based upon the following findings:

1. Acting Health & Human Services Secretary Charles E. Johnson declared on April 26, 2009, that a public health emergency exists nationwide for novel influenza A(H1N1);

2. On the same date, Acting Secretary Johnson invoked the protections of the Public Readiness and Emergency Preparedness (PREP) Act for use of the antivirals Oseltamivir Phosphate (Tamiflu®) and Zanamivir (Relenza®) against the novel influenza A(H1N1);

3. On April 27, 2009, the Food and Drug Administration by order of the Acting Commissioner of Food and Drugs, Joshua M. Sharfstein, M.D., authorized the emergency use (i.e, “off-label” use) of certain Oseltamivir Phosphate and Zanamivir products against the novel influenza A(H1N1);

4. On July 24, 2009, Health & Human Services Secretary Kathleen Sebelius, renewed the public health emergency declaration issued by her predecessor on April, 26, 2009;

5. The week of September 18, 2009, the U.S. Centers for Disease Control and Prevention reported that novel influenza A(H1N1) was widespread in Minnesota;

6. Under authority delegated by me, State Epidemiologist Ruth Lynfield, M.D., is signing a prescription order by protocol to authorize dispensing of the above antiviral medicines to any person in this state meeting the medical criteria set forth in her order by protocol.

7. These findings and the protocol shall remain in full force until April 30, 2010, or my cancellation of these actions.

Sanne Magnan M.D.
Commissioner of Health
Minnesota Department of Health
Appendix F:
Region IV, Clark City Antiviral Distribution to Patients
Antiviral Distribution to Patients for Those without Access to Normal Medical Evaluation

- PHN brings Antiviral Rx to OBD for patient needing antiviral delivery from Federal stock

- OBD or designee reviews info, transfers info to "Pharmacy Antiviral Dispensing List"

- OBD or designee obtains prescribed antiviral from cache, completes lot number on "Dispensing List"

- OPB or designee arranges/assigns transport of antiviral delivery; method will vary by resources available at time and may be:
  - MRC Volunteer
  - PH Staff
  - Other Co. staff
  - Bus, Taxi, or other local transport service

- Delivery person obtains necessary signatures and submits required documents to OBD or designee

- OBD or designee logs dispensing in inventory tracking workbook for ind dispensing

- Ind. dispensing inventory tracking sent to Logistics weekly
PROTOCOL & STANDING ORDER

SUBJECT: Influenza A H1N1 (Swine Flu) Antiviral Treatment and Prophylaxis

UNIT: REGION IV PUBLIC HEALTH - H1N1 Incident Management

SIGNATURE OF HEALTH OFFICER: Dr. Alan Melnick

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A. Policy:
Local health jurisdictions in Region IV will provide consistent information to health care providers and the community on the appropriate use of antiviral medications for the treatment and prophylaxis of Influenza A H1N1 (swine flu). This document provides guidance on the most current information from the Centers for Disease Control and Prevention (CDC) and the Washington State Department of Health (DOH) on antiviral treatment and prophylaxis and recommended education related to antiviral medication use and infection control. The protocol also provides guidance on the approved process for accessing antiviral medication supplies from the Region IV local health jurisdictions’ (LHJs’) strategic national stockpile (SNS) and serves as a standing order for the distribution of antiviral medications to ill and exposed individuals by LHJ public health nurses and medical reserve corps volunteers (physicians and registered nurses).

B. Background:

H:\PHDOC\H1N1\current_incident_H1N1_090826\operations\protocols&standing orders\antiviral ALSO at Clark County at H\ph protocols&standing orders\phregion IV
This protocol revises the versions dated 10/23/09; 10/19/09; 10/8/09; 9/18/09; 6/19/09 and 5/6/09. Persons and populations at highest risk for morbidity and mortality from Influenza A H1N1 (swine flu) are the priority for receiving antiviral medications for treatment and prophylaxis. Steps should be taken to reduce delays in treatment/prophylaxis for these populations. This protocol does not replace the clinical judgment of health care providers. However, we recommend that physicians and other health care providers follow these guidelines to assure adequate supplies of antiviral medications for those who are at greatest risk for complications associated with Influenza A H1N1 (swine flu) and to reduce the opportunity for drug resistance.

C. Definitions:

**Close contact** – Having cared for or lived with a person who is a confirmed or suspected case of H1N1 or having been in a setting where there was a high likelihood of contact with respiratory droplets and/or body fluids of such a person. For example, sharing, eating or drinking utensils, physical examination, or any other contact between persons likely to result in exposure to respiratory droplets. Does not include sitting across from a symptomatic patient in a waiting room or office.

**Infectious period** – One day before the development of symptoms until 24 hours after the fever ends (without the use of medications that reduce fever). In severe flu conditions, 7 days after onset of illness and if extends beyond 7 days, 24 hours after symptoms resolve.

**Influenza-Like Illness (ILI)** – Documented fever ≥37.8°C (≥100°F) with cough and/or sore throat in the absence of another cause.

**H1N1 Influenza Confirmed Case Definition** - A person with ILI and laboratory-confirmed novel influenza A (H1N1) infection by one or more of the following tests:
- Real time RT-PCR
- Viral culture

**H1N1 Influenza Suspected Case Definition** – A person with ILI.

D. Persons at Greater Risk for Complications from Influenza A H1N1 (swine flu):

Certain groups appear to be at increased risk of complications from H1N1 and may benefit from early treatment with antiviral medications. These high risk conditions are the same conditions that increase the risk of complications from seasonal influenza infection:

- Children <2 years of age
- Adults ≥ 65 years of age
- Pregnant women, all trimesters, and women up to 2 weeks postpartum (including following pregnancy loss)
- Persons with the following conditions:
  - Chronic pulmonary (including asthma), cardiovascular (excluding hypertension), renal, hepatic, hematological (including sickle cell disease), neurologic, neuromuscular, or metabolic disorders (including diabetes mellitus);
  - Disorders that can compromise respiratory function or handling of respiratory secretions or that can increase the risk of aspiration (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders.);
  - Immunosuppression, including that caused by medications or by HIV;
  - Persons younger than 19 years of age who are receiving long-term aspirin therapy and who might be at increased risk for Reye syndrome.
  - Residents of nursing homes and other chronic-care facilities

E. Antiviral Medication Use
Recommendations for use of antiviral medications may change as data on effectiveness, clinical spectrum of illness, adverse events from antiviral medication use, or resistance among circulating viruses becomes available. If viral surveillance data indicate that drug resistance to Influenza A H1N1 (swine flu) viruses have become more common or are associated with identified community outbreaks, we will provide updated guidance on effective treatment.

F. Antiviral Treatment

Treatment with oseltamivir or zanamivir is indicated for:
1. Treatment is recommended for all hospitalized patients with confirmed, probable or suspected 2009 H1N1 or seasonal influenza.
2. Early empiric treatment with oseltamivir or zanamivir should be considered for persons with suspected or confirmed influenza who are at higher risk for complications. See Section D in this document titled, “Person’s at Greater Risk for Complications From Influenza A H1N1 (swine flu)”.
3. Clinical judgement should be used in deciding whether outpatients with risk factors for influenza-related complications require treatment.
4. Treatment with oseltamivir or zanamivir is recommended for persons with suspected or confirmed influenza who are severely ill or who are showing evidence of rapid clinical deterioration. Signs and symptoms of severe illness due to suspected influenza are an indication for immediate treatment, regardless of previous health or age.
5. Treatment should be initiated empirically when the decision is made to treat patients who have illnesses that are clinically compatible with influenza. Treatment should not await laboratory confirmation because laboratory-based testing could delay treatment and because a negative rapid test does not rule out influenza. (See “Evaluation of Rapid Influenza Diagnostic Tests for Detection of Novel Influenza A (H1N1) Virus ---United States, 2009” for more information about the sensitivity of rapid tests.)
6. Pregnant women are at higher risk for complications from H1N1 and if symptomatic, should be treated in any trimester and up to 2 weeks postpartum (including following pregnancy loss). The risk for hospitalization may be 4 times higher for pregnant women than for the general population. Pregnancy should not be considered a contraindication to oseltamivir or zanamivir use. Because of its systemic activity, oseltamivir is preferred for treatment of pregnant women.
7. A history of receipt of 2009 H1N1 or seasonal influenza vaccine does not rule out influenza infection. In October 2009, monovalent inactivated and live attenuated 2009 H1N1 influenza vaccines became available in the United States. These vaccines are prepared using methods similar to those used for seasonal influenza vaccines. Although these vaccines are expected to be highly effective, no vaccine is 100% efficacious. Therefore, a history of receipt of 2009 H1N1 or seasonal influenza vaccine does not rule out influenza infection. Early empiric treatment should be initiated for vaccinated persons with suspected influenza infection when indicated (e.g. persons requiring hospitalization, with severe infection, or at higher risk for influenza-related complications). Vaccination with 2009 H1N1 influenza vaccine is not expected to provide protection against infection with seasonal influenza A or B viruses. Similarly, vaccination with seasonal influenza vaccine is not expected to prevent infection with 2009 H1N1 influenza virus.

