Rocky Mountain Arsenal Medical Monitoring Program Recommendation
Medical Referral System & Health Professional Education

Part One: Medical Referral System

I. Objective: Assist Denver medical providers serving communities surrounding RMA in addressing acute, subacute and chronic RMA-related health concerns. Assist persons living or who have lived in these same communities in addressing their RMA remediation-related health concerns.

II. Population to be Served: Denver medical providers serving communities surrounding RMA. Persons living or who have lived in communities surrounding RMA during the remediation.

III. Expertise Required: Informed health care providers (i.e. physicians, nurse practitioners, physicians' assistants) public health officials and toxicologists with expertise in acute and chronic toxicology and clinical medicine.

IV. Strategy for Delivery of this Expertise: The referral system consists of a number of key components (Figures 1 and 2): patient, health care provider, Rocky Mountain Poison and Drug Center (RMPDC), Colorado Department of Public Health and Environment (CDPHE), and a Case Review Panel. The design and purpose of this referral system is to ensure that the general population has an informed health care provider population and referral system to assist in the assessment of health concerns potentially related to the RMA remediation and any subsequent treatment.

Ideally, a patient, who is concerned that he/she has been acutely, subacutely or chronically exposed will access a personal health care provider for evaluation and/or treatment. The health care provider will then, if needed, refer to his/her resource handbook[1]; and/or access the RMPDC. The RMPDC will take the call, through an 1-800 number, and determine the nature of the call. If acute, subacute or chronic health concerns are suspected, then the RMPDC will follow the algorithm in Figure 3. If the caller has other, non-clinical, RMA-related questions, he or she will be contacted by or referred to CDPHE-RMA program staff (see below). After evaluation of the case and/or the patient, it is deemed that the patient meets pre-established criteria, he/she will be referred to an expert panel for further evaluation and treatment recommendations. The referral criteria will be developed by CDPHE, the Agency for Toxic Substances and Disease Registry (ATSDR) and RMPDC in consultation with other medical and public health professionals.

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[1] Resource Handbook: A manual describing RMA background information, nature of the remediation, chemicals involved, associated health effects from the chemicals, and numbers to call for additional information.

This system is not intended as a substitute for existing doctor-patient relationships. Furthermore, any standard exam performed by RMPDC will be done in conjunction with the patient's health care provider. A patient's results will be treated confidentially and will only be released as directed by the patient, such as to his or her personal physician. Information will otherwise only be released in a summary form without personal identifiers or information which might lead to the identification of any patient. RMPDC summary reports will be submitted to the CDPHE-RMA medical monitoring staff no less than annually. Case-specific reports will be submitted based on established criteria and will contain recommendations for submission to the Case Review Panel.

A. Description of Components

1. The Patients -- These are people from communities surrounding the RMA who have the need to access the referral system (either through their health care providers, or, if needed, by themselves) for perceived or real RMA exposure.

2. Health Care Providers -- These are "geographically relevant" providers who are targeted to receive education concerning the nature of the remediation, the nature of the chemicals involved, the potential adverse health effects associated with the chemical(s), and the structure of the referral system.

   It is proposed that the following categories of providers would be included in the educational effort. Other health professionals and public health officers will be added as the details of this plan are developed:

   - Family Practitioners
   - Internists (including subspecialities)
   - General Practitioners
   - Obstetricians and Gynecologists
   - Nurse Practitioners
   - Physicians' Assistants
   - Neurologists
   - Pediatricians (including subspecialists)
   - Community and School Based Clinic Staff

   Obtaining lists of these health professionals is currently being explored through the state medical society, licensing boards, health plans and other sources. Furthermore, the following methods of provider education, in various combinations, are being investigated:

   a. Mass mailings of educational material:

i. General information monograph
ii. Resource handbook
iii. Newsletter updates

b. Formal continuing educational programs:
i. Conferences
ii. Seminars
iii. Workshops

c. Outreach visits:
i. Academic detailing
ii. Opinion leader strategies

d. Additional methods:
i. Lending libraries
ii. Web Site

It is proposed that a concentric ring approach to provider education and re-education be used. This method involves concentrating a greater amount of educational efforts within greater “geographically relevant" areas. For example, providers in the immediate vicinity of RMA would receive the most intensive educational effort, while providers less likely to see RMA patients would obtain less intensive methods. This method requires definition of circles of relevance.

Additional description of the education strategy is included in Part Two of this proposal (see below).

3. Rocky Mountain Poison and Drug Center -- The RMPDC provides support services (telephone triage, counseling, and education) for 4 states and numerous corporate clients. Their staff consists of nurses, toxicologists, physicians, and support personnel trained in the effects and treatment of acute, subacute, and chronic exposure to poisons and toxins.

