

University of Montana

ScholarWorks at University of Montana

Graduate Student Theses, Dissertations, &
Professional Papers

Graduate School

1972

Survey of speech and hearing management and referral practices by Wyoming physicians and dentists

Beverly June Currey
The University of Montana

Follow this and additional works at: <https://scholarworks.umt.edu/etd>

Let us know how access to this document benefits you.

Recommended Citation

Currey, Beverly June, "Survey of speech and hearing management and referral practices by Wyoming physicians and dentists" (1972). *Graduate Student Theses, Dissertations, & Professional Papers*. 6180. <https://scholarworks.umt.edu/etd/6180>

This Thesis is brought to you for free and open access by the Graduate School at ScholarWorks at University of Montana. It has been accepted for inclusion in Graduate Student Theses, Dissertations, & Professional Papers by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.

A SURVEY OF SPEECH AND HEARING MANAGEMENT AND REFERRAL
PRACTICES BY WYOMING PHYSICIANS
AND DENTISTS

By

Beverly B. Currey

B.A., University of Wyoming, 1957

Presented in partial fulfillment of the

requirements for the degree of

Master of Arts

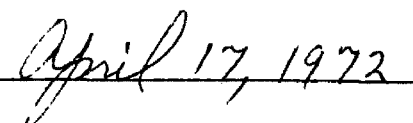
UNIVERSITY OF MONTANA

1972

Approved by:


Chairman, Board of Examiners


Dean, Graduate School


Date

UMI Number: EP36981

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI EP36981

Published by ProQuest LLC (2013). Copyright in the Dissertation held by the Author.

Microform Edition © ProQuest LLC.

All rights reserved. This work is protected against unauthorized copying under Title 17, United States Code



ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

ACKNOWLEDGEMENT

The author wishes to express her gratitude to her husband, Keith, daughter, Kim, and son, Kevin for their patience, encouragement, and support offered throughout the course of her graduate studies.

Special thanks are extended to the Department of Speech Pathology and Audiology of the University of Montana and Dr. Charles D. Parker for their guidance and invaluable assistance throughout the preparation of this paper.

TABLE OF CONTENTS

	PAGE
Acknowledgement	ii
List of Tables	iv
List of Illustrations	v
CHAPTER	
I Introduction	1
II Procedure	10
III Results	16
IV Discussion	46
V Summary	60
Appendix A	64
Appendix B	69
Appendix C	71
Selected Bibliography	72

LIST OF TABLES

TABLE	PAGE
I Wyoming Population Estimates	7
II Physicians' Specialty and Response to the Questionnaire	18
III Dentists' Specialty and Response to the Questionnaire	19
IV Distribution of Physician Management Provided for Specific Communication Impairments of Adults	24
V Distribution of Dentists Management Provided for Specific Communication Impairments of Adults	25
VI Distribution of Physician Management Provided for Specific Communication Impairments of Children	26
VII Distribution of Dentists Management Provided for Specific Communication Impairments of Children	27
VIII Physician and Dentist Management of Communicatively-Impaired Adults and Children Not Referred for Speech and Hearing Services	35
IX Problems in Referring Adults and Children to Speech and Hearing Services as Noted by Physicians and Dentists	39

LIST OF ILLUSTRATIONS

FIGURE	PAGE
1. By County Distribution of Questionnaire Returns from Physicians	21
2. By County Distribution of Questionnaire Returns from Dentists	22
3. Physicians and Dentists Referrals for Adults to Speech and Hearing Services	31
4. Physicians and Dentists Referrals for Children to Speech and Hearing Services	31
5. By County Distribution of Physicians and Dentists Managements and Their Referral Practices in/out of State	33
6. Physicians' and Dentists' Reasons for Not Referring to Speech and Hearing Services	38
7. Local Availability of Speech and Hearing Services	42
8. Physicians' and Dentists' Assessment of Adequacy of Speech and Hearing Services in the State	44
9. Regional Distribution of Speech and Hearing Services in Wyoming	50

CHAPTER I

INTRODUCTION

There is concern in the United States related to an increasing number of adults and children with communication impairments due to: 1) a generally-increasing population (13.7 per cent rise in population in the United States from 1961 to 1971) 2) lengthening life span resulting in a greater aging population and 3) a higher rate of both adults and children who have recovered from illnesses, injuries, or surgical procedures which may have resulted in acquired speech, hearing, and language impairments.

In a summary of prevalence of communication disorders in the United States as reported by the Subcommittee on Human Communication and It's Disorders: An Overview, it is estimated that, "about 8,500,000 Americans have either bilateral or unilateral hearing impairments of handicapping magnitude; another 2,100,000 have central communicative disorders; and 10,000,000 have speech disorders. We probably should assume modest overlap in these totals, but we must still recognize that approximately 20,000,000 persons in this country have communicative handicaps worthy of our concern. Moreover, at least a third (about 7,000,000) suffer either substantial or severe educational, social and economic disadvantage. Finally approximately one-fifth

of the total (about 4,000,000) consist of persons under 21 years of age." (U.S. Department of Health, Education, and Welfare, 1969).

Many of these incidence figures are based on the Midcentury Whitehouse Conference report (Johnson, 1952, p. 130). This report conservatively estimates that 5 per cent of the total population has speech disorders. They leave out of account an estimated additional 5 per cent, who have relatively minor speech and voice defects, which are possibly serious in their effects on personal and social adjustment in some cases.

However, an increased population is not the only cause of an increase in communication disorders. According to Nathaniel Levin (1962), "Through unprecedented progress and improvements in medical and surgical techniques, the use of antibiotics, other new drugs, and better hospital facilities, thousands of individuals who would have died in years past now survive. As a result of recovery from illnesses and injuries, both civilian and military, many of these survivors have residual disabilities for which something must be done. It becomes necessary to use the techniques of rehabilitation for the development of the abilities of individuals with resulting chronic diseases and disabilities from increased longevity rather than stressing their disabilities."

A multidisciplinary team approach has been stressed

for the rehabilitation of handicapped adults and children in the past several years. This team approach includes medical and nursing specialists, professionals in the areas of speech and hearing therapy, physical therapy, occupational therapy, social work, dentistry, and administration. Representatives of all these professions have, or should have, important information to contribute with regard to rehabilitation needs. Therefore, if speech and hearing clinicians are to be members of the rehabilitation services for adults and children, it should be the concern of these clinicians to ascertain what information can be provided by the other professions concerning their management and referral practices of communicatively-impaired adults and children. Specifically, the medical and dental professions' management and referral practices of communicatively-impaired adults and children would aid the speech and hearing clinician because frequently referral of individuals for appropriate rehabilitation for speech and hearing is made by the physician or dentist.

Rehabilitative services frequently involve more time and specialized services than the physician or dentist can give. Even though physicians and dentists themselves may not be able or trained to supervise the communicative aspects of the rehabilitation of these communicatively-impaired individuals, they are in good positions to refer the individuals, regardless of what the physical impairments

may be, to speech and hearing services. Because of the frequency of involvement in referral and management of communicatively-impaired adults and children the attitudes and management of physicians and dentists would be beneficial in aiding the understanding of how adequately these needs are being met by these two professions and their relationship to the profession of speech pathology.

There is concern among members of the speech and hearing profession as to whether or not the physicians and dentists are assisting as much as they could be in the rehabilitation needs of communication-impaired adults and children. Lack of, or unsatisfactory services may be the reason, but as Van Riper (1954, p. 11) indicates, physicians in the United States do not seem to be as concerned about communication impairments as they are about other handicaps. Physicians and dentists are not likely to engage in actual speech and/or hearing therapy, but they should assume the responsibility of referral of these adults and children, whom they see in their practices, to insure the provision for rehabilitative services when they are needed.

In a study done by Susan Gifford Duffy (1967) on The Management and Referral By Physicians in Montana of Communicatively-Impaired Adults To Speech and Hearing Services, it was reported from incidence of communication problems data that only 28 per cent of the speech impaired and 47 per cent of the hearing impaired were referred

directly to speech and hearing services by the physicians or indirectly referred to speech and hearing services through another physician, VRA, rest home, etc. Indications as to why the physicians did not refer patients to speech and hearing services were: 1) lack of available services, 2) patients not always considered amenable to therapy, and 3) physicians not always in a position to refer. Problems in referring were cited as being: lack of publicity and information about existing services; sporadic services; lack of competent services and trained personnel; and inconvenience, travel, distance, and expense.

It is recognized that other states may have physicians and dentists whose management practices are different than Montana's but who are still not completely meeting the rehabilitation needs of communication-impaired adults and children. It was considered desirable to learn more concerning physician and dentist management and referral practices of communication-impaired adults and children in another state. Therefore, it was the purpose of this study to determine and describe how Wyoming physicians and dentists managed communicatively-impaired adults and children whom they had seen in their respective practices.

This study was primarily concerned with communication problems of adults and children residing in Wyoming. A 5 per cent incidence of communication disorders was used to determine the potential number of projected communication impairments.

Using this projection it is possible that approximately 16,620 residents of all ages could be expected to have communication impairments. Table I shows the characteristics by age and presents the change in numbers of people in Wyoming in 10 years. The figures shown indicate the assumed numbers of residents in each group projected to have communication disorders.

Table I indicates a decrease of numbers of people in the under 5 years age group, 5 to 14 year age group, and 25 to 44 year age group, but the young adults (15 to 24 years), middle age (45 to 64 years), and older adults (65 years and over) are increasing in numbers.

Only isolated data concerning incidence of communication disorders are available in Wyoming, but these data are significant in their content. A report issued by the Wyoming Department of Health and Social Services of Statewide Planning for Vocation Needs (1968) indicates 12,019 individuals of all ages have disabling conditions of various handicaps. Of this total number of disabilities, hearing impairments represented 16 per cent of 1,891 adults and children. The number of speech disorders, unfortunately was not isolated in this report. Another report issued by the State Department of Education, Division of Exceptional Children (1970-71), indicated the number of children with speech, hearing, and learning disorders in programs for exceptional children was 1,823 (2 per cent) out of 86,886 (fall enrollment for 1970-71). Although this report only includes 22

TABLE I
 WYOMING POPULATION ESTIMATES (U. S. Bureau of Census, 1971)

	Total Residents in 1971	5 per cent Incidence (projected no.) of Communication Impairments	Total Residents in 1961	Change in 10 years
Under 5 years	28,372	1,419	40,608	-12,236
5 to 14 years	70,422	3,521	70,766	-344
15 to 24 years	58,036	2,902	44,175	13,861
25 to 44 years	78,422	3,920	87,160	-8,738
45 to 64 years	66,960	3,348	61,449	5,511
65 years and over	30,204	1,510	25,908	4,296
All ages	332,416	16,620	330,066	

school districts (17 per cent) out of 131 in Wyoming (Wyoming School Statistics, 1970-71), it does give an indication of the size of known numbers of communication impaired children. This latter figure does not represent 83 per cent of Wyoming school districts which quite probably have children with communication impairments also.

The state of Wyoming is considered primarily a rural state with approximately 343 active practicing physicians treating 332,416 individuals, and 159 dentists, including a few specialists, who treat the same population. The physicians and dentists are considered very important and relevant to the rehabilitation team. There are only two agencies, the University of Wyoming and the Wyoming State Hospital, who employ speech clinicians who work with communication-impaired adults. The number of speech clinicians working with communication-impaired adults on a private basis is unknown. The majority of speech clinicians are employed by school districts and the Easter Seal Society, with much of their therapy directed toward children of school age. Because Wyoming is primarily rural and lacks thorough referral sources it was considered particularly important to determine what attitudes the physicians and dentists practicing in the state of Wyoming have toward referring communicatively-impaired adults and children for speech and hearing services. Therefore, the primary purpose of this study was to determine how the physicians

and dentists were managing those communication-impaired adults and children whom they saw, and why they were managing them as they did.

CHAPTER II

PROCEDURES

A survey questionnaire was developed to gather descriptive information as to how Wyoming physicians and dentists manage and refer communicatively-impaired adults and children. The questionnaire included three sections related to: 1) "incidence" of communication impairments in their respective practices, 2) "management" of those communication impairments of adults and children not referred for speech and hearing services, 3) "attitudes" of physicians and dentists in their referral practices relative to their patients and non-medical rehabilitative services available to them.

POPULATION

The questionnaire was initially mailed to all 343 physicians and 159 dentists listed in the 1970 Wyoming Medical Association's and Dental Association's directories.

It is recognized in the study that the terms "impairment", "disability", and "handicap" were not defined because definition of these terms may be used differently by the population under study. The physicians and dentists were not held to a definition of these terms. They were allowed the prerogative of determining what is impairment, what is disability, and what is handicap.

QUESTIONNAIRE

The questionnaire was formulated with the assistance of several medical consultants (a general practitioner, a neurosurgeon, a pediatrician, and a general surgeon) and two dental consultants (one a general practitioner and incidentally also president of the Wyoming Dental Association, and an orthodontist). The director of the State's Vocational Rehabilitation Service was consulted also during the development of the questionnaire. The Wyoming Medical Association and Wyoming Dental Association Presidents were contacted to explain the purpose of and asked for support for the study. The purpose of using this many consultants was to develop a questionnaire that would be meaningful and acceptable to the physicians and dentists of the state. This questionnaire would also allow the collection of a maximum amount of information with the least imposition to the respondent.

All the contents of the mailing including the letter of introduction, memo from the Wyoming Medical Association Executive Secretary to the members of the medical association, and the questionnaire are found in Appendix A. In the monthly Newsletter of the Wyoming Dental Association (May, 1971) mention was made of the study and a request was made to the dentists receiving the questionnaire to cooperate by responding.

INCIDENCE SECTION

For the incidence section of the questionnaire a chart was designed specifying types of communication impairments relating to speech, hearing, and language disorders and requesting information concerning the number of communicatively-impaired individuals treated for medical or dental reasons in the past two years regardless of whether the responding physician had referred or not referred these patients for speech and hearing services. Further questions were developed to ascertain where communicatively-impaired patients were referred. The rationale for using a 2 year time period was, that if physicians and dentists treat communication-impaired adults and children at all, they would over this period have a reasonable case load and could respond with some authority and that the time span was not so long as to cause the respondents trouble in remembering. Actual estimated numbers of communicatively-impaired adults and children were requested from the respondents rather than simpler tabulation. Numbers were used in order to describe contents of the data in a more specific fashion. It was felt that estimated numbers would indicate more clearly how the majority of adults and children with specific impairments had generally been managed in any given medical or dental practice.