Persons who are not at higher risk for complications or do not have severe influenza requiring hospitalization generally do not require antiviral medications for treatment. Clinical judgment is an important factor in antiviral treatment decisions for all patients presenting for medical
care who have illnesses consistent with influenza. Treatment should not wait for laboratory confirmation of influenza confirmation in individuals who require hospitalization or are in a high risk category because laboratory testing can delay treatment and because a negative rapid test for influenza does not rule out influenza. The sensitivity of rapid tests can range from 10% to 70%.

**When Treatment Should Be Initiated:**

- Treatment should be started as early as possible, preferably within 48 hours of illness onset. Some evidence suggests that treatment that is started after 48 hours of illness may be beneficial.

**Duration of Treatment:**

- The recommended duration of treatment is 5 days. Hospitalized patients with severe illness might require longer treatment courses.

**Children:**

- Antiviral medication doses recommended for treatment of Influenza A H1N1 (swine flu) infection in adults or children 1 year of age or older are the same as those recommended for seasonal influenza (Table 1).
- Children younger than 1 year of age are at higher risk for influenza-related complications and have a higher rate of hospitalization compared to older children. Oseltamivir use for children < 1 year old was recently approved by the U.S. Food and Drug Administration (FDA) under an Emergency Use Authorization (EUA), and dosing for these children is age-based (Table 2 and Table 3).

**Education for Patients Who Receive Treatment**

**Take Medications as Prescribed:**

- You will probably be sick for several days with fever and respiratory symptoms.
- Take all of the antiviral medication as directed.
- Continue to cover your cough and wash your hands often, even when taking antiviral medications, to prevent spreading influenza to others.
- Call the office if you (or your child) experience any side effects; i.e. nausea, vomiting, rash, or unusual behavior.
- Take medications for symptom relief as needed for fever and pain such as acetaminophen (Tylenol®) and ibuprofen (Advil®, Motrin®, Nuprin®), and cough medicine. These medicines do not need to be taken regularly if your symptoms improve.
- Do not give aspirin (acetylsalicylic acid) or products that contain aspirin (e.g. bismuth subsalicylate – Pepto Bismol) to children or teenagers 18 years old or younger.
- Children younger than 4 years of age should not be given over-the-counter cold medications without first speaking with a health care provider.

**Seek Emergency Care**
If your child experiences any of the following:

- Fast breathing or trouble breathing
- Bluish or gray skin color
- Not drinking enough fluids
- Severe or persistent vomiting
- Not waking up or not interacting
- Being so irritable that the child does not want to be held
- Flu-like symptoms improve but then return with fever and worse cough

In adults, emergency warning signs that need urgent medical attention include:

- Difficulty breathing or shortness of breath
- Pain or pressure in the chest or abdomen
- Sudden dizziness
- Confusion
- Severe or persistent vomiting
- Flu-like symptoms improve but then return with fever and worse cough

**Follow These Home Care Recommendations:**

- Stay home for at least 24 hours after your fever is gone except to get medical care or for other necessities. (Your fever should be gone without the use of fever-reducing medicine.)
- Keep away from others as much as possible. This is to keep from making others sick.
- Drink clear fluids (such as water, broth, sports drinks, electrolyte beverages for infants) to keep from being dehydrated.
- Dishes can be done in dishwasher or with hot soapy water.
- Throw away tissues and other disposable items used by the sick person in the trash. Wash your hands after touching used tissues and similar waste.
- Have everyone in the household wash hands often with soap and water, especially after coughing or sneezing. Alcohol-based hand cleaners are also effective.
- Avoid touching your eyes, nose and mouth. Germs spread this way.

**Additional information**

- Advise on antiviral medication benefits and adverse effects.
- Discuss potential for continued susceptibility to influenza virus infection after treatment is completed (because of other circulating influenza viruses or if illness was due to another cause).
- Advise may continue to shed virus for up to four or more days after beginning therapy.
• Counsel on covering coughs, hand hygiene and staying home until 24 hours after cessation of fever (without fever-reducing medication).
• Encourage to seek early access to health care provider if symptoms recur or do not resolve.
• Persons with ongoing occupational risk for exposure should use appropriate personal protective equipment.
• Counsel that if the patient receives or plans to receive live flu vaccine, it is not advisable to have a live virus vaccine until 48 hours after the cessation of antiviral therapy. Also, antiviral agents should not be administered until two weeks after receipt of the live virus vaccine. If antiviral agents and the live virus vaccine are administered at the same time, revaccination should be considered.
• Counsel that if the patient or their close contacts received 2009 H1N1 influenza vaccine, it is still possible to become ill with H1N1 influenza, as the vaccine is not 100% efficacious.

G. Antiviral Chemoprophylaxis
Post exposure prophylaxis is indicated for persons at higher risk of developing complications from exposure to confirmed or suspected H1N1.

Chemoprophylaxis is Indicated for:
Post exposure antiviral chemoprophylaxis with either oseltamivir or zanamivir is indicated for the following:
• Persons who are at higher risk for complications of influenza (see Section D in this document titled, “Person’s at Greater Risk for Complications From Influenza A H1N1 (swine flu)” and are a close contact of a person with suspected or confirmed H1N1 or seasonal influenza during that person’s infectious period.
• Pregnant women in all trimesters who are close contacts with persons with suspected or confirmed H1N1 infection. The drug of choice for prophylaxis is not clear, zanamivir may be preferable because of its limited systemic absorption. However, respiratory complications that may be associated with zanamivir because of its inhaled route of administration need to be considered, especially in women at risk for respiratory problems. (Please note, the drug of choice for treatment of pregnant women is oseltamivir).
• Health care personnel, public health workers, or first responders who have had a recognized, unprotected close contact exposure to a person with suspected or confirmed H1N1 during ill individual’s infectious period.

Antiviral medications should not be used for post exposure chemoprophylaxis in healthy children or adults based on potential exposures in the community, school, camp or other settings.

An emphasis on early treatment is an alternative to chemoprophylaxis after a suspected exposure for some persons. Persons with risk factors for influenza complications who are household or close contacts of confirmed or suspected cases, and health care personnel who have occupational exposures, can be counseled about the early signs and symptoms of influenza, and advised to immediately contact their health care provider for evaluation and possible early treatment if clinical signs or symptoms develop. Health care providers should use clinical judgment regarding situations where early recognition of illness
and treatment might be an appropriate alternative. In some exposure circumstances (e.g., person exposed is at higher risk for complications), health care providers might choose to give the exposed patient a prescription for an influenza antiviral medication. Providers can request that the patient contact the provider if signs or symptoms of influenza develop, obtain antiviral medications as quickly as possible, and initiate treatment. These patients should also be counseled about influenza antiviral medication side effects, and informed that they remain susceptible to influenza after treatment is completed.

**Initiating Chemoprophylaxis:**
- Chemoprophylaxis generally is not recommended if more than 48 hours have elapsed since the last contact with an infectious person.
- Chemoprophylaxis is not indicated when contact occurred before or after, but not during, the ill person’s infectious period.

**Duration of Chemoprophylaxis:**
- Duration of post-exposure chemoprophylaxis is 10 days after the last known exposure to H1N1.

**Controlling Outbreaks:**
- Chemoprophylaxis is indicated for contacts for controlling outbreaks of H1N1 in long-term care facilities, semi-closed settings, such as correctional facilities or other setting in which persons live in close proximity where persons at higher risk for H1N1 complications are housed.
- Outbreaks in schools, camps, workplaces and other group settings should not be managed by providing chemoprophylaxis to all persons potentially exposed to H1N1. Instead, the healthy populations present in these settings should be educated about the signs and symptoms of H1N1 and urged to consult their health care provider if severe illness develop. Consider post-exposure prophylaxis for those who are identified as being at risk for H1N1 complications.

