1 the border areas of Mexico and down into Central America. I
2 think I would be concerned about I-Sky pursuing that business
3 model in the long term.
4 The second one is EchoStar is planning EchoStar 9, which
5 is a Ku band satellite that will go to 121 degrees. That
6 should offer significant and our first look at true broadband
7 access to Ka band. And to put the economics of Ka band in
8 perspective, today Ku band you're talking 150 to $180,000 a
9 month transponder. Ka band really -- I don't know, you
10 probably know the economics of that better than I do, but I
11 think you're looking at a $20,000 transponder because of re-use
12 of the same spectrum in the same platform. So for $250 million
13 they can launch 24 transponders or 48 transponders or they can
14 launch roughly 150 transponders. And Ka band would re-use,
15 that's where you get the economics. That's where we'll see a
16 big drop in bandwidth price if we raise our hand as a state and
17 we can get the access. Thank you.
18 LT. GOV. ULMER: Thank you all very much. Commissioner
19 Ness, would you have any questions for any of the panelists?
20 COMMISSIONER NESS: First of all, I want to thank all of
21 the panelists for their comments and for helping us to focus in
22 on what is an extremely important and difficult issue. I share
23 the frustration that was expressed, I believe, by Chuck Russell
24 about how you need to have commitments that are enforced for
25 service for Alaska. And that certainly is something that I

1 focus on any time I have an application for satellite service.
2 I always ask specifically to see their coverage maps. I now
3 have a little tool that I'm playing with to see exactly what it
4 means for coverage. And I care tremendously about making sure
5 that Alaska is, in fact, covered, particularly by the DBS folks
6 that now have additional satellites at their disposal. So I
7 appreciated those comments.
8 By way of question I want to go back to the notion that
9 was proposed about delivering broadcast services.
10 Mr. Furstenberg, can you comment a little bit further about
11 what type of broadcast services you were envisioning? How
12 would that work?
13 MR. FURSTENBERG: Well, that would be more like similar to
14 the direct PC or the Hughes offering where they do do that now
15 on a one-way basis, but they don't have any way for it to come
16 back. That's being developed.
17 The thing is if you take a single transponder and you can
18 get like 45 megabytes in that and everybody picks it up, it's
19 just more efficient than having -- sending separate things out
20 there. And, of course, the technology is there to where if
21 every village receives all the messages they can by embedded
22 identification determine what's destined for them and what
23 isn't destined for them. And that would be just a more
24 efficient use of the transponder. Trying to send a one or a
25 two megabyte carrier to every village out there, number one, it

1 just -- you have to have a guard band for all of those things
2 and you don't have as high a speed. Whereas, if I have one
3 highway and I've got 10 people sharing it, you know, that's a
4 two lane highway. If I make a 50 lane highway and I have 5,000
5 people sharing it I'm going to get more utilization out of it.
6 Basically that's the.....
7 COMMISSIONER NESS: Would some of the use be through local
8 cashing of the most popular web sites?
9 MR. FURSTENBERG: Yes, that's one of the things. That's
10 where I said that it would really require that the villages
11 develop some expertise there to be able to conglomerate the
12 things out there so that they could all come back up in one
13 pipe and, therefore, share it, you know.
14 Right now one of the problems we see is we've got
15 telemedicine and we've got school people out there and they're
16 completely separate systems. It's very inefficient.
17 COMMISSIONER NESS: Yeah. It's very inefficient we saw.
18 We saw a lot of that, too, and.....
19 MR. FURSTENBERG: Yes.
20 COMMISSIONER NESS: .....trying to work through some of
21 those issues.
22 MR. FURSTENBERG: Yeah. And even there if we didn't do a
23 full transponder, I mean if we could at least get them both on
24 the same pipe we could certainly increase utilization. And
25 that's the only way we're going to get the price down.