MANAGEMENT

The second section of the questionnaire was designed

to determine how physicians and dentists managed communicatively-impaired adults and children they did not refer for speech and hearing services. The questions in this section were open-ended in design so the respondents could discuss their management practices if referrals were not made.

ATTITUDES

In the third section of the questionnaire the physicians and dentists were requested to check reasons or offer comments relative to their attitudes concerning problems they were aware of or concerned with in referring patients for speech and hearing services. The physicians and dentists were asked to give their opinions of the availability of speech and hearing services in their communities. They were also asked for their judgements of the adequacy of speech and hearing services in the state. The questions were designed to allow the physician or dentist the convenience of checking one or more of a series of specific reasons or of offering their own comments. Specific reasons listed were developed in conjunction with both the medical and dental consultants. Finally, the respondents were given the opportunity to comment, or express opinions, or make suggestions about any issues raised in the questionnaire.

SURVEY PROCEDURES

Steps were taken to insure the highest possible rate

of return and accuracy in completing the questionnaires as follows:

- 1) Respondents were assured that they would remain anonymous.
- 2) Respondents were offered a summary of findings upon request.
- 3) The questionnaire was made as brief and specific as possible.
- 4) A return, self-addressed, stamped envelope was included with each questionnaire.
- 5) The introductory letter was personally addressed to each physician and dentist.
- 6) Explicit instructions and statement explaining the importance of the study were given in the introductory letter and the questionnaire.
- 7) An endorsing letter from the officers of the Wyoming Medical Association was included.
- 8) The appearance of the medical and dental consultants' names primarily consulted in formulating the questionnaire were on the introductory letter.

FOLLOW-UP PROCEDURE

A follow-up procedure was developed to encourage a higher rate of return. After a period of 4 weeks following the first mailing a second mailing was undertaken. On this mailing those physicians whose specialty of practice was not considered likely to have direct contact with adults and children having communication problems were eliminated, with this exception, all physicians not responding the first time were contacted again. All dentists, who did not answer the first questionnaire, were included in the

follow-up procedure. In isolated cases, it seemed feasible that a telephone request rather than mailing a second questionnaire would be effective and these cases were handled in this manner. The follow-up requests included all material contained in the first request. The second mailing was made to 146 physicians and 92 dentists.

CHAPTER III

RESULTS

RESPONSE TO THE QUESTIONNAIRE

A survey questionnaire concerning management and referral practices of communicatively-impaired adults and children by physicians and dentists was sent to all physicians and dentists in Wyoming. An August, 1970 Wyoming Physician Directory, listing 343 physicians, and a 1970 Wyoming Dental Directory, listing 159 dentists, were used in directing questionnaires to their recipients.

The physicians and dentists were asked to assist in the study by estimating numbers of specific communication impairments of persons they had treated for medical or dental reasons in the last two years. Specific referral sources were requested. They were asked to express attitudes concerning existing speech and hearing services in Wyoming. They were also given the opportunity to comment on problems or express opinions raised by the questionnaire. (Refer to Appendix B for comments to the questionnaire.)

Of the 343 questionnaires mailed to the physicians, 104 questionnaires were returned from the first mailing. A second mailing was made to 146 physicians whose practice was considered to have more direct contact with adults and

children having communication problems. Fifty-seven questionnaires were returned from physicians in response to this second request. This, then was a total of 161 questionnaires (47 per cent) returned from the physicians. Many physicians specifically stated the questionnaire did not apply to them because of their medical specialty or for other reasons they did not manage or refer communicatively-impaired adults or children. In order to clarify the number of physicians by specialty, number returning the questionnaire from each specialty, and those reporting data used in the study, Table II was developed. The number of physicians returning the questionnaire shown on Table II does not necessarily reflect the numbers used in compiling all the data because not all individuals responded to all questions or to all parts of each question.

There were 159 questionnaires mailed to the dentists of which 67 questionnaires were returned following the first mailing. A follow-up request was made to 92 dentists who did not answer the first request. There were 36 questionnaires returned from this second request. This, then, was a total of 103 returned questionnaires (65 per cent) from the dentists. Table III shows the number of dentists returning questionnaires to the first and second request by specialty of practice, and reporting data used in the study.

Of the 161 returns received, analysis revealed that 2 questionnaires were returned because the addressees were

TABLE II

PHYSICIANS' SPECIALTY AND RESPONSE TO THE QUESTIONNAIRE

Type of Specialty	No. of Physicians	No. of Returns		Total Returns	
		1st mailing	2nd mailing		
General Practice	151	37	43	80	51*
General Surgery	39	17	2	19	15*
Internal Medicine	25	7	2	9	9*
Obstetrics-Gynecology	20	4	..	4	2*
Radiology	17	4	1	5	1*
Ophthalmology	16	12	..	12	4*
Orthopedic Surgery	10	2	..	2	..
Pediatrics	10	3	2	5	3*
Pathology	10	2	1	3	..
Anesthesiology	10	3	..	3	1*
Osteopathy	8	6	..	6	1*
Psychiatry	8	4	2	6	5*
Urology	5	2	..	2	2*
Otology, Laryngology, Rhinology	4	..	2	2	2*
Neurological Surgery	3	..	1	1	1*
Ophthalmology, Otology, Laryngology, Rhinology	2	1	..	1	1*
Dermatology	2	..	..	..	..
Physiatry	1	..	1	1	1*
Public Health	1	..	..	..	..
Pulmonary Diseases	1	..	..	..	..
Total	343	104 (30%)	57 (17%)	161 (47%)	99 (29%)*

*Physicians reporting data used in the study.

TABLE III
DENTISTS' SPECIALTY AND RESPONSE TO QUESTIONNAIRE

Type of Specialty	No. of Dentists	No. of Returns			Total
		1st mailing	2nd mailing		
General Practice	151	64	33	97	61*
Orthodontist	7	3	3	6	5*
Pedodontist	1	..	..	..	..
Total	159	67 (42%)	36 (23%)	103 (65%)	66 (42%)*

*Dentists reporting data used in the study.

unknown; 1 physician had died since the mailing list was compiled (his wife returned the questionnaire); 14 physicians have retired or no longer practice in the state; 4 physicians were unable to answer the questionnaire personally (their secretaries returned the questionnaire) due to being "out of the office" or hospitalization; 5 returned the questionnaire with no comment or "have not been in practice long enough to answer"; 36 who returned the questionnaire found it "non-applicable" to their practice. Thus, a total of 62 respondents gave no information concerning the questionnaire, and 99 physicians (29 per cent) reported data used in the actual study.

Analysis of the 103 dental returns disclosed that: 1

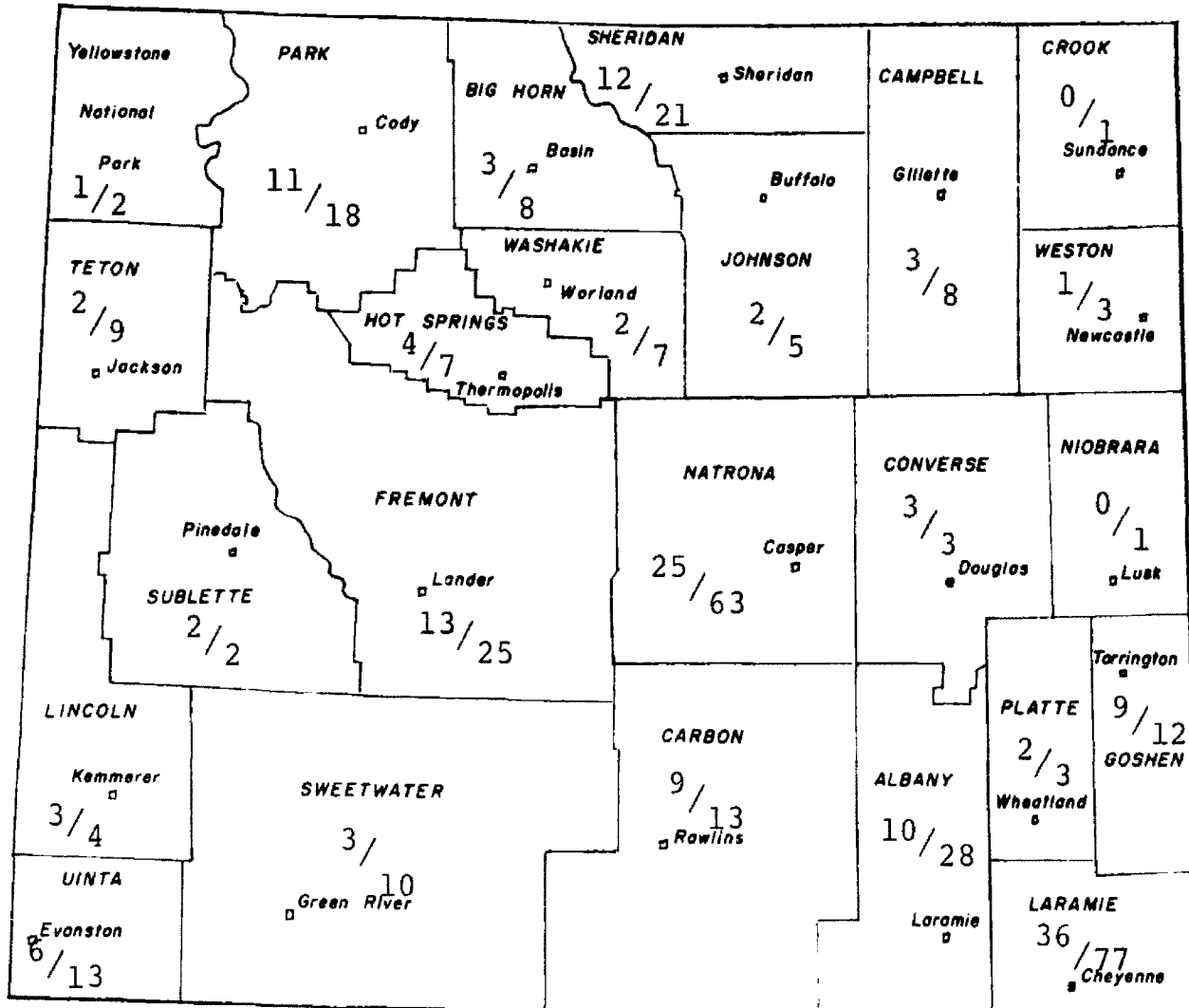
questionnaire was returned because addressee was unknown; 4 dentists were retired; 4 dentists reported no records were kept regarding the questionnaire; 2 dentists had no cases to report; 1 dentist who returned the questionnaire stated, "there was too much time involved in filling out the questionnaire". Twenty-five found the questionnaire "non-applicable" to their practice. There were 37 dentists who gave no information concerning the questionnaire. Therefore, 66 dentists (42 per cent) reported data used in the study.

It was desirable that physicians and dentists from both urban and rural areas of the state respond. Figure 1 and Figure 2 shows the geographical area from which responses were made for both physicians and dentists, respectively. The total number of mailed questionnaires were recorded as were the total number of questionnaires returned. Returns came from all areas of the state, both urban and rural. Forty-seven per cent of the physicians and 52 per cent of the dentists responding came from the more populous counties.

Evidence of concern for speech and hearing services was noted. An opportunity was given the physicians and dentists to obtain a summary of the study. There were 37 physicians (23 per cent) and 30 dentists (29 per cent) from the number returning the questionnaire, who requested a summary of the study. The Wyoming Medical Association

FIGURE 1

BY COUNTY DISTRIBUTION OF QUESTIONNAIRE RETURNS FROM PHYSICIANS

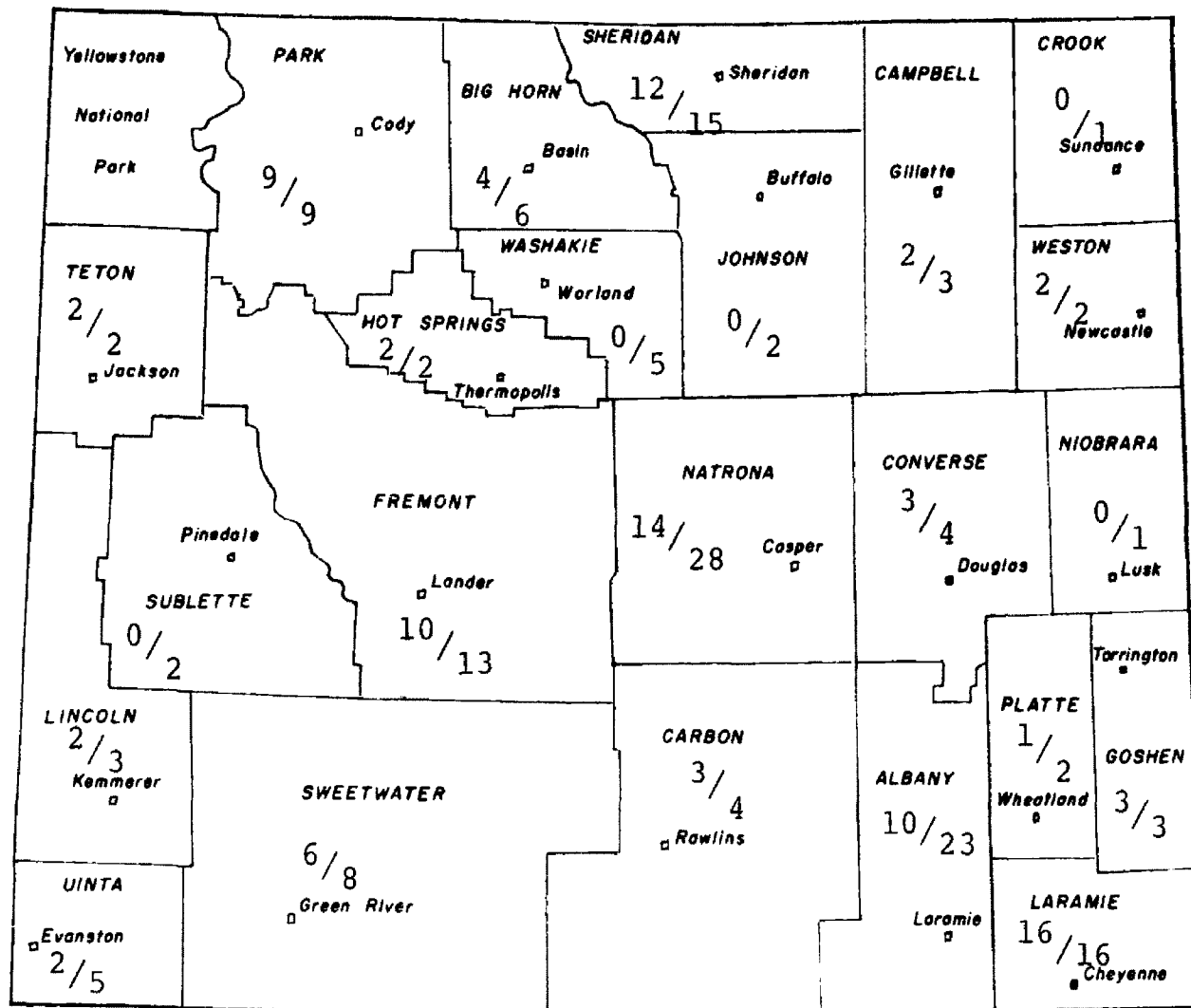


Top Figure - Number of physicians responding (161)

Bottom Figure - Number of questionnaires sent (343)

FIGURE 2

BY COUNTY DISTRIBUTION OF QUESTIONNAIRE RETURNS FROM DENTISTS



Top Figure - Number of dentists responding (103)

Bottom Figure - Number of questionnaires sent (159)

Executive Secretary and the Director of Vocational Rehabilitation Services also desired a summary. The requested information was sent to them upon completion of this project.