**Education for Patients Who Receive Chemoprophylaxis**
- Counsel about antiviral medication side effects and inform that they remain susceptible to influenza after medication is complete.
- Protection stops when the medication course is stopped.
- Advise on the symptoms of influenza.
- Encourage to seek medical evaluation as soon as they develop a febrile respiratory illness that might suggest H1N1.
- Counsel on covering coughs, hand hygiene and staying home until 24 hours after cessation of fever (without fever-reducing medication).
- Counsel that if the patient receives or plans to receive live flu vaccine, it is not advisable to have a live virus vaccine until 48 hours after the cessation of antiviral therapy. Also, antiviral medications should not be administered until two weeks after receipt of the live virus vaccine. If antiviral medications and the live virus vaccine are administered at the same time, revaccination should be considered.
- Counsel that if the patient or their close contacts received 2009 H1N1 influenza vaccine, it is still possible to become ill with H1N1 influenza, as the vaccine is not 100% efficacious.
H. Reporting of Influenza A H1N1 (Swine Flu) by Health Care Providers and Hospitals

Healthcare workers and hospitals should report the following patients to the local health jurisdiction by calling 360-397-8182 or 360-397-8021 or toll free at 1-877-510-2772:

a. Hospitalized patients with laboratory-confirmed* influenza infection,
b. Deceased patients with laboratory-confirmed* influenza infection, and
c. Deceased patients suspected to have influenza infection.

* Laboratory-confirmation includes confirmation by a positive rapid influenza test, real-time PCR test, direct or indirect fluorescent antibody test, or viral isolate from cell culture.

Healthcare providers requesting consultation should call 360-397-8021 or toll free at 1-877-510-2772 to speak with an epidemiologist or a public health nurse.

I. Procedure for Accessing Federally Supplied Antiviral Medications by Pharmacies and Health Care Providers

Health care providers should have antiviral medications on hand for treatment and prophylaxis of high risk patients as described in this protocol. In general, antiviral medications can be accessed from commercial pharmacies or from pharmacies that have enrolled with Region IV public health SNS. The SNS supplies may be used for patients that meet the criteria of high risk for complications from H1N1, as described in this protocol. Health care providers who prescribe antiviral treatment or prophylaxis for circumstances not outlined as high risk will need to access antiviral medications from commercial pharmacies (instead of the SNS).

1. Healthcare provider fills out prescription indicating in writing:
   a. Purpose of prescription (“for (treatment/prophylaxis) of (suspected/probable/confirmed)H1N1”)
   b. The provider’s clinical documentation should include information demonstrating that the patient meets one or more of the criteria for prophylaxis or treatment. Clinical documentation does not need to be submitted.

2. Patient takes the prescription to a participating pharmacy, including provider office pharmacies when available. Participating pharmacies are pharmacies that have signed a memorandum (see Appendix A) stating that they have agreed to dispense Local Health Jurisdiction (LHJ)-supplied antiviral medication at no cost contingent on the provider following this protocol.

3. Pharmacy fills prescription.

4. Pharmacy keeps record (See Appendix B) of medications dispensed, reasons for dispensing (prophylaxis or treatment) and faxes record to LHJ weekly.

5. Public Health Nurses from Region IV LHJs or registered nurses and physicians in the medical reserve corp may hand deliver medications to the patient or family. See standing order below. Directions will be provided on how to access and document receipt of these medications.
J. Standing Order for Public Health Nurses and Medical Reserve Corps

The CDC advises that actions should be taken to reduce delays in the initiation of treatment and prophylaxis for individuals at higher risk for influenza complications. This includes rapid access to telephone consultation and clinical evaluation for these patients and empiric treatment based on telephone contact if hospitalization is not indicated. Based on this recommendation, the Health Officer has provided a standing order for the distribution of antiviral medications by public health nurses employed by the Region IV LHJs and registered nurse volunteers in the Medical Reserve Corp. The standing order will also provide guidance to those staff and volunteers in the Medical Reserve Corps who have prescriptive privileges, including family nurse practitioners and physicians and also those employed by a Region IV LHJ.

Administering Antiviral Medications for Treatment and Prophylaxis of Influenza A H1N1 (Swine Flu) Standing Order

Purpose:
The purpose of this standing order is to reduce potential delays in the initiation of treatment and prophylaxis for individuals at higher risk for Influenza A H1N1 (swine flu) complications. This action includes telephone consultation and evaluation of these patients and empiric treatment or prophylaxis based on telephone contact if hospitalization is not indicated.

Who May Administer Antiviral Medication:
The Region IV Health Officer has provided this standing order for the distribution of antiviral medications by public health nurses employed by the Region IV LHJs and registered nurse volunteers in the Medical Reserve Corp. The standing order also provides guidance to those staff and volunteers in the Medical Reserve Corps who have prescriptive privileges, such as family nurse practitioners and physicians, and nurse practitioners employed by a Region IV LHJ.

Procedure:
1. Assess need for antiviral medication for treatment or chemoprophylaxis by completing the form, “Antiviral Assessment & Dispensing Sheet”.
2. Refer callers to their own health care provider for antiviral medications.
3. Provide callers who do not have a health care provider with the names and phone numbers of local health care providers.
4. Refer callers with symptoms of an urgent medical condition immediately to a hospital emergency room or alternate care site for evaluation and care, as directed in the “Antiviral Assessment & Dispensing Sheet”.
5. For callers who are not ill with an urgent medical condition, and your assessment indicates they are candidates for treatment, as described on the “Antiviral Assessment & Dispensing Sheet” and in this protocol, but they are not able to access antiviral medications from a health care provider within 48 hours after onset of symptoms, provide treatment as described below.
6. If your assessment determines that callers are candidates for prophylaxis, as described in the “Antiviral Assessment & Dispensing Sheet” and this protocol, but they are not able to access antiviral medications from a health care provider
within 48 hours after their exposure, provide chemoprophylaxis as described below.

7. If your assessment indicates they are symptomatic, but not severely ill or not at higher risk for influenza complications, advise that antiviral treatment is not indicated and instruct on home care, according to the “Antiviral Assessment & Dispensing Sheet”.

8. To administer antiviral medications, utilize the strategic national stockpile of LHAJ medications. These should be stored in a secure location with limited access.

9. Select the appropriate antiviral medication and dosage according to the attached Table 1, 2, and 3 in this protocol.

10. Review information about the medication to be administered – refer to the appropriate resource manual, such as a PDR and Medline Plus drug information sheet.

11. Screen for contraindications, medication allergies, and pregnancy and document on the “Antiviral Assessment & Dispensing Sheet”.

12. Provide education on the medication, how to take the medication, possible side effects, contraindications, and how to seek emergency care if an anaphylactic reaction occurs.

13. Document weight (if medication dosage is calculated based on weight).

14. Consult with the Health Officer for dosing order on patients who have contraindications to the medications.

15. Call the prescription to a participating pharmacy. If this creates a delay or problem in the receipt of antiviral medication, medication may be given to the client from the SNS as described below:

16. Prepare package of medication to give to the patient or parent
   a. Select the medication from the SNS
   b. For Oseltamivir, if a liquid form of this medication is needed for individuals ≥ 1 year old, constitute the suspension according to the directions in Table 4. Refer infants < 1 year old to their health care provider, urgent care facility, or emergency department.
   c. Attach a “Patient Information Sheet” indicating the name of medication, dosage, duration of treatment.
   d. Attach a medication “Fact Sheet” for the medication that is given

17. Advise how to get the medication to the patient (according to the ICS procedure – delivery or pick-up).

18. Document on “Antiviral Assessment & Dispensing Sheet” the medication, dosage, number given, duration, lot number, expiration number, whether pregnant, if treatment or prophylaxis, education provided, and how medication was delivered. Sign and date the form.

19. Document the administered medication in the medication tracking sheet (according to the ICS procedure).

20. Provide patient education as described in this protocol.
K. References

- CDC. Updated Interim Recommendations for the Use of Antiviral Medications in the Treatment and Prevention of Influenza for the 2009-2010 Season. (October 16, 2009). [CDC H1N1 Flu | Updated Interim Recommendations for the Use of Antiviral Medications in the Treatment and Prevention of Influenza for the 2009-2010 Season](http://www.cdc.gov/h1n1flu/guidance_homecare_directions.htm)


REGION IV PUBLIC HEALTH
INFLUENZA A H1N1 (SWINE FLU)
ANTIVIRAL ASSESSMENT & DISPENSING SHEET

This form is for use by public health nurses and medical reserve corp volunteers (RNs, MDs, ARNPs)

<table>
<thead>
<tr>
<th>Date:__________________________</th>
<th>Final recommendation (check one)</th>
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<tbody>
<tr>
<td>Name of caller:______________________</td>
<td>___Referred for Immediate Evaluation</td>
</tr>
<tr>
<td>Name of patient (if different)_______________________</td>
<td>___Advised to call provider</td>
</tr>
<tr>
<td>Patient DOB_________________________ Age_____ Child’s Weight_________</td>
<td>___Antiviral treatment provided</td>
</tr>
<tr>
<td>Contact information: Home ________Work _________Cell __________</td>
<td>___Antiviral prophylaxis provided</td>
</tr>
<tr>
<td>Address:___________________________</td>
<td>___ Home Care Instructions given</td>
</tr>
<tr>
<td>Number of people in your household____________</td>
<td>Printed Name of Interviewer:</td>
</tr>
<tr>
<td>Number of people ill with flu symptoms in your household___________</td>
<td></td>
</tr>
<tr>
<td>Name of health care provider _____________________________</td>
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<tr>
<td>Insurance Coverage  Y / N</td>
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**Documentation of Antiviral Medications that are Administered:**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Treatment (T) or Prophy(P)</th>
<th>Dosage</th>
<th># Given</th>
<th>Duration</th>
<th>Lot #</th>
<th>Exp Date</th>
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</table>

**Name of public health nurse or medical reserve corp volunteer performing evaluation:**

**Printed________Signature of staff________________**

**How medication was provided to patient:**

_____Called to a pharmacy Date_________ Name of pharmacy________________________
QUESTION 1. Are you currently ill?

If YES, go to QUESTION 2A. If NO, but requests chemoprophylaxis, go to QUESTION 8.