1 COMMISSIONER NESS: Thank you.
2 LT. GOV. ULMER: Commissioner Thompson?
3 CHAIR THOMPSON: I want to follow up on that theme with
4 something I heard a couple of you mention, which is the idea of
5 sharing. We hear how what we're trying to do is get service to
6 areas where there is a very low population and the high need.
7 And looking at ways to combine efficiently the existing
8 resources seems to be the answer.
9 You, Mr. Russell, identified the E-Rate program as
10 sometimes an obstacle to deployment. And I'm wondering if you
11 have any specific ideas about how that program could be
12 modified or changed to encourage more efficient use of the
13 resources we have now or to share the resources amongst
14 different folks in the community?
15 MR. RUSSELL: Well, you know, any time you have someone
16 who only has to pay 10 percent of the price decisions are no
17 longer economic. I mean if you and I could buy a car and only
18 have to pay 10 percent of the price we would drive a much
19 better car than we do today. So there is -- the program has no
20 controls. It doesn't matter whether there are 10 students in
21 the school or 10,000 students in the school, both schools can
22 buy the same capacity. One might be using it efficiently, the
23 other obviously very inefficiently. So it's really an
24 economic thing.
25 If there were some way of putting some limits on capacity

1 or service levels, and I don't know how to define this, so that
2 either the carriers proposing the service or the schools buying
3 the service were sort of forced to be efficient. It's not
4 difficult to be efficient. The products that Jim talked about
5 and Steve talked about are there. There are -- you can go buy
6 from satellite vendors internet optimized technology that
7 broadcasts a wideband carrier outbound and shared carrier back
8 -- back towards a smaller carrier, but there's no incentive to
9 buy that equipment. And so the easy way out, if you will, is
10 just buy the dedicated point to point link and buy the biggest
11 one you can afford.
12 CHAIR THOMPSON: To follow up on that, Mr. Furstenberg,
13 you also mentioned sharing and use of T-1 for a village. If,
14 you know, assuming a village of 350, 400 people, we have many
15 about that size in our state, does the technology exist for
16 that T-1 to be shared amongst all the different needs in the
17 village?
18 MR. FURSTENBERG: Yes, it does, but right now it's not so
19 simple that, you know, we could expect the village to have the
20 expertise to run that. You know, our objective would always be
21 to minimize the sophistication of the equipment in the rural
22 areas so that A, you'd have fewer things to break.....
23 CHAIR THOMPSON: Uh-hum.
24 MR. FURSTENBERG: .....down and so on, but bottom line is
25 you can't -- you just can't eliminate it all out there so that

1 they would have to have technology that would do that
2 combining. And certainly T-1 to most of our villages right now
3 would be a -- you'd be having -- you'd have to control the
4 dancing going on out there because they would definitely be
5 elated with that kind of service.
6 CHAIR THOMPSON: Mr. Brady?
7 MR. BRADY: I'd like to point out that the school of
8 Hoonah is actually using an internet service provided by a
9 group called Intelacom (ph) out of California. It's not really
10 -- it's a shared inbound of about two and a half megabytes, I
11 believe. They've been changing the size. And the outbound is
12 64 kilobytes. It's not a shared outbound, but it's a shared
13 inbound.
14 The newer services that we're talking about, you know,
15 that you're seeing, you know, gallent to home are all shared
16 services that are dealing in a full transponder, you know,
17 roughly 40 to 45 megabytes outbound from a central point to a
18 user. And the return path is normally a time shared return
19 path that will -- and there's nothing magic about that. Yeah,
20 it's inefficient when it comes to IP (ph), some of them are
21 employing some advance spoofing so you don't end up with a lot
22 of -- you know, 20 percent overhead that you don't need.
23 But I think the technology is not really a major question.
24 A lot of it is the organization of the market. As I said, if I
25 was AT&T and if I was GCI and I'd spent several million

1 dollars, you know, 30, 70, $60 million on satellite capacity
2 and somebody told me they'd pay me for a T-1 for everyone I
3 deployed I'd certainly be deploying SCPC (ph) T-1s to fill up
4 the capacity I had under contract.
5 There is no incentive in the regulatory system to do it
6 efficiently. And they're certainly deploying it the way that
7 makes the best of their business. I don't see any reason why
8 they wouldn't do that.
9 LT. GOV. ULMER: Any other questions?
10 CHAIR THOMPSON: Go ahead.
11 LT. GOV. ULMER: Kathy, do you have some questions?
12 MS. BROWN: Yes. Can I just ask about how one would
13 aggregate the demand? If there's a school out there obviously
14 the thought was you would get this capacity to the heart of the
15 community, and that the community then could make use of it.
16 And if there's some barriers, some regulatory barriers to the
17 use of that capacity once it actually arrives in the community,
18 we certainly want to think about that and how we could better
19 structure this so that it could happen.
20 And it seems to me it may well be that the sharing is a
21 problem when you have private and government facilities. And
22 we get resistance on that issue not just from the government
23 side, but also from the private side that, perhaps, you
24 wouldn't want to allow that because somehow that stymies some
25 sort of competition out there, which I've always had some

