2004

# The Case of the Country Pediatrician: Rural Health Case

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# The Case of the Country Pediatrician



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## Rural Health

**Case Materials:**

- Tutor's Guide
- Case
- Slide Set
- References

Evaluation Tools

- Tutor's evaluation/prior to presentation
- Tutor's evaluation/post presentation
- Student evaluations

**Objectives:**

By the end of this session, clinicians will be able to:

1. Identify similarities and differences in the care of the underserved between rural and urban practice settings.
2. Develop a treatment plan which takes into account the child's medical condition and the family's rural environment.
3. Describe the role of the pediatrician in advocating for the health needs of children in a rural practice setting.

**Overview/Introduction to RURAL HEALTH**

Most physicians train in urban medical centers, in the midst of specialists and the latest technology. Implicit in that training is the idea that patients and physicians from rural areas are simple country folk, who are often behind the times in terms of the latest medical knowledge and treatment. The reality of rural practice is quite different. Rural primary care practitioners often deal with problems that, in the urban setting, would be handled in a specialty clinic. Geography, an independent spirit and the demands of rural life must be taken into account when working with underserved families in a rural environment.

Supported by a grant from *The Maternal and Child Health Bureau.* 

## GUIDING QUESTIONS FOR DISCUSSION

1. **What is rural America?**

2. **How is this case different from the case of a child from an inner-city environment?**

3. **How would you formulate a problem list that takes into account those differences and provides for the medical support needed by this family?**

4. **What skills would the primary care physician need in this setting to be able to handle the problems presented in this case?**

**Guiding Questions for Discussion:**

**1. What is rural America?**

Rural America, once the icon of American life, is now a minority life-style. According to the 2000 Census, only 20% Americans live in what the US Government defines as a rural area. That definition is vague: the Census says rural areas are "located outside urbanized areas with populations of greater then 2500" whereas the Office of Management and Budget says counties in which "no city has more than 50,000 people". Clearly rural Massachusetts is different than rural Mississippi. Yet, the problems of children in rural areas are similar throughout America, and contrast with the problems of the inner city.

**2. How is this case different from the case of a child from an inner-city environment?**

The keys to all of these problems are poverty and distance. The median family income in rural America in 1987 was $24,397 compared to $33,131 in urban America at the same time. The traditional family farm has become a rarity. Most people in rural areas work in the city or work for large agricultural businesses. Many farmers have watched the value of their land skyrocket as developers move out from the city, causing increased taxes without bringing increased revenues unless the land is sold to the developers. Poverty rates in rural areas are generally high, and many don't qualify for Medicaid because they participate in part-time, low wage, seasonal work. One survey found that 28% of rural people are uninsured. Poverty and lack of access to insurance form a substantial barrier to medical care for many in rural areas, and for the family in this case in particular.

In rural areas, the problems of poverty are complicated by the problems of distance. In the city, people live near to each other and near to the agencies/services that can help them with their problems. In rural America, it may be many miles to the doctor's office, and many more miles to the pharmacy. Sub-specialty services may be available only in the city, or locally during limited "clinic days" in farming communities. Distance combined with poverty makes transportation difficult. Public transportation is not an option without subsidy due to the scattered populace, and the vehicles of those living in rural poverty are often unreliable. To implement a plan for a child with special health care needs, such as the patient in our case, can be extremely time-consuming and difficult.

Health care in rural areas is often not available. As one can see in the Table, the number of physicians per 100,000 people decreases dramatically as the area becomes more rural. Most of the physicians are family practitioners, and many have difficulty

| Urbanization | Physicians per 100,000 |
|---|---|
| MSA* | 174.7 |
| non-MSA | 97.8 |
| <10,000 | 40.8 |
| < 2,500 | 29.9 |

Table. Physician availability in urban and rural America
*MSA Metropolitan statistical area.

