

Heartland Tele-Medicine Update



Heartlands Large Assembly
2015



Clinical Geneticists (MD's)

United States

- ~ 1000 clinical geneticists
- Average 0.5 FTE seeing patients
- 1/300,000 Americans
 - 3.5 / million
- Ratio of geneticist to children
 - 1:5,748,082
- 0.15% of all MD physicians
- 16 trainees for all US 2010



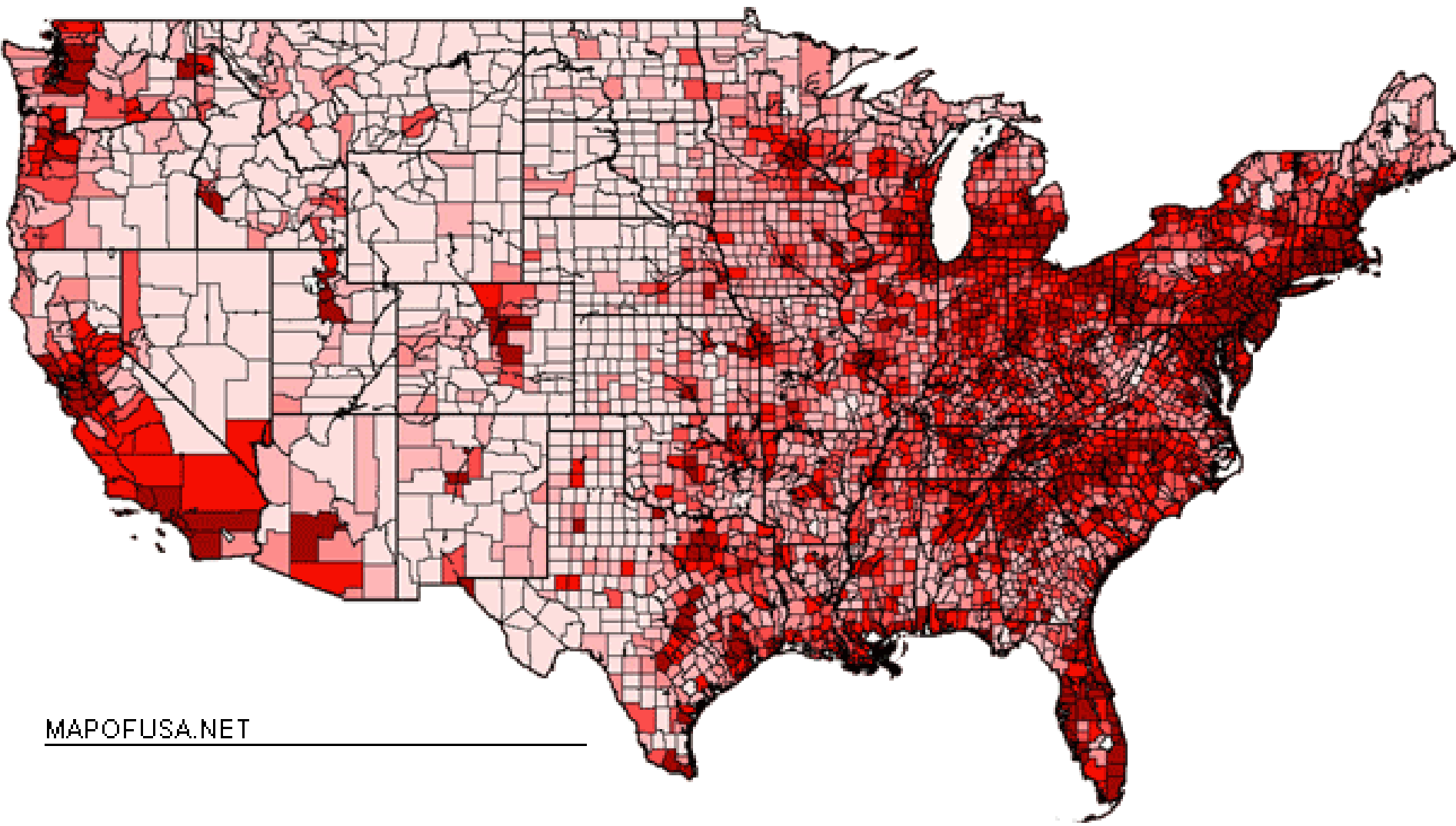
Workforce Study

- Global deficiency in health care providers in clinical genetics
- Most critical shortage for metabolic geneticists
- Current training output is at a rate that is not even close to keeping up with the turnover rate



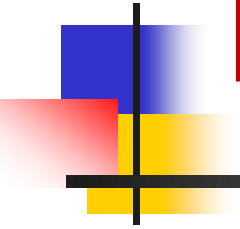
Demography of the Central US

- Large expanses of land
- Small populations
 - 'Frontier' counties
- Limited number of primary care providers, let alone specialty providers