QUESTION 2A. Please tell me which of the following symptoms you have:

- Fever (>100.0 F) Y N
  Have you taken your temperature? Y N
  If Yes: _________ degrees
- Cough Y N
- Sore throat Y N
- Vomiting Y N
- Diarrhea Y N

QUESTION 2B. When did your symptoms start? Date: ____________

(If symptoms started more than 48 hours ago, complete the rest of the questionnaire but note that they will not be eligible to receive antivirals from our supply)

QUESTION 3. Do you have any of the following?

If ANY of the following are answered YES, stop the interview and advise patient to go to the hospital emergency room or alternate care site for evaluation. They may need to call 911.

- Difficult or rapid breathing or shortness of breath Y N
- Pain or pressure in the chest or abdomen Y N
- Sudden dizziness Y N
- Confusion Y N
- Severe or persistent vomiting Y N
- Flu-like symptoms improve but then develop fever and worse cough Y N

If sick person is a child, ask about the following additional symptoms:

- Bluish or gray skin color Y N
- Not drinking enough fluids Y N
- Not waking up or not interacting Y N
- Being so irritable child does not want to be held Y N

If all of the selections above are answered NO, go to QUESTION 4:
QUESTION 4. Do you have any of the following medical conditions?

Child <2 years of age

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<thead>
<tr>
<th></th>
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Child or adolescent < 19 years of age who are receiving long-term aspirin therapy

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Adults > 65 years of age

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Currently pregnant or up to 2 weeks postpartum (including following pregnancy loss)

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Residents of nursing homes and other chronic-care facilities

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Lung problems, including asthma

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Heart problems (except high blood pressure)

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Kidney problems

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Blood diseases like sickle cell

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<th></th>
<th>Y</th>
<th>N</th>
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Brain or muscle diseases

<table>
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<th></th>
<th>Y</th>
<th>N</th>
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Diabetes or other chronic disorders

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<th>Y</th>
<th>N</th>
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Immunosuppression from medicine or HIV

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<th></th>
<th>Y</th>
<th>N</th>
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Have a disorder that can compromise respiratory function or handling of respiratory secretions or that can increase the risk of aspiration (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders)

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<th>Y</th>
<th>N</th>
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</table>

If ANY of the above are answered YES, advise patient that they have a condition that puts them at higher risk for complications from the flu and that they should call their health care provider to discuss. They may need antiviral medication. Review home care instructions and go to QUESTION 5.

If any of the above are answered YES, and they have fever > 100.0 F or history of fever and cough or sore throat but they do not have a health care provider, refer them to local health resources. If patient says they can not get an appointment within 48 hours after the onset of their symptoms, consider ordering antiviral medications for them through the strategic national stockpile. Skip to QUESTION 6.

If all of the above questions are answered NO, advise patient that they may have a mild case of flu that is best cared for at home. Educate about home care and go to QUESTION 5.

Home Care Instructions:

- Keep away from others as much as possible. Don’t share drinking glasses or eating utensils (this is to keep others in your household from getting sick)
- Stay home for at least 24 hours after fever is gone (fever should be gone without use of any medication)
- Get plenty of rest
- Drink plenty of fluids to stay hydrated (such as water, broth, electrolyte beverages)
- Cover coughs and sneezes. Clean hands often with soap and water or an alcohol-based hand rub, especially after coughing, sneezing or using a tissue.
- If available and tolerable, wear a face mask when with other members of the household, especially if they are at high risk (see question 4)
- When feeling better, get both your seasonal and novel H1N1 flu vaccines.
If you develop any of the following, seek medical care immediately:
- Difficulty breathing or chest pain
- Purple or blue discoloration of lips
- Vomiting or unable to keep liquids down
- Dizziness, no urination, lack of tears in infants (signs of dehydration)
- Seizures, uncontrolled convulsions
- Confusion, less responsive than normal

**QUESTION 5.** Are you able to care for yourself at home or do you have help at home?

Y       N

If NO to QUESTION 5, problem solve who might be able to help them until they are feeling better.

**QUESTION 6 (From question 4).** If you are unable to schedule an appointment with a health care provider for antiviral medication within 48 hours after the onset of your symptoms, we will order these medications for you. They are free of charge. Would you like us to order them for you?

Y       N

If NO, advise that if you develop any of the following, seek medical care immediately:
- Difficulty breathing or chest pain
- Purple or blue discoloration of lips
- Vomiting or unable to keep liquids down
- Dizziness, no urination, lack of tears in infants (signs of dehydration)
- Seizures, uncontrolled convulsions
- Confusion, less responsive than normal

If YES, tell them, “Giving you this medication will not replace the need for you to see your health care provider. Do you understand that you still need to schedule an appointment with a health care provider?” Patient said they understand they need to schedule an appointment with a health care provider.

Determine the appropriate antiviral medication according to the Region IV protocol and standing order titled, “Influenza A H1N1 (Swine Flu) Antiviral Treatment and Prophylaxis”. Refer to the dosing table (Table L) and provide treatment education according to the protocol. Call the prescription into a participating pharmacy or provide the medication to the individual as described in the protocol and standing order. END

**Question 7:** Have you had face to face or household contact (without using a mask) in the last 48 hours with persons who have suspected or confirmed H1N1 infection? If no, prophyl not indicated. END interview  If yes, go to Q 8

**QUESTION 8 (From question 1).** Do you have any of the following conditions?
Child <2 years of age
  Y   N
Child or adolescents < 19 years of age who are receiving long-term aspirin therapy Y   N
Adults ≥ 65 years of age Y   N
Currently pregnant or up to 2 weeks postpartum (including following pregnancy loss) Y   N
Residents of nursing homes and other chronic-care facilities Y   N
Lung problems, including asthma Y   N
Heart problems (except high blood pressure) Y   N
Kidney problems Y   N
Blood diseases like sickle cell Y   N
Brain or muscle diseases Y   N
Diabetes or other chronic disorders Y   N
Immunosuppression from medicine or HIV Y   N
Have a disorder that can compromise respiratory function or handling of respiratory secretions or that can increase the risk of aspiration (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders).
Other immunosuppression Y N Condition: _____________
Health care worker Y   N
First responder Y   N

If NO, tell them that antiviral medications are not recommended in health children and adults. They are also not indicated beyond 48 hours after exposure. Counsel them on signs and symptoms of H1N1 influenza and home care instructions if they become ill (see QUESTION 4 – “Home Care Instructions”).

If YES, refer caller to their health care provider (refer health care workers and first responders to their employer or health care provider). If they do not have a health care provider, refer them to local health resources. If patient says they can not get an appointment within 48 hours after their exposure to an individual with confirmed or suspected H1N1, consider ordering antiviral medications for them through the strategic national stockpile. Determine the appropriate antiviral medication according to the Region IV protocol and standing order titled, “Influenza A H1N1 (Swine Flu) Antiviral Treatment and Prophylaxis”. Refer to the dosing table (Table L) and provide treatment education according to the protocol. Call the prescription into a participating pharmacy or provide the medication to the individual as described in the protocol and standing order.