getting privileges to deliver babies. Several generations of lawmakers have worked to develop systems to provide care to rural areas. In the 1940s, Congress passed the Hill-Burton Act, which provided federal funding for the construction of thousands of small, rural hospitals across the country, all of which were required to provide care to all, regardless of ability to pay. In the 1960s, rural migrant and community health centers were established through the Office of Economic Opportunity in rural and urban settings, to deal with problems of physician maldistribution. In the 1970s and 80s, the provider supply was enhanced by the service of members of the National Health Service Corps, many of whom worked in rural areas to pay off their medical school debt. Today, however, 500,000 Americans live in counties with no physician. In those areas, even with transportation, people have a hard time finding health care. In this case, the child has not had regular contact with the medical community, despite multiple ongoing medical problems.

Pediatricians are often rare within rural areas. In smaller counties, family physicians may provide the bulk of the care to children, with general pediatricians serving as consultants to the family doctors. Our patient may have a family physician, with whom the pediatrician will need to share care.

Other child services are often spread thin in rural areas. WIC, HeadStart, Early Intervention, Food Stamps, Transitional Assistance and other social service agencies may not all be available in the same place at the same time. When coupled with the transportation problems detailed above, this tightly stretched safety net may not be adequate for the problems posed. Our patient's mother has certainly had difficulty in pulling together the services that her daughter needed.

**3. How would you formulate a problem list that takes into account those differences and provides for the medical support needed by this family?**

Formulating the problem list and setting priorities is one of the most important skills for any clinician. In this case, the preceptor should start with page 1, and ask the group to formulate an initial problem list. The key point of the exercise is to ensure that the students include the social issues associated with rural health in the problem list. For example, the case here presents a complex set of medical problems:

1. Down Syndrome
2. Heart murmur
3. Insulin dependent diabetes mellitis
4. Developmental delay

In addition, there are a series of complexities presented by the rural nature of the case. These will become more clear when the second page of the case is reviewed.

5. Transportation
6. Seasonal health insurance and income
7. Access to sub-speciality services
8. Access to educational services

These factors are largely related to the nature of life in rural communities. In the course of your discussion, you may wish to introduce the information discussed in the answer to the first question, as a way of adding the "rural problems" to the medical problem list.

In large urban medical centers, these issues are often seen as the province of the social worker rather than the physician. This division of labor is not as clear in rural communities. Your office may have no or limited access to social work services, leaving you with a choice of letting the patient's family act as the case manager, or stepping in yourself to fill the void.

**4. What skills would the primary care physician need in this setting to be able to handle the problems presented in this case?**

Community assessment and collaboration skills are two important sets of skills necessary for the primary care physician to deal will the multiplicity of problems presented in this care. In order to deal with the heart murmur, it would be important for the clinician to be familiar with the sub-specialty services available in the nearest Children's Medical Center, and would have to deal with the family's anxiety about dealing with the major medical center in the big city. They may not see the need for a pediatric sub-specialist, and wonder why the "heart doctor" who cares for others in the community can't handle the problem. The physician may also need to know what agencies or churches can help people get rides to the Center, since transportation is such an issue in the area. Finally, he or she would need to know how family decisions are made, in order to make sure that he or she is negotiating with the true decision-maker.

The diabetes supplies take a new level of community assessment and collaboration. Insurance companies may require documentation for a syringe purchase, in addition to the prescription. The father's insurance is good for now, but this child would benefit from access to the local Medicaid, SSI or SCHIP program, depending on the set-up in that state. This can serve as "bridge" insurance for children with special needs when their parent's insurance runs out. The school system is going to want information on how diabetes needs to be managed in school, and the physician is often in the best position to provide that information. Finally, nutritional consultation for child diabetes may not be available in the community. Another referral to the big city may be in order.

Schools will again be the issue when the child's developmental delay is finally addressed. The physician will need to negotiate an appropriate educational plan with the public schools. If appropriate programming is not available in the local rural district, a developmentally appropriate accommodation should be reached. The physician will need to understand both the family's understanding of the child's educational needs and the school system's approach to dealing with children with developmental delay.