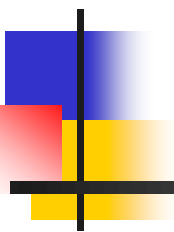


MAPOFUSA.NET

THINGS THAT CAN BE DONE BY TELEMEDICINE



With current technology, any activity that you can do in person can be accomplished as a tele-genetics service



B. Schaefer



Challenges

- 7 deadly words of program development
- Techno-phobia
- Administrative inertia
- Cost
- Lack of adequate IT infrastructure
- Lack of colleague buy in
- Where to go for answers



Dysmorphology

- Completely feasible
- Technology dependent
- Training of on-site personnel
- Our own 'case-control studies' showed nothing missed



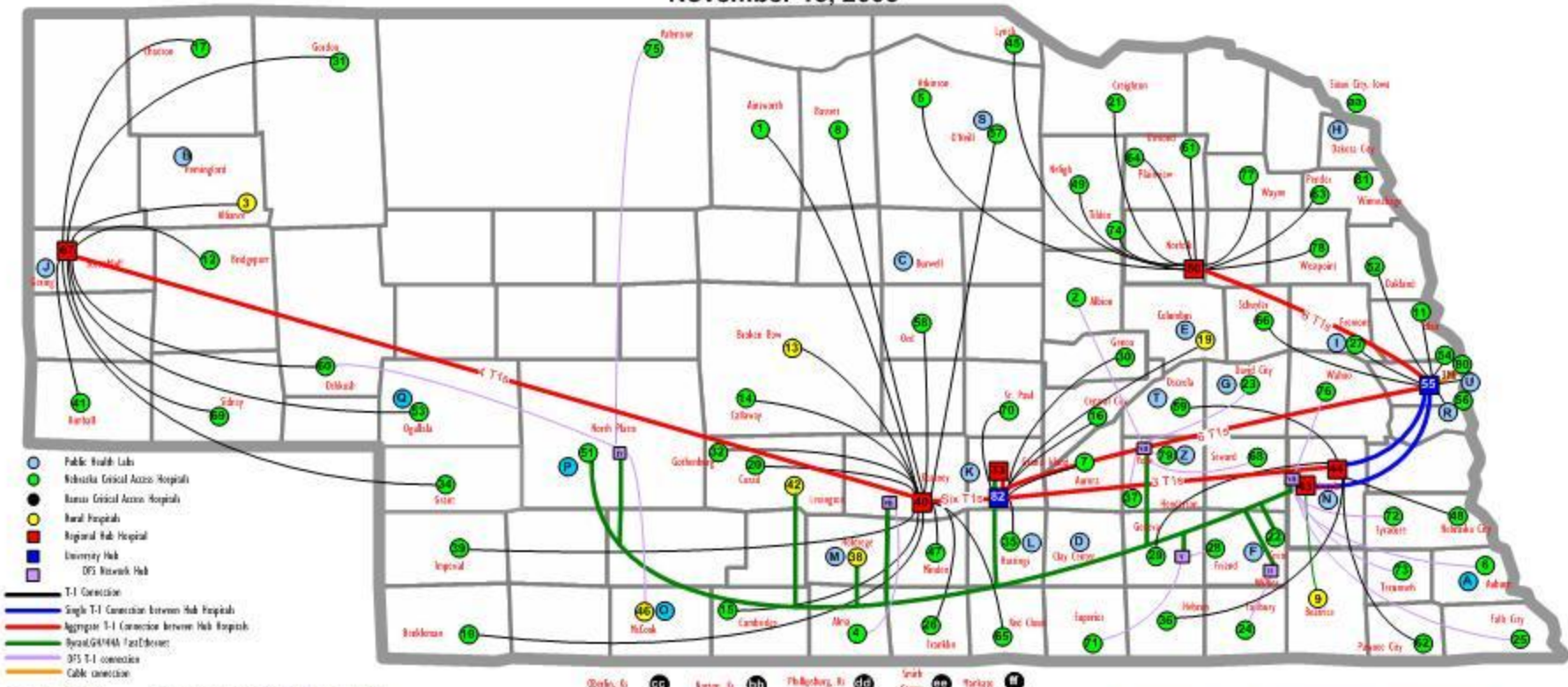
Statewide Telehealth Services for Children with SHCN

- 3) Discipline specific consultative services on difficult cases (available for all MMI disciplines listed above)
- 4) Continuing education / training. An ongoing series of special topics, issues in the care of CSHCN, and new updates would be provided. These activities would be open to a broader audience than those for direct patient services.
- 5) Quality assurance monitoring of local teams. This would include help with Federal compliance reviews, ongoing team monitoring, and technical assistance in the development of local QA activities.
- 6) Provision of quaternary interdisciplinary services only available in Nebraska metropolitan areas

Speciality services in complicated disorders may only be found in Omaha and sometimes Lincoln. Even if the primary discipline is available to the patient, complex cases may require quaternary services. Examples of such services would include the interdisciplinary teams as well as services in sleep disorders, enuresis / encopresis, autism and the neurobehavioral team.