The RMPDC can deliver 24-hours/day, seven days/week, access to the above experts with a dedicated toll-free telephone number. This round-the-clock access will provide assistance and support to the public and their health care providers. RMPDC also possesses multilingual capabilities.

RMPDC will serve as the primary contact for health-related information for the public and the health care community. In other words, RMPDC will be a "clearinghouse" for the vast majority of public and provider health concerns (Figure 1). The benefits of this arrangement are twofold - It allows for consistency of disseminated information, and simplifies the procedure for accessing the referral system. With RMPDC’s extensive past experience, they will be effective in anticipating the needs of providers and

patients.

RMPDC foresees approximately 500 calls/year; although, they have projected they can handle 10,000/year. These figures are based on prior experience and the fact that no significant release will occur. A general overview of RMA call handling is included in Figure 3.

To ensure that the staff of RMPDC understand all the aspects concerned with remediation of the arsenal, seminars and transfer of information will be arranged through CDPHE. Additionally, since RMPDC will be expected to have up-to-date information, timely emergency event notification and environmental monitoring data will be provided (Figure 2).

Protocol details to be addressed with RMPDC are:

a. The development of person/family-specific caller questionnaire
b. Development of patient criteria and process for examination at RMPDC, including process for referral to health care providers
c. Standardized exam, reporting and follow-up
d. Record keeping, case tracking and reporting
e. Identification of standard clinical exams of biological samples which may indicate exposure[2]

Attachment 1 contains the American Association of Poison Control Centers (AAPCC) Toxic Exposure Surveillance System worksheet that RMPDC uses to collect information from callers. It is anticipated that the RMA worksheet will be similar in content with a few additional pertinent fields. Currently, the RMPDC is upgrading its information systems, and it is expected that by May 97 all information will directly entered into their database. This should greatly improve the ability to access, track, and report records and cases.

4. Colorado Department of Public Health and Environment -- The CDPHE is the agency primarily responsible for the implementation, administration and coordination of the RMA Medical Monitoring Program, including the referral system. The Health Department will assure RMPDC and the Case Review Panel receive timely notification of emergency events, appropriate environmental monitoring data and site specific remedial and toxicology information. The CDPHE will be responsible for providing all

[2] Biological samples may include blood, urine or other tissues considered medically appropriate for diagnostic purposes.

interested persons accessing the referral system with general information related to the remediation, environmental safeguards, and the medical monitoring program and for directing requests for medical information to RMPDC. CDPHE will provides multilingual services.

5. The Case Review Panel -- The Case Review Panel is a body of experts in toxicology and medicine whose purpose is to review cases and provide assistance, advice and recommendations to health care providers and their patients (alternatively, the Case Review Panel could be designed to address a number of individual and population specific health issues, e.g., individual medical conditions or surveillance outcomes - and panel could be formulated on an ad hoc basis). The membership of the panel will be selected so as to provide the necessary expertise. For example, the panel may include persons from the following disciplines:

   - Toxicologist
   - Occupational medicine physician
   - Clinical medicine
   - Mental health worker
   - Epidemiologist

   Similar to RMPDC, the Case Review Panel will need information regarding emergency events, environmental monitoring and remedial activity. A system of information feedback to patients, PCP's, CDPHE etc. will be developed.

B. <u>System Protocol</u>

The following is an outline of specific information and protocols to be developed to implement this proposed medical referral system.

1. Rocky Mountain Poison and Drug Center General Protocol
   a. Identify the needs of the health care providers
   b. General narrative of call handling (decision tree), see Figure 3
   c. Development of person/family-specific questionnaire (standardized information) for RMPDC on-call staff
   d. Develop patient criteria and process for examination at RMPDC
      i. Process for referral to PCP
      ii. Provision of standardized information
   e. RMPDC standard exam, reporting and follow-up
   f. Development of targeted symptom-prevalence questionnaire(s)
   g. Information feedback
   h. Case Review Panel referral criteria

i. Record keeping, case tracking and reporting to CDPHE

2. Case Review Panel General Protocol
   a. Panel informational inputs
      i. Emergency event information required
      ii. Environmental monitoring data required
      iii. Remedial activity/location schedule and location-specific hazards
      iv. Other
   b. General narrative of case referral
      i. Case record review
      ii. Group process and decision making
      iii. Reporting
      iv. Follow-up
   c. Develop criteria and process for examination/referral to specialist
   d. Record keeping, case tracking and reporting to CDPHE
   e. Information feedback