INCIDENCE SECTION

The physicians and dentists gave estimations of numbers of adults and children having specific communication problems they had treated for medical or dental reasons in the last two years. Numbers of adults and percentages of adults with specific communication impairments referred and not referred for speech and hearing services by the physicians are found on Table IV and by the dentists on Table V. Numbers of children and percentages of children with specific impairments referred and not referred for speech and hearing services by the physicians are found on Table VI and by the dentists on Table VII. Because these are estimations, the data were reported as provided and do not always total to 100 per cent.

Adults referred for speech and hearing services -

The physicians and dentists were asked to estimate the number of adults with specific communication impairments they had referred for speech and hearing services in the last two years. Physicians reported that "reverse swallow" which may interfere with speech was referred directly to speech and hearing services in all cases. Next in order of per cent referred was loss of voice due to laryngectomy

TABLE IV

DISTRIBUTION OF PHYSICIAN MANAGEMENT PROVIDED FOR SPECIFIC
COMMUNICATION IMPAIRMENTS OF ADULTS

Problems	Estimated No. in 2 yr. period	Referred for speech/hearing services	Not referred for speech/ hearing services
Aphasia	216	59(27%)	143(66%)
Dysarthrias	41	8(20%)	25(60%)
Any Communication Problem due to Orofacial Abnormalities	2	. . .	. . .
Loss of Voice due to Laryngectomy	34	29(85%)	3(9%)
Stuttering	14	3(21%)	12(86%)
Functional Articulation Problems	24	16(67%)	8(33%)
Voice Problems	42	18(43%)	10(24%)
Cleft Palate Speech	6	1(17%)	11*
Those sometimes seen in Cerebral Palsy	2	1(50%)	1(50%)
Hard of Hearing or Deafness**	612	221(36%)	323(53%)
Reverse Swallow which may interfere with Speech	3	3(100%)	. . .
Any other Communication Problem not listed	8	2(25%)	6(75%)
Total	1005	361(36%)	538(55%)

*Number was reported as provided by physician.

**One physician has seen "several hundred" but was not specific.

TABLE V
DISTRIBUTION OF DENTISTS MANAGEMENT PROVIDED FOR SPECIFIC
COMMUNICATION IMPAIRMENTS OF ADULTS

Problems	Estimated No. in 2 yr. period	Referred for speech/hearing services	Not referred for speech/ hearing services
Aphasia	25	12(48%)	11(44%)
Dysarthrias	12	6(50%)	3(25%)
Any Communication Problem due to Orofacial Abnormalities	9	1(11%)	7(78%)
Loss of Voice due to Laryngectomy	6	2(33%)	. . .
Stuttering	17	1(6%)	8(47%)
Functional Articulation Problems	18	. . .	8(44%)
Voice Problems	16	. . .	16(100%)
Cleft Palate Speech	11	3(27%)	4(36%)
Those sometimes seen in Cerebral Palsy	2	. . .	1(50%)
Hard of Hearing or Deafness	78	13(17%)	66(85%)
Reverse Swallow which may interfere with Speech	33	. . .	25(76%)
Any other Communication Problem not listed	. . .	. . .	. . .
Total	227	38(17%)	149(66%)

TABLE VI

DISTRIBUTION OF PHYSICIAN MANAGEMENT PROVIDED FOR SPECIFIC
COMMUNICATION IMPAIRMENTS OF CHILDREN

Problems	Estimated No. in 2 yr. period	Referred for speech/hearing services	Not referred for speech/ hearing services
Aphasia	99	37(39%)	2(2%)
Dysarthrias	47	20(43%)	. . .
Language Delayed Children	105	79(75%)	3(3%)
Any Communication Problem due to Orofacial Abnormalities	26	9(35%)	10(4%)
Loss of Voice due to Laryngectomy	. . .	. . .	. . .
Stuttering	18	8(44%)	4(22%)
Functional Articulation Problems	66	62(94%)	11(17%)
Voice Problems	77	58(75%)	10(13%)
Cleft Palate Speech	22	11(50%)	2(10%)
Those sometimes seen in Cerebral Palsy	20	7(35%)	4(20%)
Hard of Hearing or Deafness*	244	82(34%)	162(66%)
Reverse Swallow which may interfere with Speech	5	5(100%)	. . .
Any other Communication Problems not listed	2	2(100%)	. . .
Total	731	380(52%)	208(29%)

*One physician has seen "several hundred" but was not specific.

TABLE VII

DISTRIBUTION OF DENTISTS MANAGEMENT PROVIDED FOR SPECIFIC
COMMUNICATION IMPAIRMENTS OF CHILDREN

Problems	Estimated No. in 2 yr. period	Referred for speech/hearing services	Not referred for speech/ hearing services
Aphasia	33	18(55%)	8(24%)
Dysarthrias	4	3(75%)	. . .
Language Delayed Children	29	. . .	7(24%)
Any Communication Problem due to Orofacial Abnormalities	32	26(81%)	17(53%)
Loss of Voice due to Laryngectomy	. . .	. . .	. . .
Stuttering	17	6(35%)	9(53%)
Functional Articulation Problems	59	27(46%)	11(19%)
Voice Problems	20	. . .	. . .
Cleft Palate Speech	54	35(65%)	9(16%)
Those sometimes seen in Cerebral Palsy	3	3(100%)	. . .
Hard of Hearing or Deafness	23	11(48%)	8(35%)
Reverse Swallow which may interfere with Speech	164	76(46%)	84(53%)
Any other Communication Problem not listed	. . .	. . .	. . .
Total	438	205(47%)	153(35%)

(85 per cent), functional articulation problems (67 per cent), cerebral palsy (50 per cent), hard of hearing or deafness (36 per cent), aphasia (27 per cent), and unspecified communication problems (25 per cent). Those communication problems of adults referred by physicians less frequently were stuttering (21 per cent), dysarthrias (20 per cent), cleft palate speech (17 per cent). Adults having communication problems due to orofacial abnormalities were presumably not referred. It should be noted that the numbers of adults reported by physicians in many of the specific instances of communication disorders were relatively small.

The dentists indicated they referred adults with dysarthrias (50 per cent) more frequently than any other communication problem. This was followed by aphasia (48 per cent), cleft palate speech (27 per cent), hard of hearing (17 per cent), communication problem due to orofacial abnormalities (11 per cent), and stuttering (6 per cent). Reverse swallow which may interfere with speech cerebral palsy, and voice problems were not referred. The actual numbers of adults with specific communication impairments as reported by the dentists were also relatively few. The dentists did not refer 66 per cent of the communication impaired adults whom they had reported as seeing in their practice, while the physicians did not refer 54 per cent of the adults with communication problems they reported as

having seen.

Children referred for speech and hearing services -

The physicians and dentists were also asked to estimate the number of children they had referred for speech and hearing services in the last two years. All physicians responding to this item of the questionnaire indicated they had referred all children with "reverse swallow" for speech and hearing services through another M.D. or directly to rehabilitation services. Following this disorder were functional articulation problems (94 per cent) which were referred directly for speech and hearing services by the physicians. Next in order of per cent referred were voice problems (75 per cent), followed by language delayed children (75 per cent), cleft palate speech (50 per cent), stuttering (44 per cent), dysarthrias (43 per cent), aphasia (39 per cent), orofacial abnormalities (35 per cent), cerebral palsy (35 per cent), and hard of hearing or deafness (34 per cent). Physicians reportedly referred more children (52 per cent) for speech and hearing services than they did not refer (29 per cent).

Dentists reportedly referred all children whom they had seen with cerebral palsy directly to speech and hearing services. Other anomalies in order of percentages were orofacial abnormalities (81 per cent), followed by dysarthrias (75 per cent), cleft palate speech (65 per cent), aphasia (55 per cent), hard of hearing or deafness (48 per

cent), reverse swallow (48 per cent), functional articulation (46 per cent), and stuttering (35 per cent).

Comparison of physicians' and dentists' referral for adults and children - When comparing the physicians' and dentists' referral practices for communicatively-impaired adults and children, it was significant to note the differences in their referral or non-referral of these individuals. Figure 3 shows the percentages of adults referred and not referred for speech and hearing services by both physicians and dentists. Figure 4 shows comparable graphs of children referred and not referred for speech and hearing services by the physicians and dentists.

The physicians reportedly referred children (52 per cent) which they considered to have communication disorders more frequently than adults (36 per cent) with comparable problems. They did not refer 29 per cent of the children and 54 per cent of the adults. This data indicated fewer adults were referred to speech and hearing services by the physicians, although they reported treating more adults with communication disorders than children. (Refer to Tables IV and VI)

The dentists referred 47 per cent of the children they saw in their practices whom they thought had communication problems and 17 per cent of those adults labelled as communication impaired. They did not refer 35 per cent of the children and 66 per cent of the adults. However, the number of children they reported as having communication

FIGURE 3

PHYSICIANS AND DENTISTS REFERRALS FOR ADULTS TO SPEECH AND HEARING SERVICES

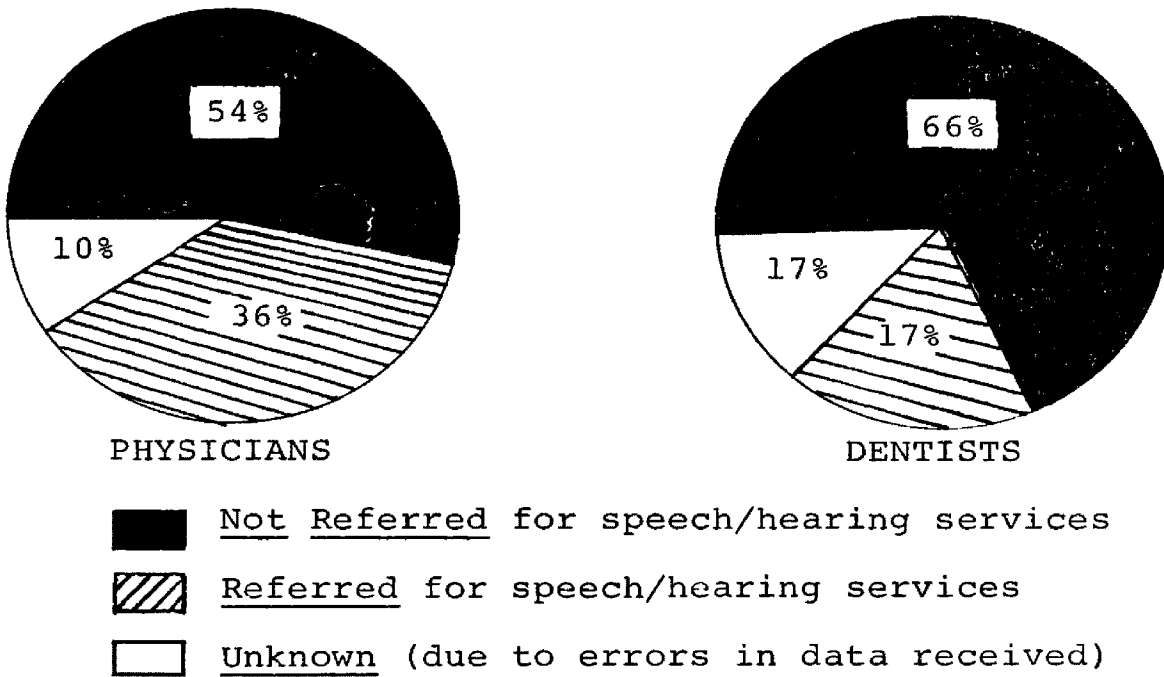
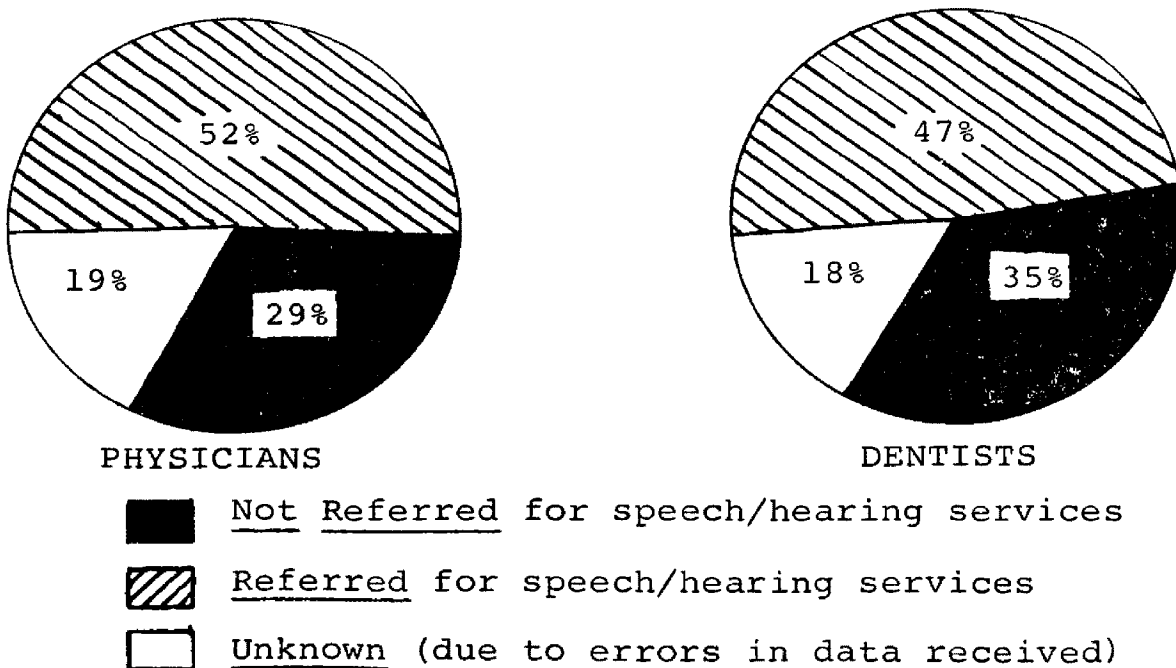