In addition to knowing how to find services for their patients, rural pediatricians must be able to develop new service delivery systems through the State Department of Health and the regional referral centers. Often, they make their offices available for specialists who hold local clinics on a monthly or quarterly basis, to handle follow-up visits and non-urgent referrals. The rural pediatrician can use these opportunities to reconnect with the referral center, and stay up-to-date on the various subspecialties.

Telemedicine and web-based consultation services can also be developed, allowing rural pediatricians to handle problems that in the city would be referred to the specialists office. The web can also be used to help parents connect with support groups, which may be virtual given the distances involved in rural life.

These activities take time, and suggest that the rural pediatrician requires innovative time management strategies in order to balance the various aspects of his professional and private life. Building time into the day to handle the networking needs of CSHCN can be accomplished in many ways, including scheduled call hours, scheduling conference time and being honest in ones appraisal of the work that needs to be done.

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## Part 1

Fred Stone Health Center is a satellite clinic operated by Your Friendly Neighborhood Health Center (YFNHC), on the edge of a large mid-western city. To the north of the center lies an urban housing project; to the South, acres of corn and wheat. It was established when the board of YFNHC realized that there were a substantial number of underserved children living on the South who could not make it to the Center, which is located in the middle of town at the conjunction of three inner city bus lines. Fred Stone is the "end of the line" for the buses. Your patients walk, cadge rides or have a car that works on sunny days for transportation.

You are seeing a new patient, Georgia Beauregard, a 4 year-old, for a first visit and well child check. Her mother is a soft spoken, thorough historian, who brings an immunization record, a blood sugar log book and a child with a smiling face, epicanthal folds and a limited vocabulary. While the nurse is weighing her in, you review the documents showing well-controlled diabetes and up to date immunizations. Her mother has several concerns:

1) *Heart murmur:* She was told at birth that Georgia had a heart murmur, and that she should have it checked by a cardiologist sometime. This message has been repeated during well visits at the county health department, and during her hospitalization at the small community hospital 60 miles away several years ago. Mother has not yet located a specialist who sees children, and is looking for advice on how to do so.
2) *Diabetes supplies:* Georgia was diagnosed with juvenile diabetes several years ago, and mother has read extensively about diet and insulin management of the condition. She has not seen a physician since discharge, but has followed the discharge instructions to the letter, as evidenced by the tight control in the logbook. She needs a new prescription for needles (insulin is available without a prescription).
3) *Speech delay:* Georgia's mother was told that she would be "slow", and that she would probably need special schooling. She feels that, because Georgia is now 4, she should start looking into the options for her education.

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## Part 2

Your history reveals that Georgia was the 2700 g product of a term gestation in a 25 year old primiparous woman, delivered at OtherState Hospital, where she and her husband lived at the time. The child was noted to have Down syndrome at that time, and was referred to a local pediatrician for follow up. The father's insurance did not cover well child care, so the family received shots and advice through the County Health Department, visiting the pediatrician only when the child developed severe vomiting and dehydration 2 years ago, requiring hospitalization. At that time, the child was found to be in DKA, and was started on insulin and dietary management. About two months later, the father was offered a position as foreman of a dairy farm 20 miles south of Your City. The family moved, and has only now been able to connect with a new health care provider. The child is currently maintained on a 1200 calorie ADA diet with Humulin dosed as 3R4L in the morning and 2R3L in the afternoon. Developmentally, she reportedly was able to walk, climb stairs, build towers and scribble with a crayon. Her vocabulary is about 7 words.