Nebraska Telehealth Network

November 15, 2005



Source: 11/15/2005 LDR
 C:\networking\telehealth\nebraska\shs\shs0001\nebraska_11162005

Nebraska Hospitals

1. Answorth	Brown County	28. Friend	Warren Memorial	55. Omaha	University of Nebraska Medical Ctr
2. Albion	Boone County	29. Geneva	Filmore County	56. Omaha	Alegant Health Immanuel
3. Alliance	Box Butte General	30. Genoa	Genoa Community	57. O'Neill	Avera St. Anthony's
4. Alma	Harlan County Health Sys	31. Gordon	Gordon Memorial	58. Ord	Valley County
5. Atkinson	West Holt	32. Gothenberg	Gothenberg Memorial	59. Osceola	Annie Jeffrey
6. Auburn	Nemaha County	33. Grand Island	St. Francis Medical Center	60. Osikosh	Garden County
7. Aurora	Memorial	34. Grant	Perkins County	61. Osmond	Osmond General
8. Bassett	Rock County	35. Hastings	Mary Lanning Memorial	62. Pawnee City	Pawnee County
9. Beatrice	Beatrice Community	36. Hebron	Thayer County	63. Pender	Pander Community
10. Benningman	Dundy County	37. Henderson	Henderson Health Services	64. Plainview	Plainview Public
11. Blair	Memorial Community	38. Holdrege	Phelps Memorial	65. Red Cloud	Webster County
12. Bridgeport	Morrill County	39. Imperial	Chase County	66. Schuyler	Alegant Health
13. Broken Bow	Jemie McPherson	40. Kearney	Good Samaritan Health Sys	67. Scottsbluff	Regional West Medical Center
14. Callaway	Callaway District	41. Kimball	Kimball County	68. Seward	Seward Memorial
15. Cambridge	Tri-Valley Health System	42. Lexington	Tri-County	69. Sidney	Memorial Health
16. Central City	Litzenberg Memorial	43. Lincoln	Bryan/LGH	70. St. Paul	Howard County
17. Chadron	Chadron Community	44. Lincoln	St. Elizabeth's	71. Superior	Broadstone Memorial
19. Columbus	Columbus Community	45. Lynch	Nebraska Valley	72. Syracuse	Community Memorial
20. Cozad	Cozad Community	46. McCook	Community Hospital	73. Tecumseh	Johnson County Hospital
21. Creighton	Creighton Area	47. Minden	Kearney County	74. Tilden	Tilden Community
22. Crete	Crete Area	48. Nebraska City	St. Mary's	75. Valentine	Cherry County
23. David City	Butler Area	49. Neligh	Faith Regional Health Svcs	76. Wahoo	Saunders County
24. Fairbury	Jefferson County	50. Norfolk	Great Plains Regional Medical Ctr	77. Wayne	Providence
25. Falls City	Community Medical Ctr.	51. North Platte	Oakland Memorial	78. West Point	St. Francis
26. Franklin	Franklin County	52. Oakland	Ogallala Memorial	79. York	York General
27. Fremont	Fremont Area	53. Ogallala	Ogallala Community Hospital	80. Omaha	Creighton Hospital
		54. Omaha	Methodist Hospital	81. Winnebago	Winnebago Indian Hospital
				82. Grand Island	College Park

Nebraska Public Health Depts.

A. Auburn	Southeast District Health Dept.
B. Hemingford	Panhandle Public Health Dept.
C. Burwell	Loup Basin Public Health Dept.
D. Clay Center	Clay County Health Dept.
E. Columbus	East Central District Health Dept.
F. Crete	Public Health Solutions
G. David City	Butler County Health Dept.
H. Dakota City	Dakota County Health Dept.
I. Fremont	Three Rivers Health Dept.
J. Gering	Scotts Bluff County Health Dept.
K. Grand Island	Central District Health Dept.
L. Hastings	South Heartland District Health Dept.
M. Holdrege	Two Rivers Public Health Dept.
N. Lincoln	Lincoln-Lancaster County Health Dept.
O. McCook	Red Willow County Health Dept.
P. North Platte	West Central District Health Dept.
Q. Ogallala	Sandhills District Health Dept.
R. Omaha	Douglas County Health Dept.
S. O'Neill	North Central District Health Dept.
T. Osceola	Pork County Health Dept.
U. Papillion	Sarpy/Cass Dept. of Health and Wellness
V. Trenton	Southwest Nebraska Public Health Dept.
X. Wayne	Northeast Nebraska Public Health Dept.
Y. Wsner	Eikhorn Logan Valley Public Health Dept.
Z. York	Four Corners Health Dept.

