State of California—Health and Human Services Agency
California Department of Public Health

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To: Skilled Nursing Facilities (SNF)
General Acute Care Hospitals (GACH)
Acute Psychiatric Hospitals (APH)
Specialty Hospitals (SH)
Intermediate Care Facilities (ICF)
Intermediate Care Facilities-Developmental Disabled (ICF/DD)
Intermediate Care Facilities-Developmental Disabled-Habilitative (ICF/DD-H)
Intermediate Care Facilities-Developmental Disabled-Nursing (ICF/DD-N)
Correctional Treatment Centers (CTC)
Congregate Living Health Facilities (CLHF)
Department of Social Services

Subject: **INCREASED SCABIES OUTBREAKS IN HEALTHCARE FACILITIES**

In 2007 the California Department of Public Health (CDPH) has become aware of an increase in scabies outbreaks in healthcare facilities, involving both long-term care facilities (LTCF) and acute care hospitals. In 1999-2000, a similar increase in scabies outbreaks occurred, leading to the development of two guidelines, "Prevention and Control of Scabies in California Long-Term Care Facilities" and "Management of Scabies Outbreaks in California Health Care Facilities." Both can be found at http://www.dhs.ca.gov/ps/dcdc/disb/disbindex.htm under Disease Investigations Section. "Prevention and Control of Scabies in California Long-Term Care Facilities" includes basic information that is necessary to understand the disease and develop a program for control. Familiarity with the information in this first guideline is necessary to be able to use the second guideline to control an outbreak. The purpose of this letter is to:

(1) alert healthcare facilities in California of the recent increase in scabies outbreaks;
(2) encourage appropriate personnel to review the guidelines and update your facility scabies control program as necessary; and to
(3) summarize some of the most important information in these guidelines.

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Summary of Scabies Prevention, Control, and Management of Outbreaks

Scabies Biology

Scabies is a parasitic disease (infestation) of the skin caused by the human itch mite, *Sarcoptes scabiei.* The mite is the size of a pinhead, just visible to the eye. There are two basic forms:

(1) **typical scabies**, occurring in people with normal immunity and no underlying skin conditions. **Persons with typical scabies are not very contagious** since they have few skin lesions, often confined to the finger webs on the hands, and have fewer than 50 mites on them at any one time.

(2) **atypical, crusted or keratotic** (formerly called Norwegian) **scabies**, which occurs in people with immune suppression, including steroid treatment, and/or underlying skin disease such as psoriasis, although crusted scabies may be misdiagnosed as psoriasis. **Patients with crusted scabies are extremely contagious** because they have thick, crusted lesions and are infested with millions of mites.

Scabies Outbreak Sources

- **The initial source of large scabies outbreaks, particularly in acute care hospitals is almost always a patient with crusted scabies.**
- The source of outbreaks in long-term care facilities may be residents with less severe infestations. This condition will be present to some degree on admission, but usually is not diagnosed or even suspected.
- **The key to preventing scabies outbreaks is assessment of the skin, hair and nail beds of all new admissions as soon as possible following arrival, and regularly thereafter.**
- **Health care workers should be educated about the epidemiology of scabies** and how to identify and report any unusual skin condition.

Scabies Transmission

Scabies mite infestation occurs when pregnant female mites are transferred from the skin of an infested person to the skin of an uninfested person, and then burrow into the skin and lay eggs over a two-month life span. Male and female mites hatch, mate, and lay additional eggs.

- **The scabies mite is transmitted from a person with typical scabies to an uninfested person by direct contact with skin, such as hands-on nursing care.**
- The environment is not usually involved in transmission from typical scabies patients since the mite can only survive for a short period of time, but **the presence of large numbers of mites on crusted scabies patients can result in transmission to staff even without skin-to-skin contact.**

Scabies Signs and Symptoms

- **In healthy persons with no prior history of infestation, there will be no signs or symptoms for 4 to 6 weeks** since symptoms are the result of allergy to mites and mite products.
- In previously infested persons, itching may occur as soon as 48 hours following reinfestation.
- **The diagnosis of typical scabies can be especially difficult in elderly persons living in long term care facilities**, due to their skin being generally dry and scaly and possible pre-existing, chronic skin conditions for which steroids have been prescribed.
- **Skin scrapings should almost always be positive in crusted scabies but are usually negative in typical scabies**, given how few mites are present.
- A properly performed and evaluated scraping requires skill and experience, even for a dermatologist.