V. Advantages to this Plan (Part One):

A. Patient-provider driven system
B. Allows both providers and patients, if needed, direct access to the referral system
C. Structurally simple and flexible
D. Allows cross-talk between system participants
E. Takes advantage of the established expertise of and trust in the RMPDC
F. Provides multiple tiers of patient evaluation
G Provides consistency in the information disseminated

VI. Limitations to this Plan (Part One):

A. The plan does not specifically address on-post visitors, particularly persons from out of the area. While the Medical Monitoring Program is aimed at communities surrounding the RMA, it is reasonable to expect questions and concerns might be posed by infrequent visitors. Efforts will be made during detailed plan development to explore ways of informing visitor groups of the Medical Monitoring Program and to include consideration of infrequent visitors to the area in RMPDC protocol development. Site visitor logging procedures will be reviewed to assure its adequacy in the event that visitors need to be contacted at a later date.

B. Many residents may migrate out of the area during Program operation and health care providers in their new place of residence may not be aware of prior residency near the RMA when evaluating such person's health status. Tracking these individuals is outside

the scope of this proposal. However, continued planning efforts will consider reminding current residents to maintain a record of the Medical Monitoring Program and maintaining out-migrates on Program mailing lists.

C. Some residents of the communities may lack health insurance or health care providers. This problem is particularly addressed by the use of the telephone to respond to individual's health concerns; insurance is not required for this service. Public information and education efforts will attempt to make this service known to all community members. Also, Denver Community Health and other health care providers do work with the otherwise under served members of the community.

Part Two: Health Professional Education

I. Objectives: Familiarize local primary providers and other health professionals with RMA remediation plan, exposure and health risks of chemicals of concern, response options for patient or provider exposure-illness concerns, emergency preparedness plan, information resources and referral pathways.

A. Identify information needs and effective delivery strategies.

B. Establish partnerships and pathways of communication.

1. Identify medical providers who are peer leaders and/or community contacts.

2. Recruit medical providers for a primary care surveillance system (if such studies are included in the MMAG plan).

3 . Establish relationships with providers to facilitate enrollment of subjects for future epidemiological studies when and if deemed appropriate based on information collected as part of the medical monitoring program.[3]

C. Prepare providers so that they can educate their patients about RMA clean-up risks, hazards, and safeguards.

D. Disseminate testing/referral/treatment criteria ("case definitions") and clinical pathways.

[3] Epidemiological studies, e.g., a case-control study, may be useful if clinical or surveillance findings suggest the need for this type of follow-up.

E. Identify and provide on-going information resources.

II. Provider Target Population: Primary care physicians and allied professionals, acute care providers, and selected specialist physicians (see list in "Proposed Plan: Medical Referral System"). Also included will be public health officials, community health and school based clinics, nurses and other health professionals. Stratified according to

estimated "exposed lives" prevalence in each health care providers practice; education approaches of progressively increased intensity will be targeted at progressively more "exposed" providers, defined according to:

A. Office location (geographic) criteria:

1. Medical offices or practice located in the census tracts in the RMA catchment area.

2. Data sources: Colorado Medical Society, Denver Medical Society, Colorado Academy or Family Practice, Colorado Academy of Pediatricians, Colorado Chapters of the American College of Physicians.

B. Patient census criteria:

1. Physicians listed as PCP's of patients living in the RMA catchment area.

2. Data sources: Colorado Hospital Association hospital discharge data; insurance/HMO provider datasets; a local newspaper solicited patient survey.

C. Example of using criteria:

1. Group 1 (highest intensity): Practice within primary RMA census tracts and >25% of enrollees live or work in RMA catchment area.

2. Group 2: Practice in primary or secondary census tracts or 5-25% of enrollees live or work in RMA catchment area;

3. Group 3 (lowest intensity): Denver metro providers/practices outside primary and secondary census areas or <5% of enrollees live or work in RMA catchment area.

III. **Expertise Required:** Clinical, environmental and toxicological experts to select or develop a comprehensive collection of education materials relevant to RMA clean-up specifically designed for the primary care provider-focused on symptoms and signs in individuals. Education specialist(s) to adapt materials to various outreach strategies and to disseminate the information. Communications specialist(s) to produce and publish information periodicals (newsletters, bulletins) , audio-visual materials; and to maintain a web-site.

IV. **Strategy for Delivery of this Expertise:** A variety of education materials and methods will be offered, with more intensive methods targeted at providers with the largest cohorts of

patients living or working around the arsenal. Education will include instruction in basic environmental history taking skills, familiarization with the RMA, its remediation, potential health hazards and appropriate responses to suspected exposures, as well as instruction in how to obtain clinical decision-making support. ATSDR will be relied upon for information and expertise pertaining to toxicology and health professional education.