FIGURE 4

PHYSICIANS AND DENTISTS REFERRALS FOR CHILDREN TO SPEECH AND HEARING SERVICES



impairments were more frequent than the numbers of communicatively-impaired adults. (Refer to Tables V and VII)

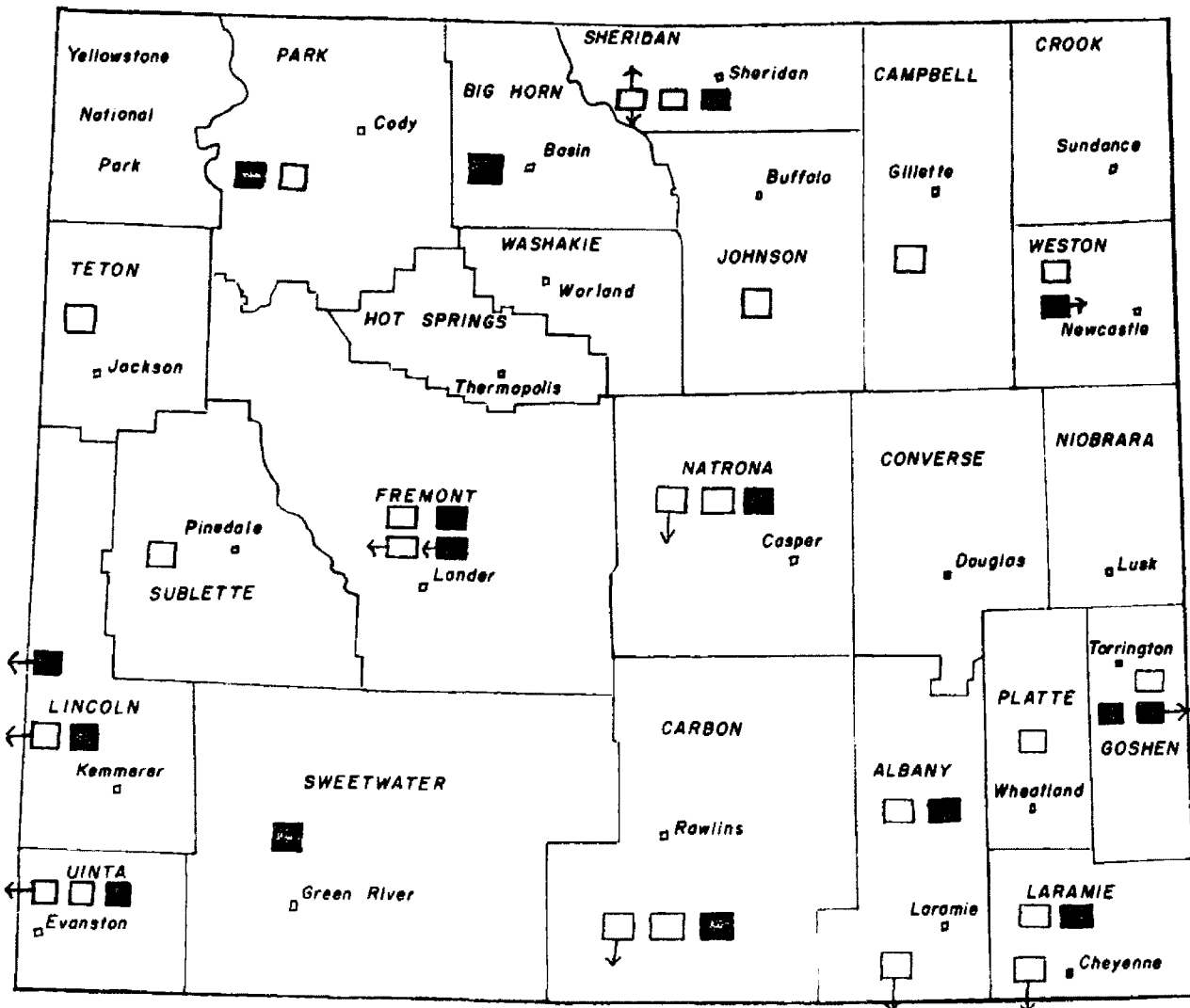
Specific referral sources for adults and children -

In planning the questionnaire it was considered important to find where communicatively-impaired adults and children were referred by the physicians and dentists. Therefore, specific questions were designed to elicit this information. Also, from the data returned it could be determined if more referrals were being made out of the state or within the state. Figure 5 shows the distribution and geographic locations of instate referrals as well as out of state referrals. Unexpectedly, physicians and dentists who made referrals out of the state were not made in correlation with the physicians' and dentists' locations. Physicians and dentists making referrals out of the state are centrally located as well as on the bordering areas of the state. Physicians from five counties did not indicate any referral practices. There were 11 physicians and 8 dentists who indicated that they made referrals but did not designate where.

For the reader's purpose an illustration showing the specific referral sources and the approximate number of patients referred by the physicians and dentists to those resources is found in Appendix C. The number of adults and children referred within the state were consistently more numerous than those adults and children

FIGURE 5

BY COUNTY DISTRIBUTION OF PHYSICIANS AND DENTISTS AND THEIR REFERRAL PRACTICES IN/OUT OF STATE



Physician Referral

In state □ (42)
 Out of state □ (24)
 Unspecified ↓ (11)

Dentists Referral

In state ■ (26)
 Out of state ■ (5)
 Unspecified ↓ (8)

*Direction of arrow indicates which direction out of state referrals were made.

referred out of the state.

MANAGEMENT OF ADULTS AND CHILDREN NOT REFERRED FOR SPEECH AND HEARING SERVICES

The physicians and dentists were asked their management practices for speech and hearing problems that were not referred directly to speech and hearing services. Sixty-eight physicians and 69 dentists responded to this question. From these responses 11 physicians and 9 dentists indicated more than one management practice. Responses seemed to be similar in nature; therefore, Table VIII was developed to show percentage of physicians and dentists and their management practices of communication problems of adults and children not referred for speech and hearing services.

The majority of the physicians (40 per cent) who responded to this question indicated that they did not themselves manage communication impaired adults and children but they refer these patients to another M.D., counseling services, public health nurse or "someone more experienced in the area of communication". There were 20 per cent of the responding physicians who indicated "no management" practice as they had not yet had the opportunity because they had not been in practice long enough, they seldom see patients with communication problems, they would refer if services were available, or "no comment" was written on the question. Nineteen per cent indicated they personally counseled with the patient or family, school personnel,

TABLE VIII

PHYSICIAN AND DENTIST MANAGEMENT OF COMMUNICATIVELY
IMPAIRED ADULTS AND CHILDREN NOT REFERRED
FOR SPEECH AND HEARING SERVICES

FURTHER MEDICAL OR DENTAL REFERRAL

(referrals made to another M.D.,
orthodontist, counseling center,
public health nurse, more experi-
enced in the area of communication)

Physicians	40%
Dentists	32%

COUNSELING

(with family, with school, advise
of available services, hearing
aids, etc.)

Physicians	19%
Dentists	20%

TREATED IN OFFICE

(Medical or dental reasons)

Physicians	9%
Dentists	9%

NO MANAGEMENT

(no comment; has not yet had the
opportunity; seldom see patients
with communication problems; would
refer if services were available)

Physicians	20%
Dentists	22%

NO REASON TO MANAGE OR REFER

(already referred by another physician
or dentist or agency before physician
or dentist sees patient)

Physician	12%
Dentist	17%

regarding the communication problem or use of hearing aids, etc. These kinds of management were followed by "no reason to manage or refer" (12 per cent) and "treated in the office" for medical reasons (9 per cent).

The responding dentists indicated reasons similar to those reasons the physicians gave. Thirty-two per cent of the dentists indicated they did not manage themselves but referred the communication-impaired patients to another physician, orthodontist, a crippled children's clinic, or the public health nurse. This management was followed by "no management" (22 per cent), counseling with the patient or family regarding communication problem (20 per cent), "no reason to manage or refer" (17 per cent), and "treated in the office" for dental reasons only (9 per cent).

ATTITUDE SECTION

A series of questions were designed to elicit comments from physicians and dentists relative to their "attitudes" to referring their communication-impaired patients to speech and hearing services and non-medical rehabilitation services available to them. The questions were designed for simple check responses or as open-ended questions relative to their attitudes.

They were asked if they did not typically refer communicatively-impaired adults and children for speech and hearing services, why they did not. Seventy-two physicians and 55 dentists responded to this question. Responses are

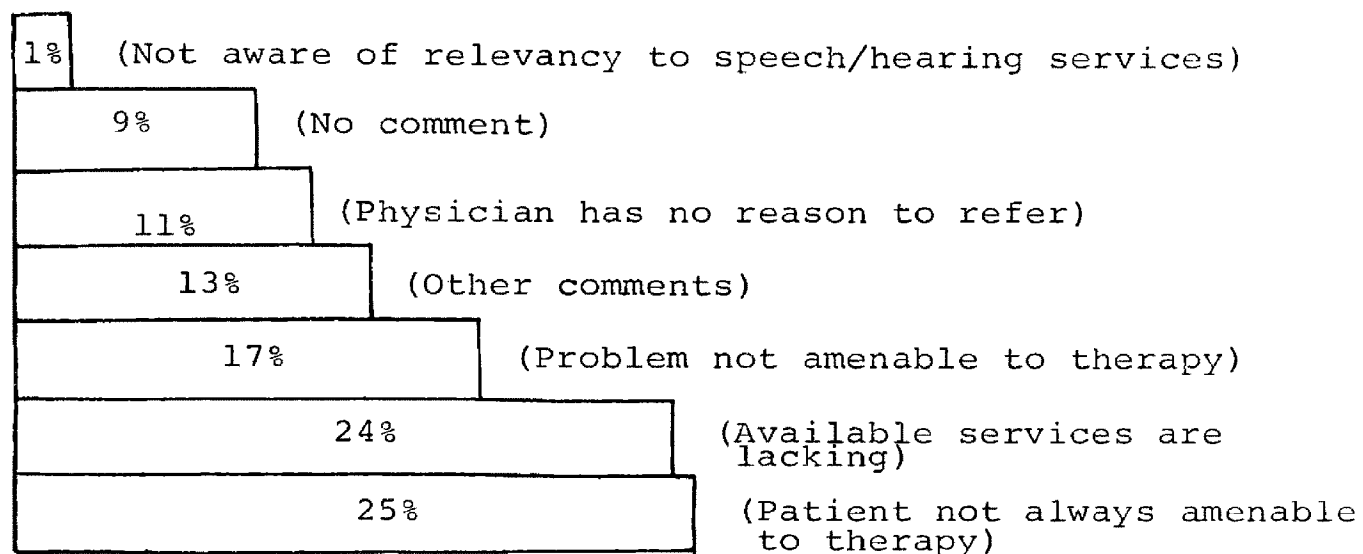
shown for the physicians and dentists on Figure 6.

Problems in referring for speech and hearing services - Another question in this section requested information from the respondents regarding problems in referring communicatively-impaired adults and children for speech and hearing services. These "problems" physicians and dentists encountered may be reasons for not referring. The physicians or dentists were asked to check reasons or make comments concerning problems of referral. Responses to this question are shown on Table IX. There were 118 responses by physicians and 81 responses by dentists to this question. Frequently more than one reason was checked.

Physicians (33 per cent) indicated that "inconvenience, travel, distance, expense involved in sending patients long distances" was a problem in referring. Other problems following in order of percentage were, "lack of available services in the hard of hearing and brain damage (stroke) patients" (15 per cent); "lack of available services for diagnosis and therapy" (14 per cent); "lack of competent, trained personnel - lack of stable and consistently available services" (14 per cent); "not aware of problems" (10 per cent); "delays and long waiting periods upon referral - communication between referral sources and services are poor" (8 per cent); and other comments (8 per cent) of which revealed little information not previously indicated.