Have you had the FluMist (live) vaccine in the last 2 weeks? Y   N (if yes consult with Health Officer)

Documentation of Education That Was Provided When Antiviral Medication is Indicated

Use this section to document the antiviral medications and education that are given by public health nurses from local health jurisdictions and volunteers from the medical reserve corp (registered nurses, nurse practitioners, and physicians):
Education that was given:

- Fact Sheet, “Tamiflu” (MedlinePlus)
- Fact Sheet, “Relenza” (MedlinePlus)
- How to take medication
- Side effects
- Contraindications
- What to do if develops anaphylaxis symptoms

Additional Notes:

Date:______________________ Signature:_______________________________________
INFLUENZA A H1N1 (SWINE FLU)
ANTIVIRAL MEDICATION

Patient Information Sheet

Date: ________________

Patient Name: ________________________________

Dear Patient,

You or your child is being provided with Influenza A H1N1 (Swine Flu) antiviral medication for:

- Treatment of H1N1 illness
- Exposure (prophylaxis) to someone with H1N1 illness

The medication that has been prescribed for you or your child is marked below. Please note that the use of this medication is voluntary:

☐ Oseltamivir (Tamiflu)  Take for: ☐ 5 days  ☐ 10 days
___75 mg capsule
☐ morning and evening (150 mg total per day)  ☐ once daily (75 mg per day)

___60 mg  ☐ Capsule  ☐ Liquid
☐ morning and evening (120 mg total per day)  ☐ once daily (60 mg per day)

___45 mg  ☐ Capsule  ☐ Liquid
☐ morning and evening (90 mg total per day)  ☐ once daily (45 mg per day)

___30 mg  ☐ Capsule  ☐ Liquid
☐ morning and evening (60 mg total per day)  ☐ once daily (30 mg per day)

___25 mg  ☐ morning and evening  ☐ once daily

___20 mg  ☐ morning and evening  ☐ once daily

___12 mg  ☐ morning and evening

☐ Zanamivir Inhalation (Relenza)  Take for: ☐ 5 days  ☐ 10 days

___Two 5 mg inhalations (10 mg total) morning and evening (20 mg total per day)

___Two 5 mg inhalations (10 mg total) once per day

Please review the attached drug information sheet on the medicine you will be taking. The sheet describes how the medicine should be taken, precautions, possible side effects and how to store it. Please call 1-877-611-4951 if you have questions.
Zanamivir Inhalation Fact Sheet

**IMPORTANT WARNING:**

The Food and Drug Administration (FDA) has granted emergency approval for the use of zanamivir (Relenza®) for the treatment or prevention of 2009 influenza A (H1N1). H1N1 influenza (flu) also has been called swine influenza (swine flu). Zanamivir may be used in adults and children 7 years of age and older for the treatment of H1N1 flu and in adults and children 5 years of age and older for the prevention of H1N1 flu. For specific information about the use of this medication for H1N1 flu, visit the Centers for Disease Control and Prevention (CDC) website at http://www.cdc.gov/swineflu/eua/relenza.htm.

**Why is this medication prescribed?**

Zanamivir is used in adults and children at least 7 years of age to treat some types of influenza ('flu') in people who have had symptoms of the flu for less than 2 days. This medication is also used to prevent some types of flu in adults and children at least 5 years of age when they have spent time with someone who has the flu or when there is a flu outbreak. Zanamivir is in a class of medications called neuraminidase inhibitors. It works by stopping the growth and spread of the flu virus in your body. Zanamivir helps shorten the time you have flu symptoms such as nasal congestion, sore throat, cough, muscle aches, tiredness, weakness, headache, fever, and chills.

**How should this medicine be used?**

Zanamivir comes as a powder to inhale (breathe in) by mouth. To treat influenza, two inhalations of zanamivir are used twice daily for 5 days. You should inhale the doses about 12 hours apart and at the same times each day. However, on the first day of treatment, your doctor may tell you to inhale the doses closer together. To help prevent the spread of influenza in people living in the same household, two inhalations of zanamivir are used once a day for 10 days. To help prevent the spread of influenza in a community, two inhalations of zanamivir are used once a day for 28 days. When using zanamivir to prevent influenza, it should be inhaled at around the same time every day. Follow the directions on your prescription label carefully, and ask your doctor or pharmacist to explain any part you do not understand. Use zanamivir exactly as directed. Do not use more or less of it or use it more often than prescribed by your doctor.

Zanamivir comes with a plastic inhaler called a Diskhaler (device for inhaling powder) and five Rotadisks (circular foil blister packs each containing four blisters of medication). Do not put a hole in or open any medication blister pack until inhaling a dose with the Diskhaler. Carefully read the manufacturer's instructions that describe how to prepare and inhale a dose of zanamivir using the Diskhaler. Be sure to ask your pharmacist or doctor if you have any questions about how to prepare or inhale this medication.

If you use an inhaled medication to treat asthma, emphysema, or other breathing problems and you are scheduled to use that medication at the same time as zanamivir, you should use your regular inhaled medication before using zanamivir.
The use of the inhaler for a child should be supervised by an adult who understands how to use zanamivir and has been instructed in its use by a healthcare provider.

Continue to take zanamivir even if you start to feel better. Do not stop taking zanamivir without talking to your doctor.

If you feel worse or develop new symptoms during or after treatment, or if your flu symptoms do not start to get better, call your doctor.

Ask your pharmacist or doctor for a copy of the manufacturer's information for the patient.

**Other uses for this medicine**

Zanamivir may be used to treat and prevent infections from influenza A (H1N1). H1N1 influenza (flu) also has been called swine influenza (swine flu) because the virus that is infecting humans is related to one that usually infects pigs. However, there is no danger of getting this flu from eating pork or pork products.

This medication may be prescribed for other uses; ask your doctor or pharmacist for more information.

**What special precautions should I follow?**

Before using zanamivir,

- tell your doctor and pharmacist if you are allergic to zanamivir, any other medications, any food products, or lactose (milk proteins).
- tell your doctor and pharmacist what prescription and nonprescription medications, vitamins, nutritional supplements, and herbal products you are taking or plan to take. Your doctor may need to change the doses of your medications or monitor you carefully for side effects.
- tell your doctor if you have or have ever had asthma or other breathing problems; bronchitis (swelling of the air passages that lead to the lungs); emphysema (damage to air sacs in the lungs); or heart, kidney, liver, or other lung disease.
- tell your doctor if you are pregnant, plan to become pregnant, or are breast-feeding. If you become pregnant while taking zanamivir, call your doctor.
- you should know that zanamivir may cause serious or life-threatening breathing problems, more commonly in patients with an airways disease such as asthma or emphysema. If you have trouble breathing or have wheezing or shortness of breath after your dose of zanamivir, stop using zanamivir and get medical attention immediately. If you have difficulty breathing, and have been prescribed a rescue medication, use your rescue medication immediately and then call for medical attention. Do not inhale any more zanamivir without first talking to your doctor.
- ask your doctor if you should receive a flu vaccination each year. Zanamivir does not take the place of a yearly flu vaccine. If you received or plan to receive the intranasal flu vaccine (FluMist; flu vaccine that is sprayed into the nose), you should tell your doctor before taking zanamivir. Zanamivir may interfere with the activity of the intranasal flu vaccine if it is taken up to 2 weeks after or up to 48 hours before the vaccine is administered.

**What special dietary instructions should I follow?**

Unless your doctor tells you otherwise, continue your normal diet.

**What should I do if I forget a dose?**
If you forget to inhale a dose, inhale it as soon as you remember it. If it is 2 hours or less until the next dose, skip the missed dose and continue your regular dosing schedule. Do not inhale a double dose to make up for a missed one. If you miss several doses, call your doctor to find out what to do.

What side effects can this medication cause?

Zanamivir may cause side effects. Tell your doctor if any of these symptoms are severe or do not go away:

- dizziness
- irritation of the nose
- joint pain

If you experience any of the following symptoms, or those mentioned in the SPECIAL PRECAUTIONS section, call your doctor immediately:

- difficulty breathing
- wheezing
- shortness of breath
- hives
- rash
- itching
- difficulty swallowing
- swelling of the face, throat, tongue, lips, eyes, hands, feet, ankles, or lower legs
- hoarseness

You should know that some people who have taken zanamivir to treat the flu became confused, agitated, anxious, behaved strangely, had seizures or hallucinations (seeing things or hearing voices that do not exist), and harmed themselves, in some cases causing death. These symptoms were most common in children and teenagers but were also experienced by adults. Because these symptoms may happen suddenly after taking zanamivir, you should watch your child's behavior very carefully and call the doctor right away if he or she becomes confused or behaves abnormally. If you are taking zanamivir, you, your family, or your caregiver should call the doctor right away if you become confused, behave abnormally, or think about harming yourself. Be sure that your family or caregiver knows which symptoms may be serious so they can call the doctor if you are unable to seek treatment on your own.

If you experience a serious side effect, you or your doctor may send a report to the Food and Drug Administration's (FDA) MedWatch Adverse Event Reporting program online [at http://www.fda.gov/MedWatch/index.html] or by phone [1-800-332-1088].

What storage conditions are needed for this medicine?

Keep this medication in the container it came in and out of reach of children. Store it at room temperature and away from excess heat and moisture (not in the bathroom). Throw away any medication that is outdated or no longer needed. Talk to your pharmacist about the proper disposal of your medication.