Hospitals From Other States

aa. Sioux City, Iowa	
bb. Norton, Ka	Norton County Hospital
cc. Oberlin, Ks	Decatur County Hospital
dd. Phillipsburg, Ks	Phillips County Hospital
ee. Smith Center, Ks	Smith County Memorial
ff. Manhattan, Ks	Jewell County Hospital

Dark Fiber Solutions Network Hubs

i. Lincoln Bryan LGH, 1600 S. 48th	iv. NP GPRMC, 601 W. Leota St., North Platte
ii. Wilber Head End, 801 N. Main, Wilber	v. Geneva Head End, 300 C. St. Geneva
iii. DFS York, 600 1/2 Grand Ave, York	vi. Kearney Head End, 804 Ave. A., Kearney



Transition Consultation

- Interdisciplinary team
 - Consumer / Family Advocate
 - Nurse
 - Adult psychiatrist (dual diagnosis)
 - Pharmacist
 - Developmental Pediatrician
 - Med-Ped physician
 - Ancillary (Genetics, Dentistry)

Flatlands Disability Network

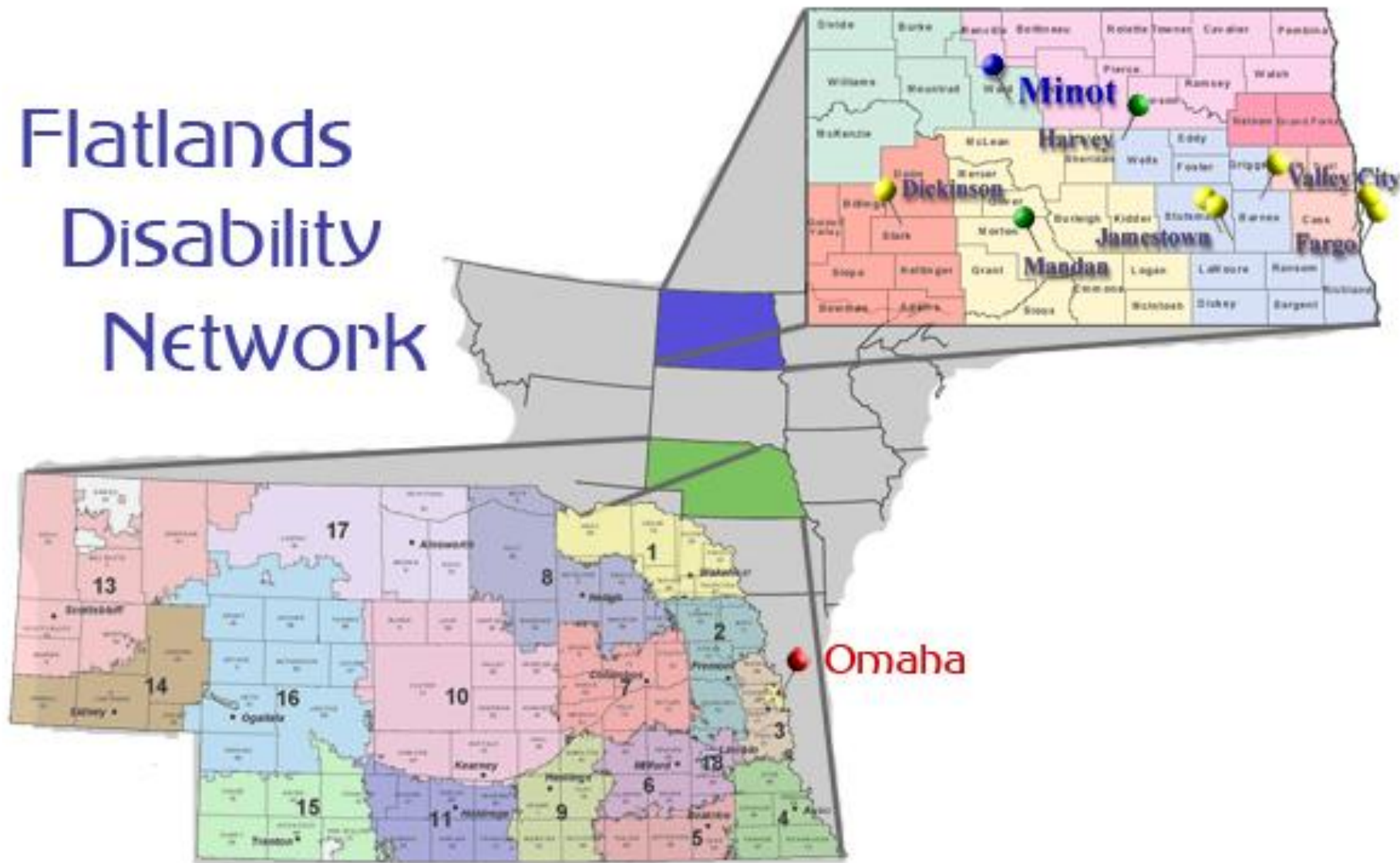


Flatlands Disability Network - Activities



The Flatlands Disability Network provides a mechanism to provide training, therapy services, supervision, and coordination in the delivery of services to people with disabilities. Specific services such as speech / language therapy, wellness training, nutrition counseling, and behavioral health monitoring are delivered over the FDN. More comprehensive descriptions of the services provided over FDN will be provided here as they become available.

Flatlands Disability Network





Shriner's Cooperative Agreement

USE AGREEMENT

THIS USE AGREEMENT entered into as of this _____ day of _____, 2006, by and between Munroe Meyer Institute ("MMI") and Shriner's Hospital for Children – Twin Cities ("SH").

WHEREAS, the parties are affiliated in providing pediatric health services and education, and

WHEREAS, SH desires to provide telemedicine health services ("Services") to its patients utilizing for this purpose ("Usage Purpose") Telehealth equipped facilities ("Premises") at MMI located at Annex 8 Building, 412 Saddle Creek Road, Omaha Nebraska,

WHEREAS, MMI desires to make such space available to SH to use for such purpose, and

WHEREAS, each party represents and warrants that it has the right to enter into this USE AGREEMENT (hereinafter "AGREEMENT"), upon the terms and conditions hereinafter set forth;

NOW THEREFORE, in consideration of the premises and mutual covenants herein contained, the parties hereto agree as follows:

1. TERM

This AGREEMENT, as it applies to SH's right to use the Premises, shall be for a term of one (1) year from the date of this AGREEMENT and renewable for one year periods by mutual consent of the parties.