## Epilogue

After talking with Mrs. Beauregard, you and she agree that it is time to get that heart murmur evaluated. The cardiologist from The Big City comes out to your town every three months for consultations, and you get Georgia on the calendar for the next visit. Mrs. Beauregard seems to have a good handle on the management of Georgia's diabetes, and you write the necessary prescriptions for her needles for the insulin administration. You suggest that it would be reasonable to get a hemoglobin A1C, in order to assess the effectiveness of their current management, and discuss the need to monitor for long-term effects of diabetes. The children's diabetes specialists from The Big City don't currently have an outreach program in your area, but you have monitored children with diabetes in the past using the specialist as a remote consultant by fax, phone, and e-mail. You also discuss with Mrs. Beauregard the structure of the County School system. At age 4, Georgia's education is the responsibility of the County schools, and you tell her how to call and schedule an evaluation for special education within the school. You agree to meet again in a month to follow up on these issues. One month later, Georgia is still doing well. Her hemoglobin A1C was 5.5 and her glucose control is still tight, by the logbook. The cardiologist examined Georgia and found her to have a VSD, which they are going to monitor for 6 to 12 months before deciding on the necessity of surgical correction. The County School Department has initiated an individual educational plan for Georgia, and she is enjoying school. The school system has also connected the family with a Down Syndrome support group, the mother finds very helpful."

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# Module Evaluation

For presenters to fill out before the teaching session

**A.** I consider myself

| | | | | |
|---|---|---|---|---|
| **1**.A nationally known expert on this topic | **2**. A locally known expert on this topic | **3**. Very knowledgeable on this topic | **4**. to have learned about this topic to teach it | **5**. **Not sure** |

**B.** I spent approximately _____ minutes preparing for teaching this topic.

**C.** Of the time I spent preparing to teach this topic, I used material provided to me as part of the Serving the Underserved Curriculum

**1**. 100% of the time
**2**. 75-99%of the time
**3**. 50-74% of the time
**4**. 25-49% of the time
**5**. <25% of the time

**D.** How appropriate were the educational objectives?

**1**. **Excellent** **2**. **Good** **3**. **Average** **4**. **Poor** **5**. **Not sure**

**E.** How appropriate were the tutor notes?

**1**. **Excellent** **2**. **Good** **3**. **Average** **4**. **Poor** **5**. **Not sure**

**F.** How appropriate were the references?

**1**. **Excellent** **2**. **Good** **3**. **Average** **4**. **Poor** **5**. **Not sure**

**G. If your answer to any of the above questions (except A) was 3, 4 or 5, please comment.**

**Please feel free to write further comments on the back of this sheet.**

Thank you for taking the time to fill out this evaluation.

*This material was adapted from that created by Janet Hafler, Ed.D.

# Module Evaluation

(For Presenters to use after the teaching session)

Presenter:_____

Your responses will help us refine and develop this case.

**A.** Please rate the overall quality of this material as a stimulus for learning.

**1. Excellent** **2. Good** **3. Average** **4. Poor** **5. Not sure**

**B.** Please rate the classes participation in the learning

**1. Excellent** **2. Good** **3. Average** **4. Poor** **5. Not sure**

**C.** How comfortable were you with case based teaching

| | | Not at All | | | | Very Much |
|---|---|---|---|---|---|---|
| **1.** | **Prior to this teaching session** | **1** | **2** | **3** | **4** | **5** |
| **2.** | **During the teaching session** | **1** | **2** | **3** | **4** | **5** |
| **3.** | **After the teaching session** | **1** | **2** | **3** | **4** | **5** |

**D.** Please list how long you spent on this topic, and how the time was devided

**Total Time _____ minutes**

**Time spent on case discussion _____ minutes**

**Please describe how you spent the rest of the time**

**E.** Please Rate each of the following

| | | Poor | | | | Excellent |
|---|---|---|---|---|---|---|
| **1.** | **The Educational Objectives** | **1** | **2** | **3** | **4** | **5** |
| **2.** | **The Case Vignette** | **1** | **2** | **3** | **4** | **5** |
| **3.** | **The Tutor Guide, including guiding questions** | **1** | **2** | **3** | **4** | **5** |
| **4.** | **Reference List** | **1** | **2** | **3** | **4** | **5** |
| **5.** | **Handouts** | **1** | **2** | **3** | **4** | **5** |
| **6.** | **Audiovisual Materials** | **1** | **2** | **3** | **4** | **5** |

If you answered 1-3 on any of the above, please comment further

**F** What were the cases strengths

1.
2.
3.