In case of emergency/overdose
In case of overdose, call your local poison control center at 1-800-222-1222. If the victim has collapsed or is not breathing, call local emergency services at 911.

**What other information should I know?**

You should maintain proper hygiene, wash your hands frequently, and avoid situations such as sharing cups and utensils that can spread the influenza virus to others.

The Diskhaler should only be used for zanamivir. Do not use the Diskhaler to take other medications that you inhale.

Do not let anyone else use your medication. Your prescription is probably not refillable.

It is important for you to keep a written list of all of the prescription and nonprescription (over-the-counter) medicines you are taking, as well as any products such as vitamins, minerals, or other dietary supplements. You should bring this list with you each time you visit a doctor or if you are admitted to a hospital. It is also important information to carry with you in case of emergencies.

**Brand names**

- Relenza®

Adapted from Medline Plus
Influenza A H1N1 (Swine Flu)
Antiviral Medication

Oseltamivir Fact Sheet

Important Warning:

The Food and Drug Administration (FDA) has granted emergency approval for the use of oseltamivir (Tamiflu®) for the treatment or prevention of 2009 influenza A (H1N1). H1N1 influenza (flu) also has been called swine influenza (swine flu). Oseltamivir may be used in adults and children (including those younger than 1 year of age) for the treatment or prevention of H1N1 flu. For specific information about the use of this medication for H1N1 flu, visit the Centers for Disease Control and Prevention (CDC) website at http://www.cdc.gov/swineflu/eua/tamiflu.htm.

Why is this medication prescribed?

Oseltamivir is used to treat some types of influenza infection ("flu") in adults and children (older than 1 year of age) who have had symptoms of the flu for no longer than 2 days. This medication is also used to prevent some types of flu in adults and children (older than 1 year of age) when they have spent time with someone who has the flu or when there is a flu outbreak. Oseltamivir is in a class of medications called neuraminidase inhibitors. It works by stopping the spread of the flu virus in the body. Oseltamivir helps shorten the time you have flu symptoms such as a stuffy or runny nose, sore throat, cough, muscle or joint aches, tiredness, headache, fever, and chills. Oseltamivir will not prevent bacterial infections, which may occur as a complication of the flu.

How should this medicine be used?

Oseltamivir comes as a capsule and a suspension (liquid) to take by mouth. When oseltamivir is used to treat flu symptoms, it is usually taken two times a day (morning and evening) for 5 days. When oseltamivir is used to prevent flu, it is usually taken once a day for at least 10 days, or for up to 6 weeks during a community flu outbreak. Oseltamivir may be taken with or without food, but you may lessen the chance of getting an upset stomach by taking oseltamivir with food or milk. Follow the directions on your prescription label carefully, and ask your doctor or pharmacist to explain any part that you do not understand. Take oseltamivir exactly as directed. Do not take more or less of it or take it more often than prescribed by your doctor.

To prepare doses of oseltamivir suspension:

- Shake the suspension well (for about 5 seconds) before each use to mix the medication evenly.
- Open the bottle by pushing down on the cap and turning the cap at the same time.
- Push the plunger of the measuring device completely down to the tip.
- Insert the tip of the measuring device firmly into the opening on the top of the bottle.
- Turn the bottle (with the measuring device attached) upside down.
- Pull back on the plunger slowly until the amount of suspension prescribed by your doctor fills the measuring device to the appropriate marking. Some larger doses may need to be measured twice. If you are not sure how to correctly measure the dose your doctor has prescribed, ask your doctor or pharmacist.
• Turn the bottle (with the measuring device attached) right-side up and slowly remove the measuring device.
• Take oseltamivir directly into your mouth from the measuring device; do not mix with any other liquids.
• Replace the cap on the bottle and close tightly.
• Remove the plunger from the rest of the measuring device and rinse both parts under running tap water. Allow the parts to air dry before putting back together for the next use.

Call your doctor or pharmacist to find out how you should measure a dose of oseltamivir suspension if you do not have the measuring device that came with this medication.

If the suspension is not available, oseltamivir capsules can be opened and mixed with sweetened liquids as directed by your doctor or pharmacist. To prepare doses of oseltamivir for people who cannot swallow the capsules:

• Hold the capsule over a small bowl and carefully pull open the capsule and empty all of the powder from the capsule into the bowl. If your doctor has instructed you to take more than one capsule for your dose, then open the correct number of capsules into the bowl.
• Add a small amount of sweetened liquid, such as regular or sugar-free chocolate syrup, to the powder.
• Stir the mixture.
• Swallow the entire contents of this mixture right away.

Continue to take oseltamivir until you finish the prescription, even if you start to feel better. Do not stop taking oseltamivir without talking to your doctor. If you stop taking oseltamivir too soon or skip doses, your infection may not be fully treated, or you may not be protected from the flu.

If you feel worse or develop new symptoms while taking oseltamivir, or if your flu symptoms do not start to get better, call your doctor.

Ask your pharmacist or doctor for a copy of the manufacturer's information for the patient.

Other uses for this medicine

Oseltamivir may be used to treat and prevent infections from avian (bird) influenza (a virus that usually infects birds but can also cause serious illness in humans). Oseltamivir also may be used to treat and prevent infections from from influenza A (H1N1). H1N1 influenza (flu) also has been called swine influenza (swine flu) because the virus that is infecting humans is related to one that usually infects pigs. However, there is no danger of getting this flu from eating pork or pork products.

This medication may be prescribed for other uses; ask your doctor or pharmacist for more information.

What special precautions should I follow?

Before taking oseltamivir,

• tell your doctor and pharmacist if you are allergic to oseltamivir or any other medications.
• tell your doctor what prescription and nonprescription medications, vitamins, nutritional supplements and herbal products you are taking or plan to take. Be sure to mention any of the following: medications that affect the immune system such as azathioprine (Imuran); cyclosporine (Neoral, Sandimmune); cancer chemotherapy medications; methotrexate...
(Rheumatrex); sirolimus (Rapamune); oral steroids such as dexamethasone (Decadron, Dexeone), methylprednisolone (Medrol), and prednisone (Deltasone); or tacrolimus (Prograf). Your doctor may need to change the doses of your medications or monitor you carefully for side effects.

- tell your doctor if you have ever taken oseltamivir to treat or prevent the flu.
- tell your doctor if you have any disease or condition that affects your immune system such as human immunodeficiency virus (HIV) or acquired immunodeficiency syndrome (AIDS) or if you have heart, liver, lung, or kidney disease.
- tell your doctor if you are pregnant, plan to become pregnant, or are breast-feeding. If you become pregnant while taking oseltamivir, call your doctor.
- ask your doctor if you should receive a flu vaccination each year. Oseltamivir does not take the place of a yearly flu vaccine. If you received or plan to receive the intranasal flu vaccine (FluMist; flu vaccine that is sprayed into the nose), you should tell your doctor before taking oseltamivir. Oseltamivir may make the the intranasal flu vaccine less effective if it is taken up to 2 weeks after or up to 48 hours before the intranasal flu vaccine is given.
- if you have fructose intolerance (an inherited condition in which the body lacks the protein needed to break down fructose, a fruit sugar, such as sorbitol), you should know that the oseltamivir suspension is sweetened with sorbitol. A 75 mg dose of oseltamivir suspension contains 2 grams of sorbitol, which is likely above the recommended maximum daily amount of sorbitol for someone with this condition. Tell your doctor if you have fructose intolerance.

What should I do if I forget a dose?

If you forget to take a dose, take it as soon as you remember it. If it is no longer than 2 hours before your next scheduled dose, skip the missed dose and continue your regular dosing schedule. If you miss several doses, call your doctor for directions. Do not take a double dose to make up for a missed one.

What side effects can this medication cause?

Oseltamivir may cause side effects. Tell your doctor if any of these symptoms are severe or do not go away:

- nausea
- vomiting
- stomach pain
- diarrhea
- headache

Some side effects can be serious. If you experience any of these symptoms or those mentioned in the SPECIAL PRECAUTIONS section, call your doctor immediately:

- rash, hives, or blisters on the skin
- itching
- swelling of the face or tongue
- difficulty breathing or swallowing
- hoarseness
- changes in behavior
You should know that some people who have taken oseltamivir to treat the flu became confused, behaved strangely, had anxiety, nightmares, hallucinations (seeing things or hearing voices that do not exist), and harmed themselves, in some cases causing death. These symptoms were most common in children and teenagers, but were also experienced by adults. Because these symptoms may happen suddenly after taking oseltamivir, you should watch your child's behavior very carefully and call the doctor right away if he or she becomes confused or behaves abnormally. If you are taking oseltamivir, you, your family, or your caregiver should call the doctor right away if you become confused, behave abnormally, or think about harming yourself. Be sure that your family or caregiver knows which symptoms may be serious so they can call the doctor if you are unable to seek treatment on your own.