FIGURE 6

PHYSICIANS' REASONS FOR NOT REFERRING
TO SPEECH AND HEARING SERVICES



DENTISTS' REASONS FOR NOT REFERRING
TO SPEECH AND HEARING SERVICES

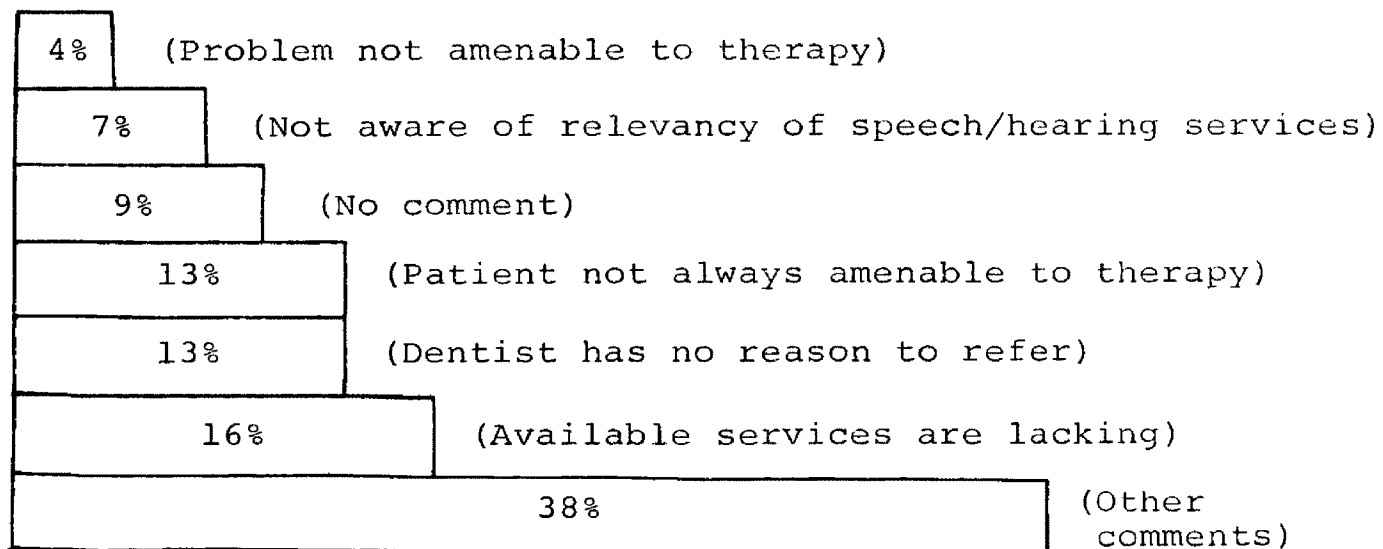


TABLE IX

PROBLEMS IN REFERRING ADULTS AND CHILDREN TO SPEECH
AND HEARING SERVICES AS NOTED BY
PHYSICIANS AND DENTISTS

Item	Physicians		Dentists	
	Number	Per cent	Number	Per cent
Inconvenience, travel distance, expense involved in sending patients long distances	39	33%	15	18%
Lack of avail- able services for diagnosis and therapy	16	14%	13	16%
Delays and long waiting periods	10	8%	6	7%
Lack of compe- tent, trained personnel	14	12%	8	10%
Lack of avail- able services for the hard of hearing and brain damaged (stroke)	18	15%	2	2%
Not aware of problems	12	10%	28	35%
Other	9	8%	9	12%
Total	118	100%	81	100%

Dentists indicated they were "not aware of problems" (35 per cent). Some dentists stated they were uninformed in these areas and were satisfied with present services. Other dentists indicated that other problems in referring communicatively-impaired adults and children to speech and hearing services were, "inconvenience - travel, distance, expense involved in sending patients long distances" (18 per cent); "lack of available services for diagnosis and therapy" (16 per cent); "lack of competent, trained personnel, lack of stable and consistently available services" (10 per cent); "delays and long waiting periods" (7 per cent); and "lack of available services in the hard of hearing and brain damage (stroke) patients" (2 per cent). Twelve per cent of the dentists indicated that there were other problems, with which they were concerned. Two dentists said "tongue thrusting was their biggest problem because speech therapists were poorly trained in diagnosis and treatment of the problem". Another dentist stated "cleft palates are a problem due to lack of understanding between speech therapist and dentist".

Further questions in this section were designed to elicit information regarding local availability of speech and hearing services and adequacy of these services statewide. The physicians and dentists were asked to check items or offer comments relating to their knowledge of availability of services in their communities and adequacy

of services within the state.

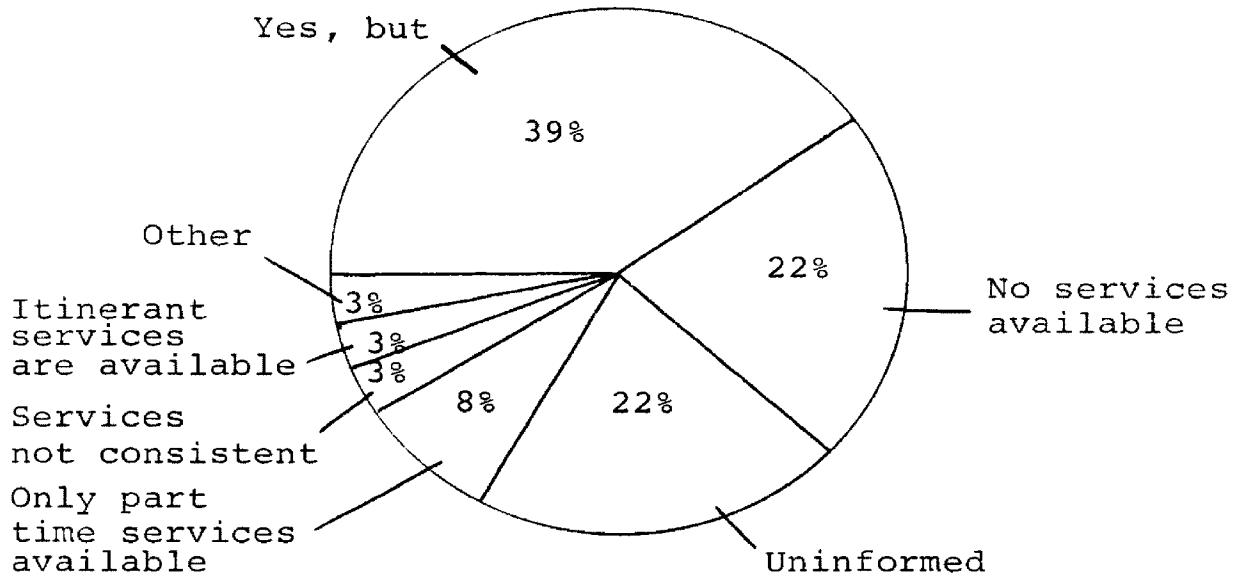
Availability of local services - There were 89 responses from physicians and 68 responses from dentists who checked items of availability of speech and hearing services in their communities. Four physicians and 4 dentists responded to more than one item of this question. Responses to the items of this question are shown on Figure 7.

Thirty-nine per cent of the physicians specified, "yes", local services were available. Comments related to their choice of this item were, "services were not clinically available at all times"; "speech therapy is only available through the school system"; "local services are limited"; "sometimes local services are inadequate"; and "do not know the scope of available services". Twenty-two per cent of the physicians were "uninformed" if services were available while 22 per cent indicated "no services were available". Others responding to this question indicated only part time services are available (8 per cent); itinerant services are available (3 per cent); services are not consistent (3 per cent); and other comments (3 per cent). Only two physicians indicated that available services were excellent in their communities.

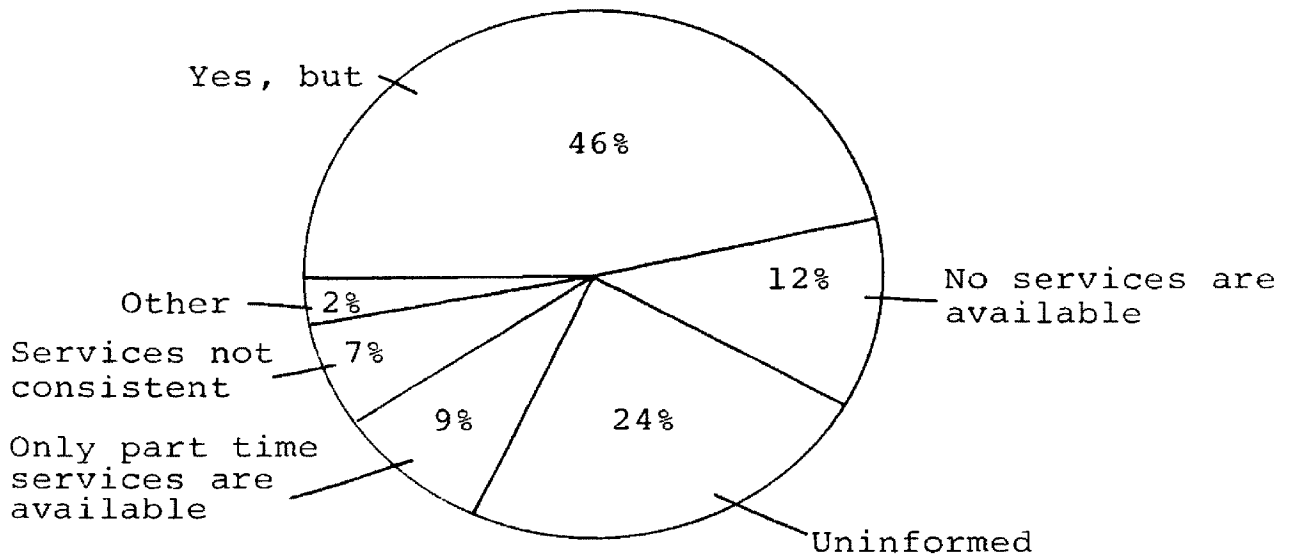
Forty-six per cent of the dentists indicated "yes" local services were available but indicated that existing services were available more for children than for adults. Other comments made by the dentists relative to checking

FIGURE 7

LOCAL AVAILABILITY OF SPEECH AND HEARING SERVICES



PHYSICIANS' RESPONSE



DENTISTS' RESPONSES

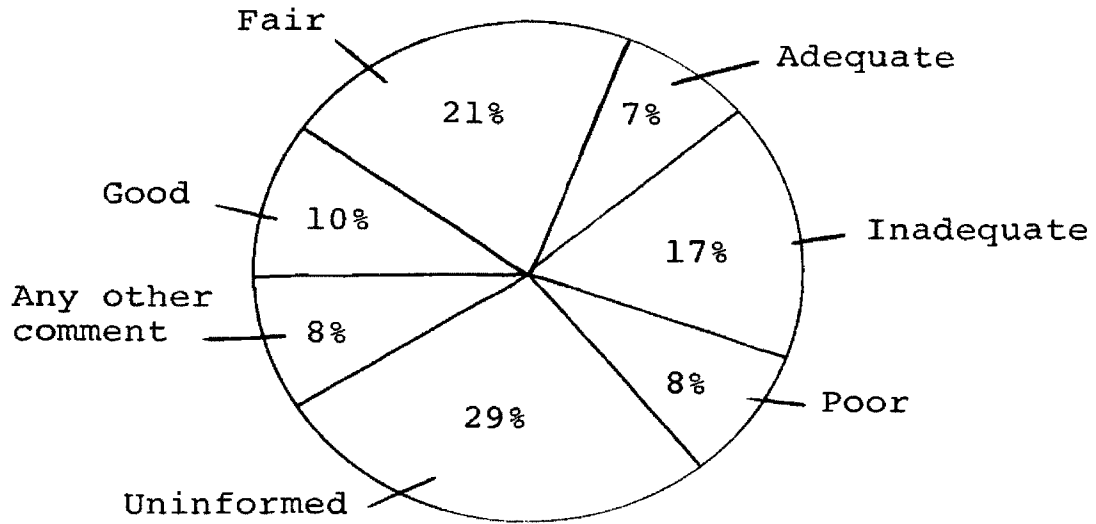
this item were, some dentists did not know the extensiveness of the services, and the services were not adequate for problem children. Again, only two dentists noted that available services were excellent. Twenty-four per cent were uninformed as to services available, while 12 per cent indicated that no services were available. There were 9 per cent of the dentists who indicated only part time services were available, 7 per cent indicated services were not consistent, and other comments (2 per cent).

Adequacy of speech and hearing services in the state - This question was designed to ascertain physicians' and dentists' opinions concerning adequacy of speech and hearing services available to adults and children in the state. Ninety-one physicians and 63 dentists responded to this question. Responses to the physicians' and dentists' assessment of the adequacy of speech and hearing services in the state are shown on Figure 8.

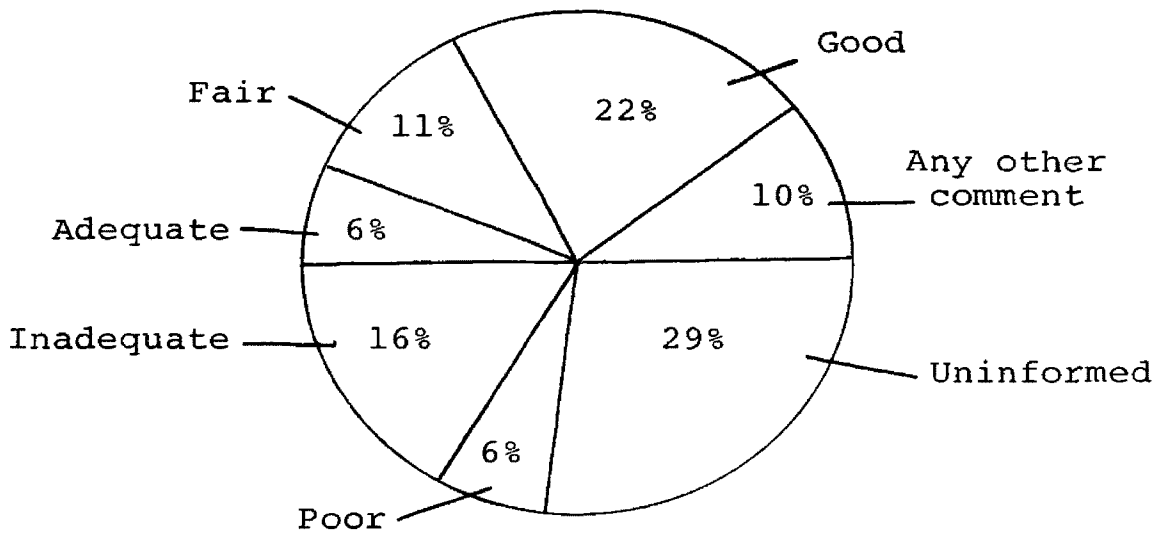
Twenty-nine per cent of the physicians responding to this question indicated they were too uninformed to comment if services were available in the state; 21 per cent of the physicians indicated that available services were "fair", 17 per cent judged services to be "inadequate", while 7 per cent indicated services were "adequate"; 8 per cent indicated speech and hearing services in the state were "poor", and only 10 per cent indicated services were "good".

FIGURE 8

PHYSICIANS' AND DENTISTS' ASSESSMENT OF ADEQUACY OF SPEECH AND HEARING SERVICES IN THE STATE



PHYSICIANS' ASSESSMENT



DENTISTS' ASSESSMENT

Twenty-nine per cent of the dentists were so uninformed that they could not judge quality of services if services were available in the state. Twenty-two per cent indicated services were "good", services were judged to be "inadequate" by 16 per cent of the dentists, "fair" (11 per cent), "adequate" (6 per cent), and "poor" (6 per cent).

Finally, the physicians and dentists were asked to comment, or express opinions relative to questions raised by this questionnaire. Responses to this request were few; however, those made were for the most part rather interesting and have been recorded in Appendix B for the reader's information.