A. Program planning time line.

1. Identify and enumerate concentric target group members, 5/97.

2. Needs Assessment (see Attachment 2), 6/97: Survey health care providers on preferred methods of information dissemination, on the preliminary information and referral plan, and the frequency with which patients with RMA exposure concerns are encountered in their practices. TARGET: Groups 1 and 2; FREQUENCY: Initially and as a component of evaluation on an annual basis.

3. Plan interventions, 7/97-12/97.

B. Implementation:

1. Education materials: (generally the broadest distribution, lowest intensity education)

a. Printed material

i. Basic curriculum monograph (approximately four-page summary of resource notebook described below). TARGET: All groups. FREQUENCY: annually.

ii. Newsletter: "RMA Bulletin for Health Professionals" (modeled after the Colorado Superfund Bulletin, see Attachment 3). TARGET: All groups. FREQUENCY: quarterly.

- Updates on clean-up, environmental monitoring, human health concerns, referral system.
- General environmental medicine topics.
- Sources of additional information.

iii. A resource notebook which includes a brief RMA history, summary of previous studies, planned cleanup time line, COCs and their potential human effects, environmental monitoring

plans and sensitivities, emergency preparedness guidelines, instructions in taking an environmental history, exposure assessment worksheets, and referral protocols (including case definitions if appropriate). TARGET: Group 1 and by request in other groups. FREQUENCY: initially to each provider group and by request.

b. Plan for rapid dissemination of acute release information and recommended responses: TARGET: All groups. FREQUENCY: Triggered by releases.
   i. Source: CDPHE
   ii. Methods: fax/e-mail

c. Internet home page with information/referral links. TARGET: All groups.

2. Formal continuing education programs: (more focused target group, from medium to high intensity interventions).

   a. Conferences or seminars with CME accreditation: Broad focus on environmental health such as taking an environmental history--practical exposure assessment education. TARGET: Groups 1 and 2. FREQUENCY: Annual or every other year.
   b. Small group sessions, focus-groups specific to RMA medical monitoring. TARGET: Group 1 and 2. FREQUENCY: Planning stage and as needed.
   c. Workshops and traineeships (in-depth mini-residencies or preceptorships for trainers). TARGET: For RMPDC staff and physicians designated as peer or community resources only. FREQUENCY: As needed.

3. Outreach visits (very specific target group, high intensity intervention)

   a. Academic detailing (site-visit by educators): targeting specific providers and their opinion leaders with concise 15 to 45 minute programs with specific objectives and patient-related content (standardized patient; clinical pathways and criteria for tests, referrals or interventions). Influential sources and multiple visits will be used if necessary. TARGET: Providers in Groups 1 and 2 who either request this or who are Identified by the referral system as high utilizers. FREQUENCY: As needed.
   b. Practice facilitation (site visit by practice facilitators). TARGET: Providers in Groups 1 and 2 who are recruited to provide population surveillance or participate in other RMA studies. FREQUENCY: As needed.

4. Other strategies in special circumstances:

a. Patient-mediated methods such as patient education materials: Information is directly sought from or given to patients by others. TARGET: Group 1 out-patient waiting rooms. FREQUENCY: Updated periodically.
b. Audit with feedback. TARGET: Incidence study sites (if such studies are included in the MMAG plan).
c. Physician-reminders (newsletter may function as a reminder). TARGET: All groups.
d. Rolodex cards which list resources, telephone numbers. TARGET: All groups.

5. Consultation and question-response resources

a. Telephone consultation
   i. Medical/clinical information: RMPDC.
   ii. Non-medical information: CDPHE.
      - Web site: Internet home page with information and referral links.
      - Future opportunities which become available through changes in technology.

C. Evaluation

1. Provider survey. TARGET: All groups. FREQUENCY: Annually.
2. Indicators measured by the referral system: Number of referrals, outcome of referrals, judged appropriateness of referrals, number of provider calls to RMPDC.

V. Advantages of this Plan (Part Two):

A. Tiered strategy concentrates resources on providers most likely to see concerned patients and most likely to perceive a need for education.
B. Offers various formats for different learning preferences.
C. Leverages the primary care provider as a key public education resource.
D. Includes proven methods of educating physicians (outreach visits, patient mediated strategies and physician reminders) as well as more traditional, unproven, but less expensive strategies to reach more providers (conferences, mailed monographs).

VI. Limitations of this Plan (Part Two):

A. Accessing health care providers will be difficult because of his or her time limitations and competition with other public and private organizations. The proposed plan is designed to minimize this limitation to the extent possible.

Attachment 1
American Association of Poison Control Centers
Toxic Exposure Surveillance System Worksheet

Attachment 2
Needs Assessment Survey for Health Care Providers

Attachment 3
Colorado Superfund Bulletin for Health Professionals