For Telehealth
Technical
Assistance,
please call
9-8090



THINGS WE ARE DOING IN TELE-GENETICS IN THE HEARTLAND



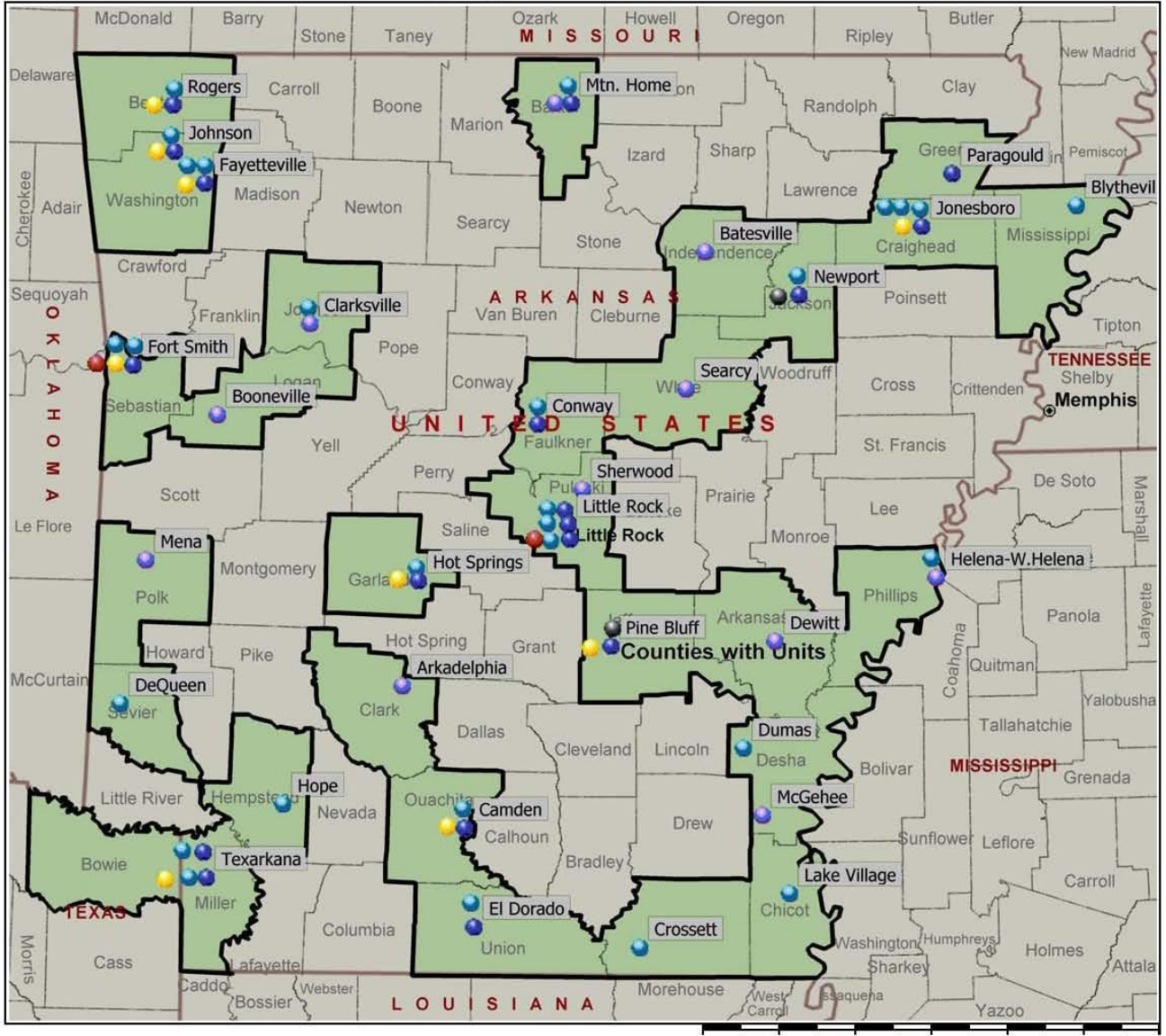


1. Genetic Emergencies

- Consultation and recommendations to outlying NICU's and nurseries
 - Triage
 - Management
 - Diagnoses

Telehealth Unit Mapping 5.27.10

- Pushpins**
- TOUCH
 - Tele-nursery
 - ARSAVES-Spoke sites
 - ARSAVES-Hub sites
 - ANGELS-NBS
 - ANGELS
- Custom territories**
- Counties with Units