If you experience a serious side effect, you or your doctor may send a report to the Food and Drug Administration's (FDA) MedWatch Adverse Event Reporting program online [at http://www.fda.gov/MedWatch/index.html] or by phone [1-800-332-1088].

**What storage conditions are needed for this medicine?**

Keep this medication in the container it came in and out of reach of children. Store the capsules at room temperature and away from excess heat and moisture (not in the bathroom). Keep the suspension in the refrigerator. Do not freeze oseltamivir suspension. Throw away any unused suspension after 10 days. Throw away any medication that is outdated or no longer needed. Talk to your pharmacist about the proper disposal of your medication.

**In case of emergency/overdose**

In case of overdose, call your local poison control center at 1-800-222-1222. If the victim has collapsed or is not breathing, call local emergency services at 911.

Symptoms of overdose may include:

- nausea
- vomiting

**What other information should I know?**

Oseltamivir will not stop you from giving the flu to others. You should wash your hands frequently, and avoid practices such as sharing cups and utensils that can spread the virus to others. Do not let anyone else take your medication. Your prescription is probably not refillable. If you still have symptoms of the flu after you finish taking oseltamivir, call your doctor.

It is important for you to keep a written list of all of the prescription and nonprescription (over-the-counter) medicines you are taking, as well as any products such as vitamins, minerals, or other dietary supplements. You should bring this list with you each time you visit a doctor or if you are admitted to a hospital. It is also important information to carry with you in case of emergencies.

**Brand names**
• Tamiflu®

Adapted from Medline Plus
### Table 1: Antiviral Dosing

<table>
<thead>
<tr>
<th>Agent, group</th>
<th>Treatment (5 Days)</th>
<th>Chemoprophylaxis (10 days)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oseltamivir</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>Adults</strong></td>
<td>75 mg capsule twice daily (150 mg per day)</td>
<td>75 mg capsule once per day</td>
</tr>
<tr>
<td></td>
<td>30 mg twice daily (60 mg per day)</td>
<td>30 mg once per day</td>
</tr>
<tr>
<td><em><em>Children</em> (age 12 months or older), weight:</em>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 15 kg (≤ 33 lbs)</td>
<td>45 mg twice daily (90 mg per day)</td>
<td>45 mg once per day</td>
</tr>
<tr>
<td>&gt; 15 kg - 23 kg (&gt;33 - 51 lbs)</td>
<td>60 mg twice daily (120 mg per day)</td>
<td>60 mg once per day</td>
</tr>
<tr>
<td>&gt; 23 - 40 kg (&gt; 51 - 88 lbs)</td>
<td>75 mg twice daily (150 mg per day)</td>
<td>75 mg once per day</td>
</tr>
<tr>
<td>&gt;40 kg (&gt; 88 lbs)</td>
<td>Dosing for adults and teenagers age 13 years and older is not based on weight.</td>
<td>75 mg capsule twice daily (150 mg per day)</td>
</tr>
<tr>
<td><strong>Zanamivir</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Adults</strong></td>
<td>Two 5 mg inhalations (10 mg total) twice per day</td>
<td>Two 5 mg inhalations (10 mg total) once per day</td>
</tr>
<tr>
<td><strong>Children</strong></td>
<td>Two 5 mg inhalations (10 mg total) twice per day (age 7 years or older)</td>
<td>Two 5 mg inhalations (10 mg total) once per day (age 5 years or older)</td>
</tr>
</tbody>
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### Table 2: Dosing recommendations for antiviral treatment of children younger than 1 year using oseltamivir*.

<table>
<thead>
<tr>
<th>Age</th>
<th>Recommended treatment dose for 5 days</th>
</tr>
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<tbody>
<tr>
<td>&lt;3 months</td>
<td>12 mg twice daily</td>
</tr>
<tr>
<td>3-5 months</td>
<td>20 mg twice daily</td>
</tr>
<tr>
<td>6-11 months</td>
<td>25 mg twice daily</td>
</tr>
</tbody>
</table>

*Tamiflu for oral suspension that is made by Roche Laboratories Inc comes with an oral dispenser marked for 30 mg, 45 mg, or 60 mg. For infants less than 1 year old, a different measuring device must be used that will dispense 2 ml (about 25 mg), 1.6 ml (about 20 mg) or 1 ml (12 mg).
Table 3: Dosing recommendations for antiviral chemoprophylaxis of children younger than 1 year using oseltamivir.

<table>
<thead>
<tr>
<th>Age</th>
<th>Recommended prophylaxis dose for 10 days</th>
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<tbody>
<tr>
<td>&lt;3 months</td>
<td>Not recommended unless situation judged critical due to limited data on use in this age group</td>
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<tr>
<td>3-5 months</td>
<td>20 mg once daily</td>
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<tr>
<td>6-11 months</td>
<td>25 mg once daily</td>
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</table>

Table 4: Instructions for Registered Nurses from Local Health Jurisdictions, Pharmacists and Medical Reserve Corp to Constitute Oseltamivir Suspension

1. Tap the closed bottle several times to loosen powder
2. Measure 23 ml of tap water in a calibrated measuring device
3. Add the total amount of water for constitution to the medication bottle and shake the closed bottle well for 15 seconds
4. Remove the child-resistant cap and push bottle adapter into the neck of the bottle
5. Close bottle with child-resistant cap tightly. This will assure the proper seating of the bottle adapter in the bottle and child-resistant status of the cap
6. Write expiration date onto container label
7. Provide patient with package insert and oral dispenser from medication package.
8. Refer infants < 1 year old to their own health care provider, urgent care, emergency department or other provider for oseltamivir. Assist with referral.
9. Suspension to be refrigerated at 36 – 46 degrees F (2 – 8 degrees C). Place on ice pack if will be out of refrigerator more than 30 minutes. Instruct patient to refrigerate promptly
10. Instruct patient to shake for 5 seconds prior to each use and discard any unused portion 10 days after constitution.
11. Provide “Patient Information Sheet” and “Oseltamivir Fact Sheet”
Initial Antiviral Medication Request

Clinic/Pharmacy

Address

Phone Number

Fax #

Contact Name

Antiviral in stock:

Oseltamavir (Tamilflu):  ____  75mg Courses  ____  45mg Courses  ____  30mg Courses

Zanamivir (Relenza):  _______ Courses  Oseltamavir (Tamilflu):  ____  Suspension Courses

Would you like to receive the 10 antiviral courses* from Region IV Public Health?

*Prescriptions will only be filled according to signed MOU protocols and free of charge.

YES _____ NO _____ If yes, how many of each (10 total)

Oseltamavir (Tamilflu):  ____  75mg Courses  ____  45mg Courses  ____  30mg Courses

Zanamivir (Relenza):  ________ Courses  Oseltamavir (Tamilflu):  ____  Suspension Courses

Are you willing to keep copies of antiviral prescriptions and return to Region IV Public Health?

YES _____ NO _____

Please fax completed form to Communicable Disease Unit at (360) 397-8080.
Pharmacy Antiviral Medication
Re-Order Request

Date: _____________________________

Pharmacy Name: _____________________________

Pharmacy Address: _____________________________

Pharmacy Phone Number: _____________________________

Pharmacy Contact Name: _____________________________

******************************************************************************

You can re-order as many courses that you have used.
Please indicate the number of each type of antiviral you need.

Oseltamavir (Tamiflu): ______ 75mg Courses ______ 45mg Courses ______ 30mg Courses

Zanamivir (Relenza): _________ Courses

Oseltamavir (Tamiflu): ______ Suspension Courses

Please fax completed form to Communicable Disease Unit at (360) 397-8080.
APPENDIX C
Pharmacy Antiviral Medication Dispensing List

[Pharmacies with federally funded antivirals, please fax a weekly use report to Clark County
Public Health Communicable Disease Unit 360-397-8080.]

Pharmacy__________________________  Week of: __________________
Telephone__________________________  Total Antivirals used: __________
FAX______________________________
Contact person_______________________

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
<th>DOB</th>
<th>Date</th>
<th>Rx Dispensed</th>
<th>Lot # &amp; NDC #</th>
<th>Reason for Rx Treatment (T) Chemoprophylaxis (C)</th>
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APPENDIX D

ANTIVIRAL DISPENSING AGREEMENT

BETWEEN

REGION IV HEALTH OFFICER

And

____________________
Pharmacy Name

RECITALS

THIS AGREEMENT is entered into this _______ day of __________, 2009, by and between Region IV Health Officer, after this called “Health Officer”, and ________________________, after this called “Pharmacy”.