Scabies Control Program

All healthcare facilities should have instituted a scabies control program that includes responsibility for:

(1) identification of contacts of symptomatic case(s),
(2) prevention of transmission,
(3) treatment of symptomatic cases,
(4) treatment of contacts,
(5) post-treatment assessment, and
(6) assessment of treatment failures.

Treatment of Scabies

Treatment options are described in "Prevention and Control of Scabies in California Long-Term Care Facilities".

- Since the publication of this guideline, additional reports have been published of the **successful use of the oral medication ivermectin in the treatment of typical and severe scabies, and in the control of outbreaks** in healthcare facilities.
- Ivermectin is approved by the FDA, but considered investigational for the treatment of scabies.

Scabies Outbreak Control Plan

All healthcare facilities should prepare for a scabies outbreak by developing an outbreak control plan, to include:

(1) designation of a scabies outbreak coordinator;

(2) training all physicians, nurses, and other healthcare workers to recognize and report any patient, themselves, or other healthcare worker with signs and symptoms compatible with scabies infestation

(3) placing patients/residents with signs and symptoms suggestive of scabies in contact isolation until the infestation has been ruled out or treated;

a) wearing personal protective clothing such as gloves and long sleeve gowns when direct contact with a patient with signs and symptoms suggestive of scabies is anticipated;

b) performing skin scrapings on suspect cases;

(4) taking immediate action when the threshold for a scabies outbreak has been reached, including

a) reporting to Licensing and Certification and the appropriate local health department;

b) developing and instituting use of a surveillance data collection form for specifically investigating the outbreak;

c) assembling key personnel to discuss strategies for implementing the plan;

d) ensuring adequate infection control staff to implement the plan, hiring consultants if necessary;

e) searching for a source or index case;

f) obtaining adequate protective equipment and pharmacy supplies;

g) notifying all facility employees, non-employees, and physicians;

h) notifying all current patients/residents, family members and visitors;

i) choosing a control measure (see below);

j) choosing treatment options and schedules;

k) evaluating control measures;

l) writing a final report.

As soon as the source and scope of the outbreak have been assessed, key personnel should be assembled to decide on one of two choices for controlling the outbreak:

(1) identifying and treating symptomatic cases and their contacts (search and treat), or;

(2) treating all possible contacts, essentially all patients/residents, healthcare workers, volunteers, and visitors (mass prophylaxis).

Advantages and Disadvantages of Control Methods

Search and Treat

- Small number of persons treated on any given day
- Most infestations will be an initial one, resulting in a minimum 4-6 week delay in onset, and an even longer delay in diagnosis and treatment of the case and their contacts.
  - During that time mites are hatching, and additional individuals may be infested.
  - No treatment provides protection beyond a few days, so that each time someone is exposed they must be treated again.

Some acute care hospitals have been unable to control an outbreak using search and treat even after many weeks or even months, and when they have it has taken multiple staff weeks of work dedicated to this process. Both the search and treat and mass prophylaxis strategies are easy to implement in a long-term care facility.

Mass Prophylaxis

- Outbreak usually controlled.
- Must be conducted on a single day, as much during a single shift as possible.
- Missed, delayed, or inadequate treatment may result in continuation of the outbreak.
- In a typical sized skilled nursing facility, treating approximately 100 residents and 100 staff is feasible but still a significant undertaking.
- In a moderate to large sized acute care hospital, treating over 1000 employees and volunteers and all current inpatients requires substantial resources and planning.

Thus, an early realistic assessment of the magnitude of the outbreak and the capability of the staff to manage it is advised.

Written comments about the information contained in these recommendations should be mailed to Dr. Rosenberg, California Department of Public Health, Division of Communicable Disease Control, 850 Marina Bay Parkway, Richmond, CA 94804 or emailed to jon.rosenberg@cdph.ca.gov.

Sincerely,

Pamela Dickfoss for

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Deputy Director
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