**G** What were the cases weaknesses

1.
2.
3.

**H** What is the single most important thing that you learned from the case discussion?

**I Case Evaluations**

**1.** Do you think facts or data should be added? **1. Yes** **2. No**
If **yes**, what should be added?

**2** Do you think facts or data should be deleted? **1. Yes** **2. No**
If **yes**, what should be deleted?

**J. Tutor notes evaluation**

**1.** Did you use the **tutor notes**? **1. Yes** **2. No**
If **no**, why not?

**2.** What were the **tutor notes** strengths?
1.
2.
3.

**3.** What were the **tutor notes** weaknesses?
1.
2.
3.

**4.** How would you suggest improving the t**utor notes**?

**5.** Do you think facts or data should be added to the **tutor notes**? **1. Yes** **2. No**
If **yes**, what should be added?

**6.** Do you think facts or data should be deleted from the tutor notes? **1. Yes** **2. No**
If **yes**, what should be deleted?

**K Slide Evaluation**

**1.** Did you use any of the **slides**? **1. Yes** **2. No**
If yes, which ones

**2.** How would you suggest improving the **slides**?

**3.** Do you think more slides would be useful? **1. Yes** **2. No**
If **yes**, what should be added?

**4.** Do you think there are slides that will never be useful? **1. Yes** **2. No**
If **yes**, what should be deleted?

**L** Did you use any other materials **1. Yes** **2. No**
If **yes**, what other materials?

If supplied by the Serving the Underserved Project, how would you improve the material

**M.** What did you as a teacher learn about this topic?
#1
#2
#3

**Please feel free to write any further comments on the back of this form**

Thank you for taking the time to fill out this evaluation.

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# Module Evaluation

Presenter:_____

Your responses will help us refine and develop this educational material. The person completing this form is:

PGY1 PGY2 PGY3 Fellow Faculty Other_____

**A.** What is the single most important thing you learned from the case discussion today.

**B.** Please rate the overall quality of this case as a stimulus for learning.
**1**. **Excellent** **2**. **Good** **3**. **Average** **4**. **Fair** **5**. **Poor**

**C**. The facilitator

| | | Not at All | | | | Very Much |
|---|---|---|---|---|---|---|
| **1.** | **Encourages student direction of teaching** | **1** | **2** | **3** | **4** | **5** |
| **2.** | **Stimulated interest in the subject matter** | **1** | **2** | **3** | **4** | **5** |
| **3.** | **Encouraged Group Participation** | **1** | **2** | **3** | **4** | **5** |

**D.** I consider the facilitator

**1**.A nationally known expert on this topic | **2**. A locally known expert on this topic | **3**. Very knowledgeable on this topic | **4**. a teacher who learned about this topic to teach it | **5**. **Not sure**

**E**. Please rate each of the following components of the teaching session (N/A for not applicable)

| | | Poor | | | Good | Excellent | |
|---|---|---|---|---|---|---|---|
| **1.** | **Case Vignette** | **1** | **2** | **3** | **4** | **5** | **N/A** |
| **2.** | **Case Based/Learner Centered Format** | **1** | **2** | **3** | **4** | **5** | **N/A** |
| **3.** | **Handouts/Supplemental Materials** | **1** | **2** | **3** | **4** | **5** | **N/A** |
| **4.** | **Teacher/Facilitator** | **1** | **2** | **3** | **4** | **5** | **N/A** |

**F.** Do you think information should be added? **1. Yes** **2. No** **3. Not Sure**
If **yes**, what should be added?

**G.** Do you think information should be deleted? **1. Yes** **2. No** **3. Not Sure**
If **yes**, what should be deleted?

**H.** Comments

**Please feel free to write any comments on the back of this sheet.**

Thank you for taking the time to fill out this evaluation.

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