WHEREAS on the 26th day of April 2009, the United States Secretary of Health and Human Services has declared a National Public Health Emergency due to the risk of an Influenza Virus H1N1 (Swine Flu) outbreak; and

WHEREAS, Influenza Virus H1N1 is a contagious disease; and

WHEREAS Dr. Alan Melnick is the Health Officer for Clark, Skamania, Cowlitz, and Wahkiakum Counties, hereinafter Region IV; and

WHEREAS the Health Officer has statutory authority under RCW 70.05.070 (3) to “control and prevent the spread of any dangerous, contagious or infectious diseases that may occur within his or her jurisdiction;” and

WHEREAS the distribution and administration of antiviral medications can prevent disease in exposed persons and reduce the complications for severely ill infected persons; and

WHEREAS, County is in receipt of federally funded antiviral medications to address Influenza Virus H1N1; and

WHEREAS, it has become necessary to disburse antiviral medications to entities in Region IV
to dispense, as needed, for infected persons; AND

WHEREAS, all losses incurred under this agreement shall be pursuant to the Federal Public Readiness Emergency Preparedness Act, AND

WHEREAS, Pharmacy has the credentialing and licensure to dispense such medications;

NOW THEREFORE the Region IV Health Officer and the undersigned enter into the following agreement:

AGREEMENT

COUNTY AND PHARMACY MUTUALLY AGREE TO THE FOLLOWING:

I. County Shall:
   a. Provide antiviral medications to pharmacy upon execution of this agreement.

II. Pharmacy Shall:
   a. Dispense antiviral medication as requested for treatment of infected persons or prophylaxis of exposed persons using protocols approved by Region IV Health Officer.
   b. Store all antiviral medication according to pharmaceutical protocols.
   c. Dispense antiviral medication at no charge, whatsoever, including no administrative fees.
   d. Track dispensing of medications.
   e. Report to County weekly all medications which have been dispensed
   f. Return all unused portions of the antiviral medication to County when emergency activities cease or at direction of County.

III. Consideration:
   a. This agreement is entered into pursuant to the mutual obligations and covenants addressed herein.

_______________________________  ______________________________
Region IV Health Officer               Pharmacy Signator
<table>
<thead>
<tr>
<th>Health Officer Contact Information</th>
<th>Pharmacy Contact Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(printed HO name)</td>
<td>(printed name of signator for Pharmacy)</td>
</tr>
<tr>
<td>(telephone)</td>
<td>(Name of pharmacy contact, if different than signator)</td>
</tr>
<tr>
<td>fax number)</td>
<td>(Name of Pharmacy)</td>
</tr>
<tr>
<td>(e-mail)</td>
<td>(telephone)</td>
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<tr>
<td></td>
<td>(fax number)</td>
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<tr>
<td></td>
<td>(e-mail)</td>
</tr>
<tr>
<td></td>
<td>(Pharmacy Address)</td>
</tr>
</tbody>
</table>
APPENDIX E: Pharmacy Receipt of Antiviral Medication
Date: ________________

_________________________ ____________________________ picked up the following antiviral <Pharmacy Name > <Pharmacy Location> medication from __________________________.
<Pharmacy Name >

OR

_________________________ ____________________________ delivered the following antiviral <Name of employee> <LHJ Name > medication to __________________________.
<Pharmacy Name > <Pharmacy Location>

__________ treatment courses of Oseltamavir (Tamiflu) 75mg
<# of courses>
NDC # _______________ Lot # __________ Exp Date __________

__________ treatment courses of Oseltamavir (Tamiflu) 45mg
<# of courses>
NDC # _______________ Lot # __________ Exp Date __________

__________ treatment courses of Oseltamavir (Tamiflu) 30mg
<# of courses>
NDC # _______________ Lot # __________ Exp Date __________

__________ treatment courses of Oseltamavir (Tamiflu) Suspension
<# of courses>
NDC # _______________ Lot # __________ Exp Date __________

__________ treatment courses of Zanamivir (Relenza)
<# of courses>
NDC # _______________ Lot # __________ Exp Date __________

Antivirals are only to be dispensed according to Region IV Health Officer protocol and in accordance with the signed MOU between the Region IV Health Officer and the Pharmacy.

Signature: ____________________________________ Date: __________

Printed Name: _________________________________

Procedure for Region IV Public Health Medical Evaluator

- Call is received from Screener for assessment/evaluation of need for antiviral medication (either for treatment or prophylaxis of high risk individuals).
- Answer call – “Hello, this is (name) with Region IV Public Health, how may I help you”
- Use the antiviral assessment & dispensing sheet and interview tool (five pages) found in the Region IV Protocol and Standing Order for “Influenza A H1N1 Antiviral Treatment and Prophylaxis” (Pages 11-15).
- Refer to the Region IV Protocol and Standing Order” as needed for recommendations and other information.
- When the determination is made by PHN that a person should receive anti-viral medication select the appropriate medication using the tables (in “section L”, tables 1-3). 
  
  **Note that there are two different anti-viral medication and dosages are different based on the persons age, weight and whether it is for prophylaxis or treatment. Provide education accordingly, using the appropriate medication fact sheet.**

For Residents of Clark County

If the determination is made that the person is to receive antiviral medication, the medication can either be called to a participating pharmacy by the PHN (see list). The antiviral medication can also be taken from the Clark County Public Health SNS and arrangements for delivery or pick up through the Delivery Runner.

If the antiviral medication is called to a pharmacy,

- Fill out the first page of the Antiviral Assessment & Dispensing Sheet (along with person’s demographics in box) indicating the name of the medication, whether for treatment or prophylaxis, dosage, duration, lot number, expiration date, whether patient is pregnant and how the medication is provided (called into pharmacy) and indicate which pharmacy.
- Sign and date form.
- Call medication into a pharmacy (verbal order under Dr. Melnick)

If the person needs the medication delivered to them directly,

- Fill out the first page of the Antiviral assessment and Dispensing Sheet (along with person’s demographics in box) indicating same as above and how the medication was provided (hand delivered) and the date it was delivered.
- Sign and date form.
- Fill out the patient information sheet (filled out with the appropriate med, dosage and duration) to attach to the medication that will be delivered to the patient.
- Select the appropriate medication fact sheet
- Make a copy of the Antiviral Assessment & Dispensing Sheet and attach it to the appropriate Medication Fact Sheet and the Patient Information Sheet. Give to Logistics who will enter it into their tracking system and then return it to the Antiviral Medical Evaluator Lead. The Evaluator Lead will to fill antiviral medication from Clark County Public Health SNS supply and deliver to the Delivery Runner.
- Document all calls on the spread sheet indicating the patient information and the result of the evaluation. File the Antiviral Assessment & Dispensing Sheet in the binder located in the CD unit.

For Residents of Cowlitz, Skamania, or Wahkiakum County
If the determination is made that the person is to receive antiviral medication, the medication can be called to a participating pharmacy of that county by the PHN (see list). The medication can also be taken from the Cowlitz County, Skamania or Wahkiakum County Public Health SNS and arrangements for delivery or pick up is made through the Operations Branch Director of that county.

**If the antiviral medication is called to a pharmacy in Cowlitz, Skamania or Wahkiakum County:**
- Fill out the first page of the *Antiviral Assessment & Dispensing Sheet* (along with patient demographics in box) indicating the name of the medication, whether for treatment or prophylaxis, dosage, duration, lot number, expiration date, whether person is pregnant and how the medication was provided (called into pharmacy) and indicate which pharmacy.
  - Sign and date the form.
  - Call the medication into the pharmacy (verbal order under Dr. Melnick)

**If the person needs the medication delivered to them directly:**
- Fill out the first page of the *Antiviral Assessment & Dispensing Sheet* indicating the name of med, dosage, lot number, and duration of treatment, etc. and how the medication is provided (hand delivered) and the date it was delivered.
  - Sign and date form.
  - Fill out the patient information sheet.
  - Select the appropriate medication fact sheet.
  - Call the Operations Branch Director/DO assigned in that county to let them know that they will need to make arrangements for either delivery to person or pick up of medication by person or family member.
  - Fax the dispensing sheet, the patient information sheet and the appropriate medication fact sheet to the assigned Operations Branch Director of the particular county who will retrieve the antiviral medication from that county’s SNS supply.
  - Document all calls on the spread sheet indicating the patient information and the result of the evaluation. File the *Antiviral Assessment & Dispensing Sheet* and *Patient Information Sheet* in the binder located in the CD unit.
Appendix G:
ASTHO Nurse Triage Line Project Advisory Committee
ASTHO Nurse Triage Line Project
Advisory Committee

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Appendix H:
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NACCHO Nurse Triage Line Project Ad Hoc Workgroup

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