CHAPTER IV

DISCUSSION

The purpose of this study was to gather data that would describe how Wyoming physicians and dentists manage communicatively-impaired adults and children whom they had seen in their respective practices. Since physicians' and dentists' referral and management is sometimes the initial step in providing rehabilitation services to such individuals and their role in total rehabilitation is considered vital, Wyoming physicians and dentists were mailed questionnaires concerning the roles they had assumed in such management.

To receive a higher rate of return, a second mailing was made to all physicians who might have more contact with communicatively-impaired adults and children and who did not answer the first questionnaire. This second mailing was also made to all dentists who did not answer the first request. The response by the physicians to the second mailing was proportionately lower than to the first mailing, and their responses generally were "non-applicable" to their practice. A few physicians failed to see the purpose of the study. Also, a few physicians made note that the questionnaire was too time consuming for them in their busy practice to return it with items marked. The dentists'

response was greater to the first request than the second. However, the dentists' responses were usually "non-applicable" to their practice when the follow-up request was returned.

Returns came from all areas of the state, both urban and rural. The presence or absence of speech and hearing services in or near the respondents' communities did not seem to influence the returns. Returns came from most of the specialties of practice for both physicians and dentists. There were 7 physicians at Goettsche Rehabilitation Center and 8 physicians at the Wyoming State Hospital who combined their views and returned a single questionnaire from each agency. These data were treated as one return from the physician who signed the questionnaire.

It was interesting to note the interest that ophthalmologists showed in returning the questionnaire. Some made comments indicating that the study needed to be done. One physician from this specialty suggested that the data from this study be given at a State Medical Association meeting. An awareness and interest of speech and hearing services seemed to be stimulated by this profession. One physician from another specialty stated "there is lots of awareness, but nothing is done about it". For the reader's purposes, all comments made by both physicians and dentists are found in Appendix B.

It was believed when this study was first initiated

that few communicatively-impaired adults and children would be referred directly for speech and hearing services by the medical and dental professions. The results of the incidence data indicated that 36 per cent of the adults and 52 per cent of the children the physicians reported as having seen were referred for speech and hearing services. While the dentists referred only 17 per cent of the communicatively-impaired adults and 47 per cent of the children they believed to have communication impairments. Possibly significant reasons as to why the remainder had not been referred were contributed by physician and dentist responses to the attitudinal items.

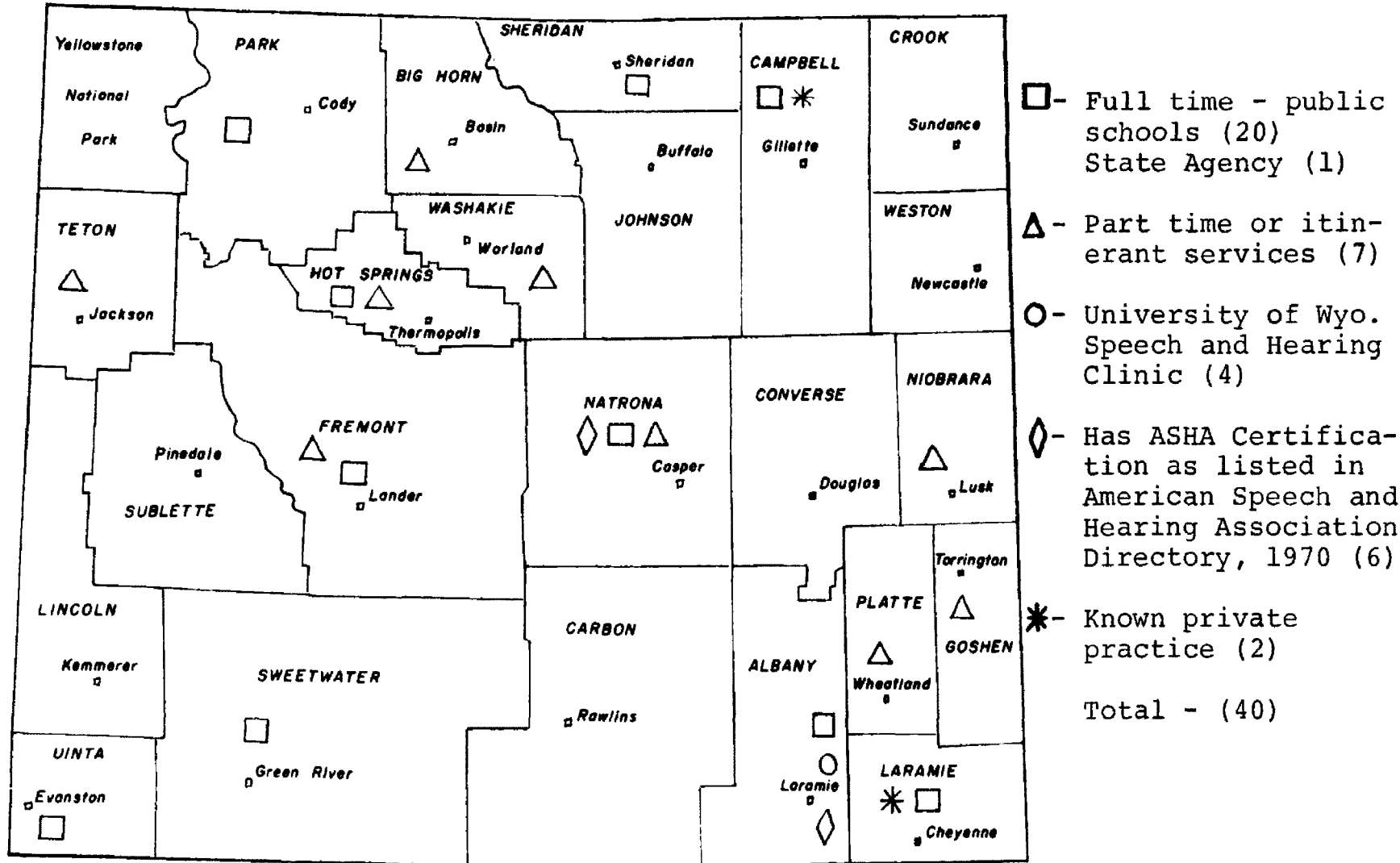
One reason for not referring adults given by some physicians' comments indicated that they felt services for adults were not as available as for school age children in their communities. A few dentists commented they considered speech and hearing services more available for children than adults in the state. If this attitude exists, this may be a significant reason why more adults are not referred for speech and hearing services. Another reason why so many adults were not referred may be due to the fact that almost one-fourth of the responding physicians and dentists were uninformed of available services in the state. This reason suggests the need for more effective education of these professions. As an example an annual directory, listing all individuals and agencies offering speech and

hearing services to adults and children, would be compiled and sent to all physicians and dentists residing in the state. This could be a project that might be of interest to a professional group such as the Wyoming Speech and Hearing Association or State Department of Health, Education, and Welfare.

Some physicians (11 per cent) and dentists (10 per cent) expressed the attitudes that clinicians in the state were not competent or consistently available. It is not known what these individuals offer other than therapy in the school system where they are employed or which individuals are seeing adult referrals or how many work on a private basis. Refer to Figure 9 for regional distribution of speech and hearing services in Wyoming. This information was taken from a 1970-71 Wyoming Speech and Hearing mailing list. Since information is limited regarding private speech and hearing services, this information is given as it is known personally by the author. There are a few speech clinicians working in the public schools who are part time students at the University of Wyoming and are under the university's supervision. Unfortunately, there are only 6 clinicians with American Speech and Hearing Association certification in Wyoming, and 3 of this number are located at the University of Wyoming. (ASHA Directory, 1970). It is not known what training and certification status other clinicians employed in the state have. State

FIGURE 9

REGIONAL DISTRIBUTION OF SPEECH AND HEARING SERVICES IN WYOMING



Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Teachers Certification for Wyoming Public Schools, Section 8-g, Speech Pathology, states:

(1) INITIAL CERTIFICATE

- (a) Eligibility for an Initial Certificate in Education.
- (b) A Bachelor's degree with a major in communicative disorders or in speech pathology, therapy, and correction in an approved program.

(2) STANDARD CERTIFICATE

- (a) Eligibility for an Initial Certificate endorsed for speech pathology.
- (b) Three years experience as a speech pathologist.
- (c) Eighteen semester hours additional graduate credits to include:
 - (c-1) PSYCHOLOGY, to include nine semester hours from among the following areas; child psychology, psychology of exceptional children, psychology of adjustment, general (introductory) psychology, abnormal psychology and adolescent psychology.
 - (c-2) SPEECH PATHOLOGY, to include nine semester hours from among the following areas: phonetics, organization of speech pathology programs in the public schools, cleft palate speech, audiology, speech reading, two courses in speech pathology and two courses dealing in detail with specific speech and/or language disorders, and anatomy and physiology of the speech and hearing mechanism.
- (d) Supervised clinical practicum for a total of 333 clock hours, 100 of which must be in public school environment (nine weeks). The remaining 200 clock hours will be obtained through participation in the university clinical programs.

(3) PROFESSIONAL CERTIFICATE

- (a) Eligibility for a Standard Certificate endorsed for speech pathology.
- (b) Five years of experience as a speech pathologist.
- (c) A master's degree in an approved program in speech pathology plus 10 semester hours

in related courses.

Evidently, clinicians who have met qualifications for a professional certificate should have clinical competence to work in the public schools. It may be questionable how many of the clinicians are trained to work with adults.

If the clinicians in Wyoming are primarily limiting their work to children, the question arises as to their competence to work with adults. Has their training in the universities where they had received their degrees been adequate to work with adult communication problems? If there were no clinicians available in Wyoming with training in adult communication impairments then to inform physicians and dentists of speech and hearing services and to encourage physician and dentist referral of adults for specialized services, would be of no avail. Where does the responsibility lie in securing more qualified clinicians? Does the responsibility lie with the State University or the State Department of Health, Education, and Welfare? These points should be studied carefully by all professionals involved in communication disorders of adults and children to assess needs in the state for specialized services for both adults and children.

Since Wyoming is primarily a rural state, the available speech and hearing services were expected to be limited. It was believed that Wyoming physicians and dentists would make more referrals for speech and hearing services

out of the state than within the state. Unexpectedly, referrals were made more frequently in the state than out of the state as the responding physicians and dentists indicated. Some physicians and dentists mentioned that speech and hearing services out of the state were more adequate than in their own communities or they were uninformed of available services in the state; therefore, they made referrals out of the state. It was encouraging to discover that many physicians and dentists are referring some of the communicatively-impaired adults and children for specialized services even though these services may be out of the state.

When planning the questionnaire, one question among others in the incidence section was especially designed for dentists' response. This question was concerned with the problem of "reverse swallow" which may interfere with speech. Referrals to speech and hearing services are made infrequently by this profession. Significant reasons were given by two dentists as to why there were so few referrals. One stated, "Tongue thrusting is the biggest problem, I've found most speech therapists are poorly trained in this area". The other indicated, "Frustration in referring children with reverse swallow because there is a lack of trained speech therapists who will tackle this problem". Some orthodontists indicated they provide their own rehabilitation services for this problem. Therefore, with this attitude expressed by some dentists, these reasons may be considered

as significant explanation for so few referrals in this area. Perhaps, there is a misunderstanding between the speech clinicians and dentists. "Reverse swallow" or "tongue thrusting" seems to be a controversial issue between the clinicians and dentists. Evidence that this controversy exists is found in a report on Human Communication and It's Disorders: An Overview (1969, p. 161) which states:

"A particular phenomenon relating to tongue function that has been of substantial interest to both dentists and speech pathologists in recent years is that which is known both by the terms tongue thrust and reverse swallow. Partly because of a lack of clear definition and description of the condition designated by these terms, there appears to be relatively little agreement concerning the incidence of these conditions to the development of normal speech articulation. Some of the studies that have attempted to investigate the tongue thrust problem have been criticized for deficiencies in experimental design, particularly on the ground that comparison to adequately selected control groups of normal subjects has been lacking. The present evidence suggests that these problems of unusual tongue function in infants and small children may be causally related to the development of abnormal dentition. There appears to be less evidence of relationships to the development of abnormal speech." (U.S. Department of Health, Education, and Welfare, 1969).

Generally individuals trained in speech pathology are concerned with this problem only if it affects the speech of a child or adult. The issue might be resolved somewhat if these two professions could communicate more effectively as to what is expected of each profession in working with this communication impaired individual. Mention was made of a clinic to be held regarding cleft palate children for

dentists and speech clinicians, which could also include "tongue thrusting" or "reverse swallow" and its' effect upon speech.

Another area of concern for many speech and hearing clinicians was revealed in the attitudinal section. If the physician or dentist did not refer communicatively-impaired patients directly to speech and hearing services what was their management practice for these patients? Only 19 per cent of the responding physicians and 20 per cent of the dentists indicated they themselves counseled with the patient or family regarding the communication problem. This data indicated that little counseling was provided to the patient or family concerning the communication problem. Counseling is usually considered an invaluable part of any rehabilitation program by many speech and hearing clinicians. When it is denied to a patient or his family there is apt to be considerable difficulty in coping with the impairment. Factors which contribute to this difficulty are lack of understanding about the impairment and resulting handicapping effects, the patient's own fears, the family's concern and reactions, and friend's reactions. Neither the family nor the patient knows what to expect. If the physicians and dentists find their time too limited to offer counseling, services of a speech and hearing clinician may be of assistance. Physicians and dentists should at least be informed of individuals and agencies where

counseling could be provided.

Many physicians and dentists who were not satisfied with present services, indicated that inconvenience, travel, distance, expense involved in sending patients long distances was frequently one of the major problems in referring patients. This is a problem which probably will not be resolved because of the distance between cities where specialized diagnostic services are located. Itinerant clinicians working through the State Department of Health, Education, and Welfare might help alleviate this problem somewhat, but the expense of equipment needed for diagnostic work (as audiometric testing, etc.) may not make this feasible. Physicians, dentists, speech and hearing clinicians and others interested in rehabilitating communicatively-impaired adults and children might study the programs that other states, as Michigan and Utah, are using. It is possible a similar program might be feasible in the state of Wyoming.