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Additional NICU support

- Wichita
- Tulsa
- Overland Park, KS



2. Outreach Clinics

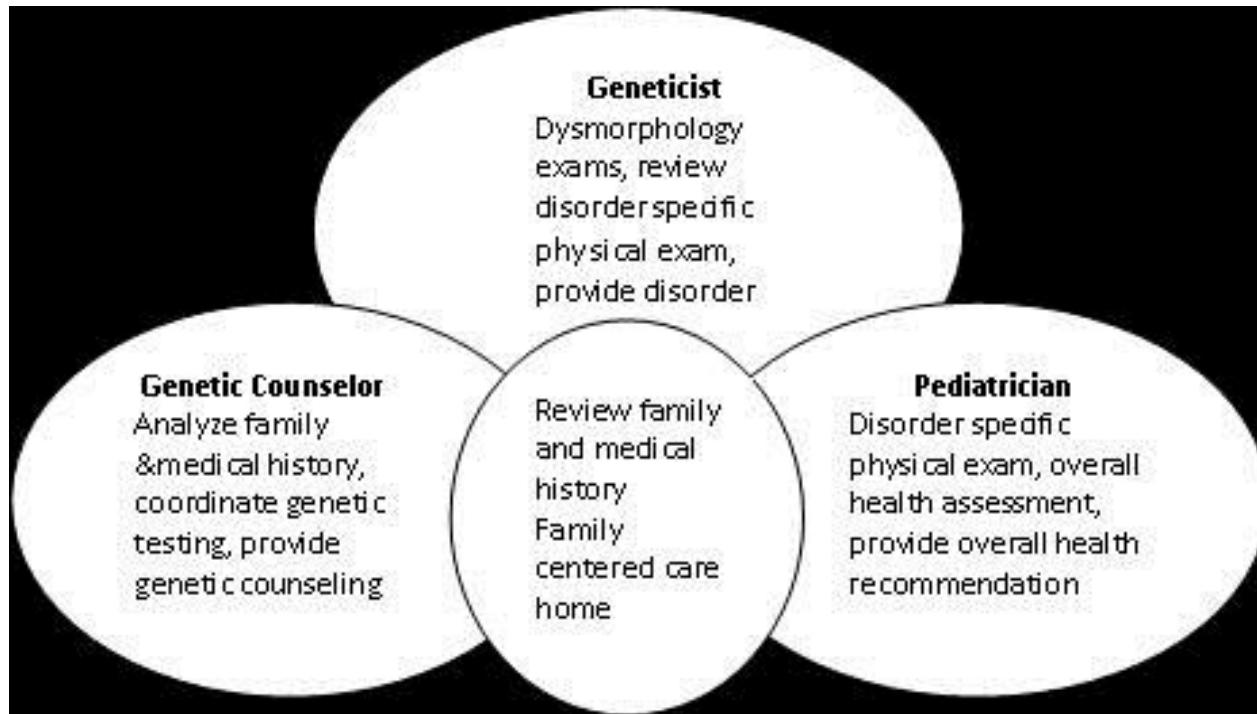


Outreach Clinics

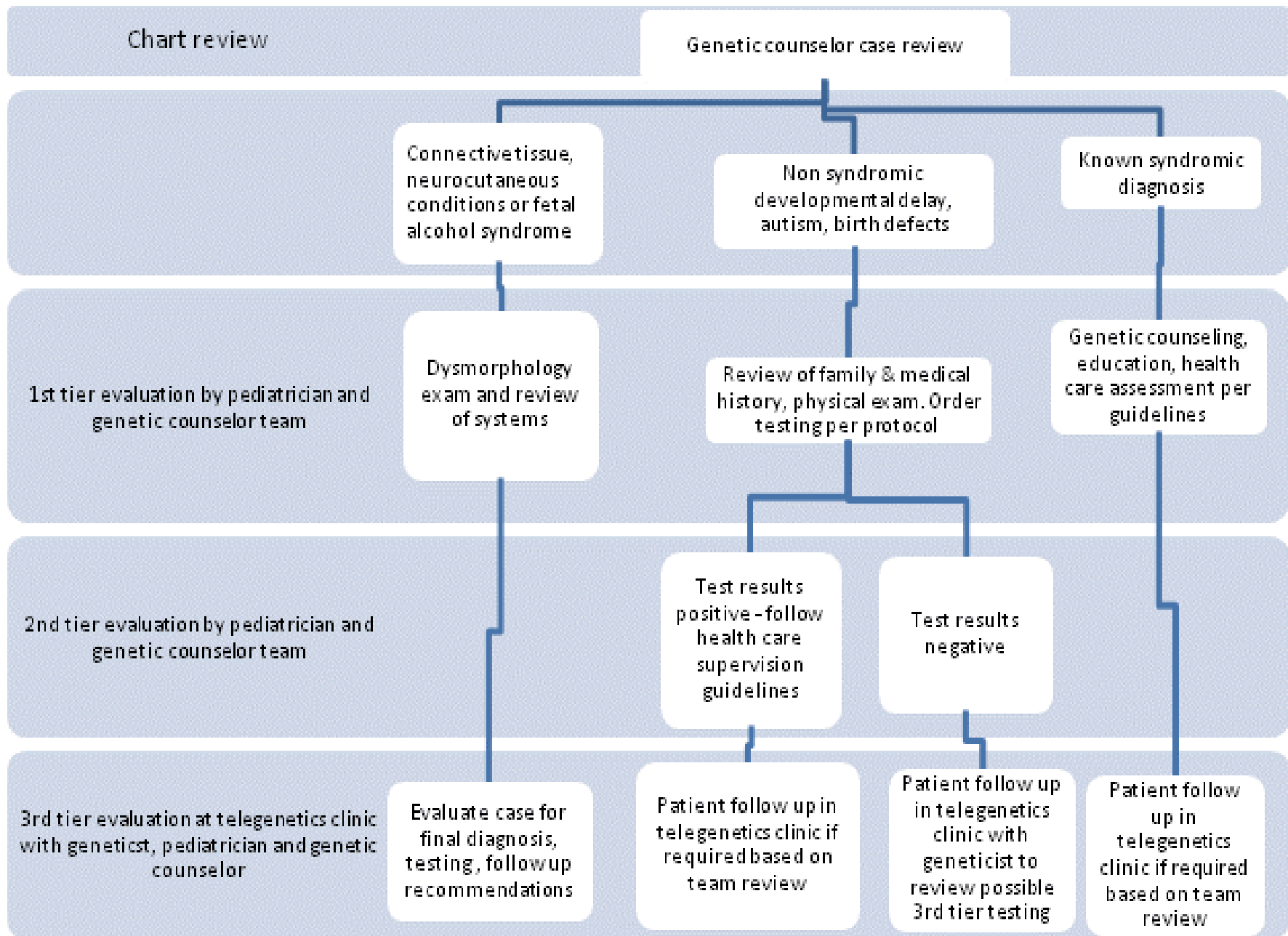
- Wichita
 - 1 genetic counselor
 - UAMS physician support (telemed)
 - Pediatric physician



Overlapping Roles in Telegenetics Clinic



Adapted from Williamson, L., LeBlanc, D. (2008)





3. Ongoing Therapies

- Metabolic disorders particularly good fit
- Case management
- Triage

4. Diagnostic Dilemmas

National Birth Defects Center

Teleconference

[June 17, 2008](#)

[May 6, 2008](#)

[April 2, 2008](#)

[March 5, 2008](#)