One physician commented that an audiologist employed by the State Department of Education was needed. Also, there is no individual in the State Department of Education who is qualified to supervise speech therapy programs in the school districts. A person or persons who hold ASHA certification employed through the State Department of Education would be desirable to at least consult with and supervise existing staff of programs and help develop new ones. The problem of having no audiologist or supervising

speech pathologist should be discussed by individuals concerning themselves with rehabilitating communicatively-impaired adults and children. This group could further assess the needs and feasibility of acquiring someone in this capacity.

What implication does this study have in the state of Wyoming? If the reason for referring so few adults and only about half of the children by the physicians and dentists to speech and hearing services is because many physicians and dentists are uninformed of available services, then some avenue of informing the physicians and dentists is necessary. Perhaps in-service training in speech rehabilitation needs to be explored by physicians and dentists. What can be done to improve existing conditions in the state?

There are many unanswered questions concerning Wyoming speech and hearing facilities that provide services to communicatively-impaired adults and children before complete assessment can be made. What do these services offer? Do they provide diagnostic and therapeutic services? Do they work with both speech impaired and hearing impaired? Are clinicians in private practice, employed by school systems, and in state agencies, etc. making their services available to physicians and dentists in the communities where they reside? Surely all these questions must be answered before assessing the adequacy of rehabilitation

programs for communicatively-impaired adults and children. Hopefully, it will be explored by a study in the near future to provide such answers.

Some of the implications of the present study have been discussed somewhat throughout this chapter. Insight has been gained into physician and dentist management of communicatively-impaired adults and children. Problems in referring for speech and hearing services by the medical and dental profession were brought to light. More research to explore and describe management of adults and children by the speech and hearing services is now needed. What problems might the services feel the physicians and dentists are contributing to? Some problems will probably not be resolved, but many might be alleviated if communications between the speech and hearing professionals, the medical profession, the dental profession and others interested in meeting the needs of the communication-impaired adult and child were improved and in many cases developed.

One area of need revealed was that many physicians and dentists would like to be informed of existing speech and hearing services in the state of Wyoming. An annual directory of Wyoming speech and hearing personnel, listing services available throughout the state could be prepared and sent to all physicians, dentists, hospitals, rest homes, and other facilities, or individuals who may have contact with communication-impaired adults and children. The

directory might include specific information as what services are offered by speech and hearing clinicians, (diagnostic or therapeutic, services limited to adults or children); any special services in areas as aphasia, laryngectomies, hard of hearing, etc.; training of the individual offering these services; information regarding specific fees and financial assistance for these services. Other inclusions might be the listing of supportive services and agencies involved in providing rehabilitation services for adults and children, such as OVR, Easter Seal Society for Crippled Children, etc.

Hopefully, this study will have pertinence in helping to develop better communications between the professionals involved in rehabilitating communicatively-impaired adults and children within the state. Hopefully too, better public relations can be developed between the speech and hearing clinicians, physicians, and dentists to discover problems common to the professions of speech and hearing, medicine, and dentistry in rehabilitating communication impaired adults and children. Perhaps clinics can be arranged where speech clinicians can communicate more effectively with physicians and dentists.

CHAPTER V

SUMMARY

It should be the concern of all of us interested and involved in rehabilitation of the communicatively-impaired to ascertain what the medical and dental professions do concerning their management and referral practices of communicatively-impaired adults and children. Physicians' and dentists' referral and management is often the initial step in meeting the rehabilitation needs of communicatively-impaired adults and children. It was the intent of this study to describe management practices of communicatively-impaired adults and children by Wyoming physicians and dentists.

Questionnaires were distributed to 343 Wyoming physicians and 159 Wyoming dentists whose names appeared in a 1970 Wyoming Medical and Dental Association directory. The questionnaire included three sections related to 1) "incidence" of communication impairments, 2) "management" of communication impairments of adults and children not referred for speech and hearing services, and 3) "attitudes" of physicians and dentists in their referral practices relative to their patients and non-medical rehabilitation services available to them.

RESULTS

One of every three physicians and one of every two

dentists returned the questionnaire with data used in the study. Returns came from all counties of the state except Crook and Niobrara counties. The data provided were considered indicative of physician and dentist management.

The physicians reportedly referred 36 per cent of those adults with speech and hearing problems and 52 per cent of those children with speech and hearing problems, whom they had seen in their practices, for speech and hearing services. The dentists referred 17 per cent of those adults with speech and hearing problems and 47 per cent of those children, whom they had seen in their practices, for speech and hearing services. The number of communicatively-impaired adults and children, who were referred, was more frequently made to specialized services in the state than out of the state.

Approximately one-half of the responding physicians gave indications to why they did not refer patients to speech and hearing services. Among reasons cited were: 1) patients deemed not always amenable to therapy; 2) available services lacking; and 3) problem not amenable to therapy. Constituting the majority of specific problems in referring adults and children to speech and hearing services as noted by the responding physicians were: 1) inconvenience, travel, distance, and expense involved in sending patients long distances; 2) lack of available services for hard of hearing and brain damage patients and lack of

competent services for diagnosis and therapy. Twenty-nine per cent of the responding physicians indicated that Wyoming speech and hearing services were "limited", "inadequate", or "poor", while only 10 per cent indicated such services were "good".

Approximately one-third of the dental respondents gave indications as to why they did not refer. Reasons cited were lack of available services and more training was needed by the dentists in recognizing speech and hearing problems. The majority of specific problems they had in referring patients to speech and hearing services were: 1) inconvenience, travel, distance, and expense; 2) lack of available and competent services especially in working with tongue thrust problems; 3) and lack of understanding between speech clinicians and dentists regarding problems of cleft palate patients. Thirty-nine per cent of the dentists with knowledge of existing services indicated services were "good", "fair", or "adequate", while 22 per cent indicated services were "inadequate" or "poor".

Implications of the present study were: 1) Needs were expressed for improved and more consistently available services in the area of communicatively-impaired adult rehabilitation, 2) Needs were expressed for publicized information regarding Wyoming referral sources in speech and hearing, 3) Needs were expressed for more communication and understanding from the speech and hearing clinicians and

medical and dental professions regarding communication problems.

APPENDIX A

Beverly Currey
Speech Clinician
322 Elizabeth Drive
Riverton, Wyoming
March 18, 1971

Dear Doctor _____:

A study by a Wyoming Speech Clinician is being undertaken to describe current rehabilitation management of adults and children with communication problems. The study is done with the approval of the Wyoming Medical and Wyoming Dental Associations. You are asked to please assist in this study by completing the enclosed questionnaire and returning it in the self-addressed, stamped envelope.

Your responses will help ascertain how you, as a practitioner, typically manage the rehabilitation of communication-impaired adults and children. The questions relate to incidents and types of communication problems of adults and children. Also included in the questionnaire are general questions which, hopefully, you will answer. Please feel free to comment or express opinions and attitudes you may have. From the results of this study we may discover how to better meet the future communication needs of speech and hearing handicapped persons.

Individual replies will be kept confidential and anonymity of participants is guaranteed. Your name is requested only that we may know who has not yet returned the questionnaire. Should you desire a summary of the results of this study, it will be sent to you.

The success of the study depends upon the assistance of such persons as yourself. Thank you for your assistance.

Yours truly,

Beverly Currey
Speech Clinician

Medical Consultants:

John Rousseau, M.D.
(General Practice)
Laurence Gee, M.D.
(Pediatrician)

Dental Consultants:

Burton Stockhouse, D.D.S., M.S.
(Orthodontist)
Ray S. Gossett, D.D.S.

WYOMING



State Medical Society

P. O. BOX 1387
CHEYENNE,
WYOMING 82001
PHONE 624-7305

OFFICE OF THE EXECUTIVE SECRETARY
Robert G. Smith

April 15, 1971

MEMO

TO: Members, Wyoming State Medical Society
FROM: Bob Smith, Executive Secretary
SUBJECT: Research Project

Mrs. Beverly Curry, a speech therapist located in Riverton, Wyoming, is currently conducting a research project which can provide valuable information to the medical profession in Wyoming.

She has contacted our State Society and explained the project and the program has the endorsement of the officers of the Wyoming State Medical Society.

Any assistance which you can provide Mrs. Curry will be gratefully appreciated.

Very truly yours,

A handwritten signature in cursive script that reads "Robert G. Smith".

Robert G. Smith
Executive Secretary

On the following chart, will you please estimate the number of adults and children you have treated for medical or dental reasons and referred or not referred for speech and hearing services in the past two years.

The following definitions indicate how these terms are being used in this study, although it is recognized they may be used differently in other situations:

Aphasia - An acquired language disorder due to brain damage - disturbance in one or more areas; speaking, writing, arithmetic, listening, reading, comprehension.

Dysarthria - Inability to execute voluntary movements for speech caused by motor disfunction of the speech musculature, as sometimes seen in Parkinson's Disease and Multiple Sclerosis.

Voice Problems - Disorders of quality, such as nasality, vocal cord nodules, hoarseness, abnormal pitch level; intensity disorders.

Orofacial Abnormalities - Any disease, accident or genetically produced anomaly of associated structures serving speech and associated with speech, voice, or language problems.

COMMUNICATION PROBLEMS OF ADULTS AND CHILDREN

1. WOULD YOU PLEASE ESTIMATE THE NUMBER OF COMMUNICATIVELY IMPAIRED ADULTS AND CHILDREN YOU HAVE TREATED FOR MEDICAL OR DENTAL REASONS IN YOUR OFFICE THE PAST TWO YEARS? ALSO, PLEASE ESTIMATE THE NUMBER YOU HAVE REFERRED OR HAVE NOT REFERRED FOR SPEECH AND HEARING SERVICES AND SPECIFY REFERRAL SOURCE.

PROBLEMS	TOTAL NO. OF ADULTS	NO. OF ADULTS REFERRED FOR SPEECH/HEARING SERVICES	NO. OF ADULTS NOT REFERRED FOR SPEECH/HEARING SERVICES	TOTAL NO. OF CHILDREN	EST. NO. OF CHILDREN REFERRED FOR SPEECH/HEARING SERVICES	EST. NO. OF CHILDREN NOT REFERRED FOR SPEECH/HEARING SERVICES	REFERRAL SOURCE (SPECIFIC CITY, ANOTHER PHYSICIAN, VRA, REST HOME, ETC.)
EXAMPLE: Aphasia	10	4	-	3	2	-	U. of Wyo. speech and hearing clinic
a) Brain damage due to injury (birth, accident, etc.) disease or stroke - 1) Aphasia							
2) Dysarthrias							
b) Language delayed children							
c) Any communication problem due to Orofacial Abnormalities							
d) Loss of voice due to Laryngectomy							
e) Stuttering							
f) Functional articulation problems							
g) Voice problems							
h) Cleft palate speech							
i) Those sometimes seen in Cerebral Palsy							
j) Hard of hearing or deafness							
k) Reverse swallow which may interfere with speech							
l) Any other communication problem not listed							

2. HOW DO YOU TYPICALLY MANAGE COMMUNICATIVELY IMPAIRED ADULTS AND CHILDREN THAT YOU DO NOT REFER FOR SPEECH AND HEARING SERVICES? (EXAMPLE, COUNSELING PARENT OR GUARDIAN; ETC.)

3. IF YOU DO NOT TYPICALLY REFER COMMUNICATIVELY IMPAIRED ADULTS AND CHILDREN FOR SPEECH AND HEARING SERVICES, WOULD YOU PLEASE INDICATE WHY YOU DO NOT BY CHECKING THE APPROPRIATE ANSWER OR GIVING YOUR OWN ANSWER?

- Patient not always amenable to therapy
- Available services are lacking
- Physician or Dentist has no reason to refer
- Problem not amenable to therapy
- Not aware of relevancy of speech and hearing services to the problem
- No comment
- Other _____

4. ARE SPEECH AND HEARING SERVICES FOR COMMUNICATIVELY IMPAIRED ADULTS AND CHILDREN AVAILABLE IN YOUR COMMUNITY? PLEASE COMMENT OR CHECK THE STATEMENT THAT APPLIES.

- Yes, but _____
- No services are available
- I am uninformed if services are available
- Only part-time services are available
- Services are not consistent
- Itinerant services are available
- Other _____

5. IN YOUR OPINION, HOW ADEQUATE ARE THE SPEECH AND HEARING SERVICES AVAILABLE TO ADULTS AND CHILDREN IN THIS STATE?

- Good Fair Adequate Inadequate
 Poor Uninformed
 Any other comment _____

6. ARE THERE PROBLEMS THAT YOU ARE AWARE OF OR CONCERNED WITH IN REFERRING COMMUNICATIVELY IMPAIRED ADULTS AND CHILDREN FOR SPEECH AND HEARING SERVICES?

- Inconvenience - travel, distance, expense involved in sending patients long distances
- Lack of available services for diagnosis and therapy
- Delays and long waiting periods upon referral (communications between referral sources and services are poor)
- Lack of competent, trained personnel - lack of stable and consistently available services
- Lack of available services in the hard-of-hearing and brain damage (stroke) patients
- Not aware of any problems.
- Other _____

If you care to comment, or express opinions or offer comments raised by this questionnaire - - please feel free to do so.

We will detach this portion of the questionnaire upon receipt and no further identification of the questionnaire with the respondent will be made.

Should you wish to receive a summary of this study, check below and it will be made available to you. Anonymity of all participants and the reporting of information in the study is guaranteed. Your name is requested only that we may know who has not yet returned the questionnaire and also, who would like to receive a summary of the results.

Name of Physician or Dentist

I would like to receive the results of this study.

APPENDIX B

PHYSICIANS' COMMENTS TO THE QUESTIONNAIRE:

"No management now, I would if services were available."

"This whole study (problems, etc.) could be given in a 1 hour program to all the Doctors - perhaps a 1 hour program?"

"Speech services available in this state are pathetic. Not enough emphasis has been placed on this area of education and services at the State University."

"I very seldom see all communication problems. I do not attempt to provide more than medical care and emotional support to such people - I refer all for expert care."

"Why such small print on the questionnaire?"

"Am semi-retired, and do not have a pediatric practice, but am whole heartedly in accordance, with your program. Should have had your services 7 years ago when stricken with cerebral hemorrhage, it hitting in the speech center. Had a complete aphasia for a week. Am still affected if I want to get emphatic or get too enthusiastic."

"In the last 18 yrs., I have seen these problems infrequently and had no difficulty referring these to someone who could care for them. Considering our population, density and the relatively few cases and availability for care - I think we are well taken care of."

"I am a general surgeon and would rarely have occasion to use your services necessary as it is."

"I do not have time to fill this out."

"I am an old man (87) my practice is limited to a few families that I have treated for a number of years. I heartedly approve of your work and would refer any cases if I had occasion to do so."

"I would like to know of sources of help for children with learning difficulties - relative to visual perception."

"I know of what I speak - as I have a son with a speech problem."

"My own conclusions are that the patients in my busy general practice are either 1) being channeled to therapy by other sources or 2) not complaining to anyone and therefore not

being seen. I doubt the proper use of the word "study". Statistics on the approximate number of speech and hearing impaired people in 350,000 population are available elsewhere. If you received little support, I would suggest that it is because you are 1) asking for "statistics" on an anecdotal basis 2) the family physician is rarely the first person consulted in the most important group - children; 3) the extensiveness of your form is a burden unjustified by 1 and 2."

"I fail to see it's purpose. As physicians we get literally dozens of such things every month and the more we get the more we ignore them."

"Being better informed of services available within Wyo. would be of great assistance."

DENTISTS' COMMENTS TO THE QUESTIONNAIRE:

"I would need more training in diagnosis of problems."

"Tongue thrust is biggest problem. I've found most speech therapists are poorly trained in this area."

"Cleft palates are a problem due to lack of understanding between speech therapists and dentists."

"Poor training in diagnosis and treating tongue thrust problems."

"I have never considered the above problems to be my responsibility; hence I do not keep track of them."

"These people seem to get attention and care somewhere. Not in my practice."

"These patients are already undergoing treatment when I see them."

"I think a clinic prepared for dentists and speech therapists to discuss cleft palate speech in relation to obturators, speech bulbs, etc. would help the cleft palate program in the state."

"If everyone is as unsure of numbers as I was, I don't feel the study will be very accurate."

"I am not as well informed as I should be but I am no longer in private practice and am employed by the veteran's administration and teach at Sheridan College. Please send information from this study for the dental hygienists at Sheridan College."

"The only communication problems I've come in contact with are people who speak only Spanish and don't understand English."

"Although no one has ever asked me to treat or refer them for help in speech and hearing problems, I am sure I should know where they could receive care, if they did ask. I am relatively new in Wyoming and I am sorry to say that I don't know what is available."

"Most of the therapists to whom I have referred patients work alone and it is difficult to keep track of referred patients and their progress."

"In my profession there exists both a lack of interest and education along these lines. One reason for this is because at this level the treatment time involved becomes too long for the dentist to help much. There is, in my opinion, need for more learned personnel."

"If you want an accurate questionnaire, allow the physician or dentist a year to take a complete survey. This method is far from accurate."

"Being a dentist I have hesitated even inquiring about speech therapy among my patients as I just assumed this would be treated as a medical problem and any referrals would come from their family physician."

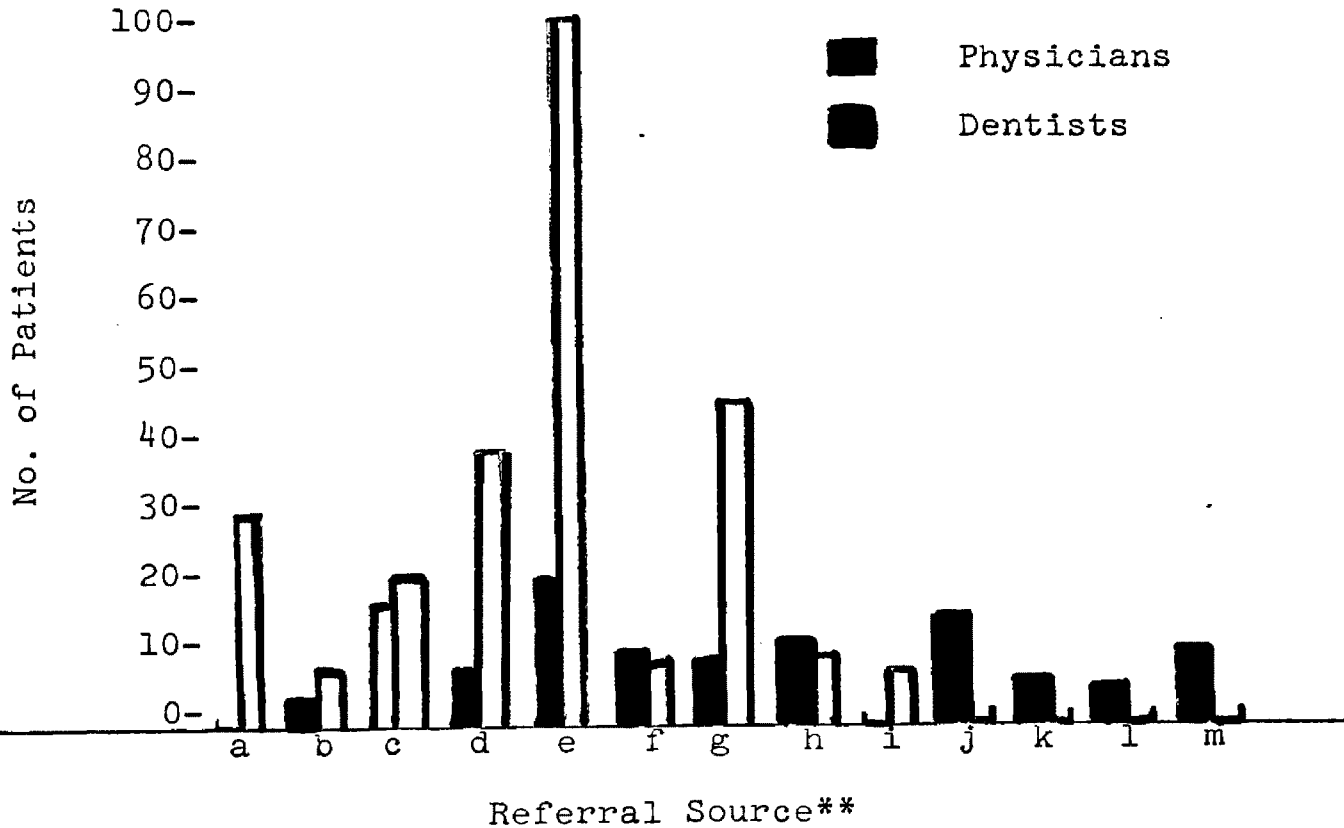
"I gave up on referring speech problems and reverse swallowing problems long ago, as part time speech therapists were forced to put too much responsibility on the parents and parents don't or won't follow up on home requirements."

"The problems I see are of an orthodontic nature or a cleft palate. The other speech problems I see are usually being cared for through welfare. The orthodontic problems I refer usually to an orthodontist. I would like to have more information of how the problems are cared for and what institutions and services are available."

APPENDIX C

NUMBER* OF PATIENTS REFERRED BY DENTISTS AND PHYSICIANS AND REFERRAL SOURCE

IN STATE



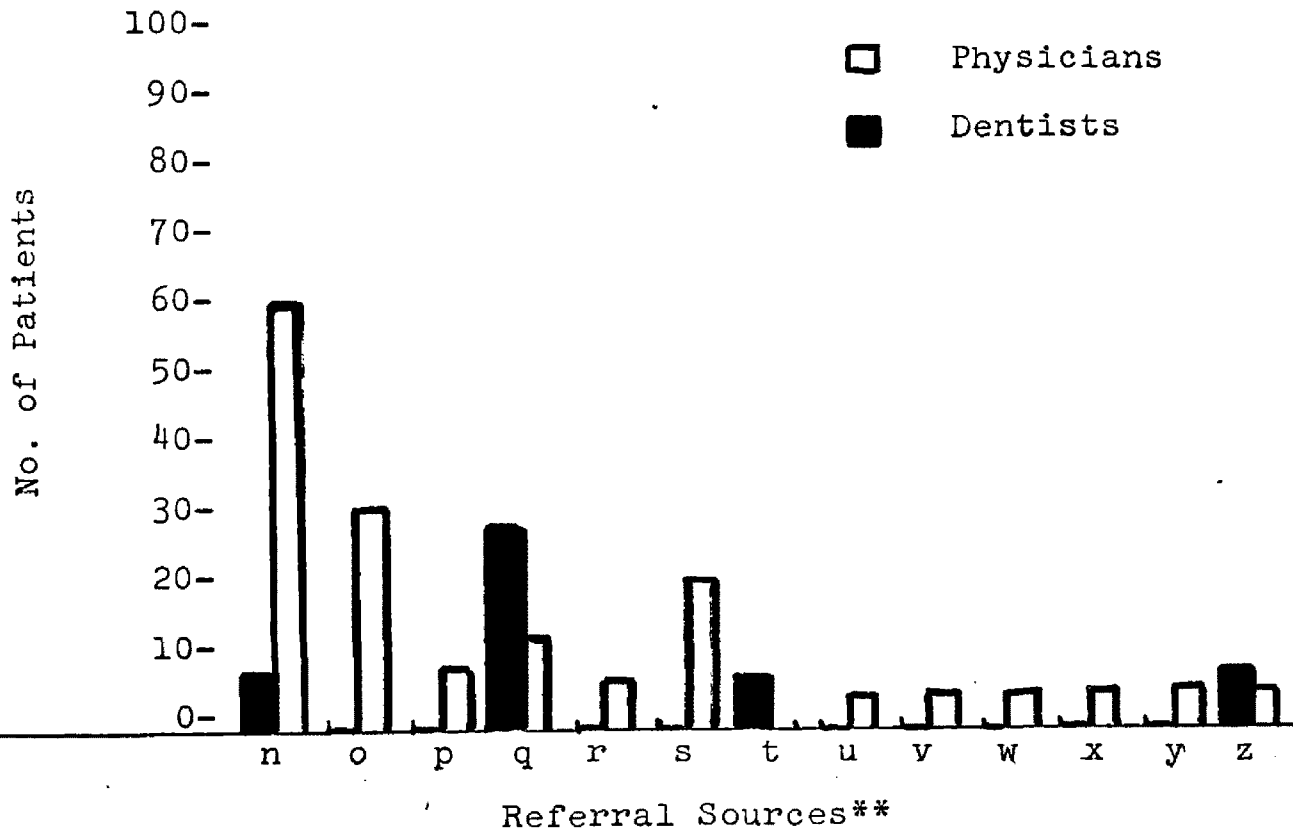
- a. University of Wyoming
- b. Wyo. Cleft Palate
- c. Wyo. Crippled Children
- d. Another M.D. (Wyo.)
- e. Local Speech Clinician
- f. Mental Health Center (Wyo.)
- g. Gottsche Rehabilitation Center
- h. V.A.
- i. Hearing Aid Dealer
- j. Orthodontist
- k. Wyoming School for the Deaf
- l. State Health Department
- m. School Nurse

*Estimated number as reported in questionnaire.
 **Referral sources shown by letters.

APPENDIX C

NUMBER* OF PATIENTS REFERRED BY DENTISTS AND PHYSICIANS AND REFERRAL SOURCE

OUT OF STATE



- Referral Sources**
- n. Denver, Colorado
 - o. CSU Speech Clinic
 - p. U. of Colorado
 - q. Salt Lake City, Utah
 - r. U. of Utah
 - s. Billings, Mont.
 - t. Rapid City, S.D.
 - u. U. of Kansas
 - v. John Tracy Clinic
 - w. U. of Nebraska
 - x. Washington, D.C.
 - y. UCLA
 - z. Idaho Falls, Idaho

*Estimated number as reported in questionnaire.
 **Referral sources shown by letters.

SELECTED BIBLIOGRAPHY

- American Medical Association, Guides to the Evaluation of Permanent Impairment, Committee on Medical Rating of Physical Impairment, Journal of the American Medical Association, 168(4): 445, September 27 (1958).
- Bloomer, Harlan H., "Speech Defects Associated with Dental Abnormalities and Malocclusions":, Handbook of Speech Pathology, Edited by Lee Edward Travis, New York: Appleton-Century-Crofts, Inc., 1957
- Cochran, William G., Sampling Techniques, second edition, John Wiley and Sons, Inc., 1963.
- Duffy, Susan Gifford, The Management and Referral by Physicians in Montana of Communicatively-Impaired Adults to Speech and Hearing Services, Unpublished Masters Thesis, University of Montana, 1967.
- Johnson, W., Anderson, V., Kopp, G., Mase, D., Schuell, H., Shover, J., and Wolfe, W.: ASHA Committee on the Mid-century Whitehouse Conference, Speech Disorders and Speech Correction, Journal of Speech and Hearing Disorders, 17:129-137, 1952.
- Kish, Leslie, Survey Sampling, John Wiley and Sons, Inc., New York, 1965.
- Levin, Nathaniel M. (editor), Voice and Speech Disorders, Charles C. Thomas, 1962.
- Lierle, Dean M., Guide for the Evaluation of Hearing Impairments, A report of the Committee on Conservation of Hearing of the American Academy of Ophthalmology and Otolaryngology, March-April, 1959.
- "Life-Span Reaches All-Time High", Journal of the American Medical Association, 178(7): 45, November, 1961.
- Milisen, Robert, "The Incidence of Speech Disorders", Handbook of Speech Pathology, edited by Lee Edwards Travis, New York: Appleton-Century-Crofts, Inc., 1957.
- 1970 Census Population, Number of Inhabitants, Wyoming, U.S. Department of Commerce, Bureau of Census, November, 1970.

Population Estimates and Projections, Number 446, U. S.
Department of Commerce, Bureau of Census, June 22, 1970.

Programs for Exceptional Children, section 232(e), State
Department of Education, Division of Exceptional Children,
Cheyenne, Wyoming, (1970-71).

Teacher Certification Regulations for Wyoming Public Schools,
State Department of Education, January, 1971.

U. S. National Institute of Neurological Diseases and Stroke,
Human Communication and It's Disorders - An Overview,
The National Institute of Neurological Diseases and
Stroke, Edited by R. Carhart, U. S. Department of Health,
Education, and Welfare, 1969.

Van Riper, Charles, Speech Correction: Principles and
Methods, Third Edition, Englewood, New Jersey: Prentice-
Hall, 1954.

Warnock, Douglas L., Final Report Statewide Planning for
Vocational Rehabilitation Services, Wyoming Division of
Vocational Rehabilitation, November, 1968.

Wright, George N., and Trotter, Ann Beck, Rehabilitation
Research, The University of Wisconsin, Madison, 1968.

Wyoming School Statistics, State Department of Education,
Cheyenne, Wyoming, 1970-71.