[December 19, 2007](#)

[October 30, 2007](#)

[September 18, 2007](#)

[July 18, 2007](#)

[June 12, 2007](#)

[May 22, 2007](#)

[April 17, 2007](#)

[March 20, 2007](#)

[February 28, 2007](#)

[December 19, 2006](#)

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ARTICLE

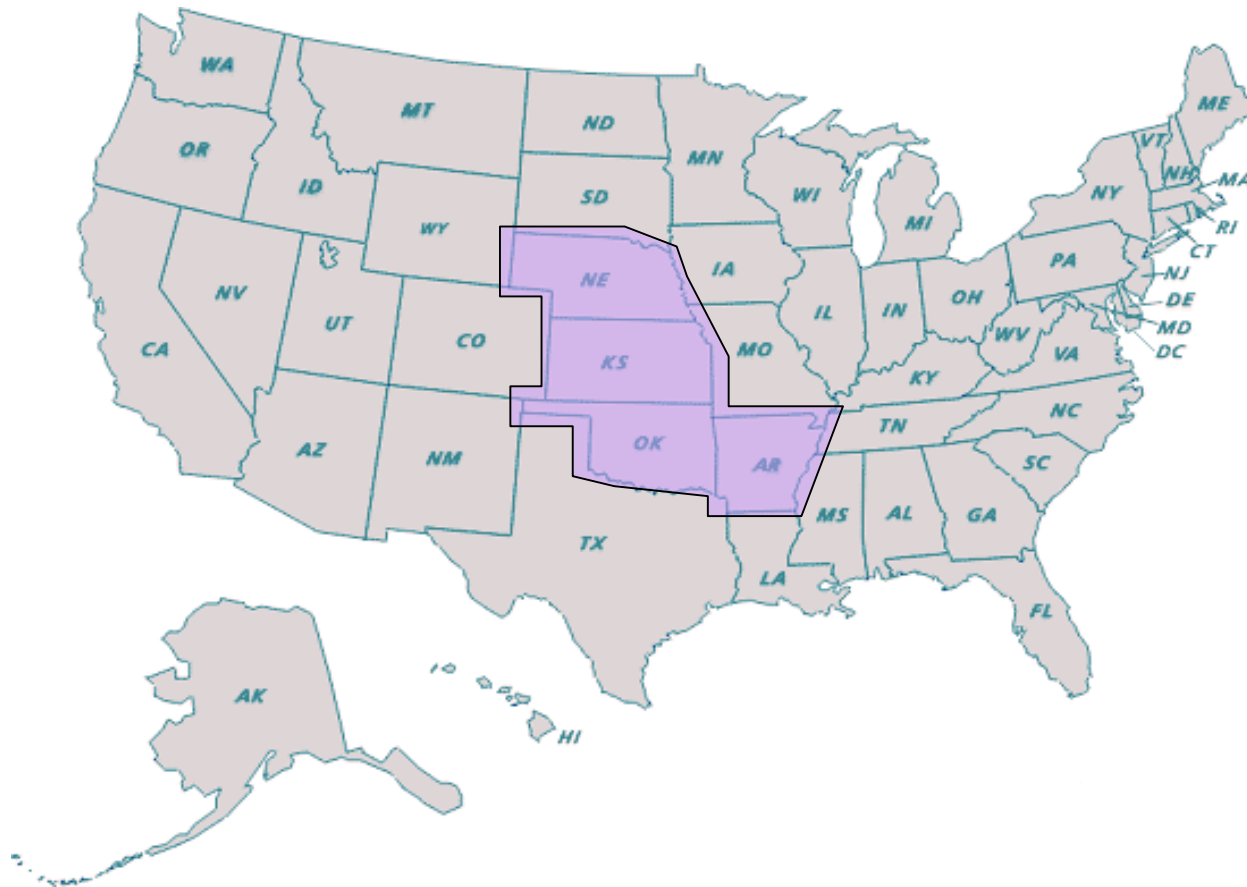
Am J Dis Child, Vol. 147, Issue 11, 1196 November 1, 1993

ARTICLES

Telediagnostic conferencing

M. Feingold; J. Frias; A. E. Lin; G. B. Schaefer; M. Horwitz

5. Mid-America Genetics Education Consortium



TELEMEDICINE MANUAL FOR CLINICAL GENETIC SERVICES

A 'How To' Guide to Getting Started

Heartland Regional Genetics and Newborn Screening Collaborative: Clinical Services Workgroup

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Schaefer GB, Butler B, Nale D. Telemedicine manual for clinical genetic services: Heartland Genetics and Newborn Screening Collaborative. May be accessed at <http://www.heartlandcollaborative.org> for electronic download. HRSA Grant U22MC03962: 2010.