1 problem with.
2 It seems to me that there may well be a way to share the
3 costs to get the facilities into the community and then to have
4 a way for the commercial interests as well as the community
5 interests to use that capacity. It'll be helpful to us to hear
6 from the business side how that might look.
7 MR. HALL: Madame Moderator, I might make a few comments
8 with regard to that. I think that the technology if largely
9 deployed to many of the rural areas it will allow the sharing
10 of the bandwidth on the satellite, in particular, with a cell
11 relay program like AT&T Alascom has deployed to many of the
12 areas. In fact, I think in many locations where that cell
13 relay equipment is deployed there's, indeed, perhaps only one
14 private line on the backbone via the satellite on that
15 technology. So the opportunity is built into the technology to
16 share the bandwidth which in many cases is not being used.
17 And I think there are some obstacles to sharing as you
18 mentioned with regard to some of the cost support programs,
19 perhaps, for schools for the Schools and Libraries programs,
20 where if there's subsidies they're providing high bandwidth to
21 support school and library programs. That bandwidth then is
22 prohibited then from being made available perhaps for
23 residential internet service or other uses. And, you know,
24 within the regulatory process perhaps there's some way to
25 overcome that. During the day when the schools are not

1 available it would, you know, perhaps make a chance to make
2 that av- -- that bandwidth available to the children that go
3 home and might like to access the internet and continue their
4 learning experience in getting online.
5 MS. BROWN: Well, let's assume we could do that. Let's
6 assume you could get rid of the -- whatever the governmental
7 obstacles are. What would the service model look like at the
8 other end?
9 MR. HALL: I think on the satellite link the technology
10 would be in place with cell relay equipment. Alaska
11 Communications Systems is a local exchange carrier and the
12 primary business we are in is distributing communications
13 within the communities. Basically the outside plant cable
14 facilities we have and the digital switching facilities we have
15 in rural Alaska are similar to what we have in the metropolitan
16 areas. And we would have the ability with reasonable
17 investments to be able to distribute services within the
18 community, so your model might -- I think would include an
19 internet service provider that would provide access to the home
20 via the local exchange network that would then -- that would
21 access the interexchange network of PTI or AT&T Alascom and
22 that much of the equipment is already in place as I mentioned.
23 One of the equipment components would be cell relay equipment
24 which AT&T Alascom, I think, already has deployed in many of
25 the communities.

1 I think to demonstrate the magnitude of the problem I saw
2 some numbers recently that showed -- well, the bench mark
3 expectation with regard to internet is $20 a month unlimited
4 service. That's what we can expect in the metropolitan areas.
5 And the residents of rural Alaska have the expectation in line
6 with what we have here in Anchorage, so that's, I think, the
7 objective for ubiquitous service is $20 a month. I saw some
8 cost figures recently that showed in a community of slightly
9 more than 100 people the break even point on providing service
10 understanding that that access to the rest of the world is via
11 satellite would be somewhere right around $50 and is not
12 providing a return to a company. So there's a 30 dollar
13 problem on meeting expectations for economical internet service
14 in rural Alaska for the smaller community. As the communities
15 get larger, you know, there's -- the cost support requirement
16 becomes less to where about 500 people it might conceivably be
17 economical for an internet service provider to go out into the
18 community.
19 LT. GOV. ULMER: Tom, do you have any comment?
20 MR. BRADY: Yeah. We were working with one rural village
21 and we looked at 80/20 cost model on the wide area side. Where
22 80 percent of the bandwidth was allocated to the school health
23 clinic, and then 20 percent was taken by the village,
24 recognizing that the patterns of uses were totally different
25 and that during the normal course of a day the school and the

1 clinic were consuming, and in the evening -- it's similar to
2 what are urban ISPCs and we said that that -- some of the rural
3 villages could tolerate that. We were specifically looking at
4 a cable modem distribution versus a regular Dial-Up so it's
5 actually lending itself to higher bandwidth.
6 And that -- it still came close to the $50 a month, that
7 study I believe you're talking about. It still made sense to
8 do it in about $50 a month given the level of capital
9 investment. And that was really the reason we chose a cable
10 modem. It simply is the village corporation owned the cable
11 system.
12 MR. BROWN: Right.
13 MR. BRADY: It made sense. It was there and use it.
14 MS. BROWN: Yes. If you added the commercial interest in
15 these villages into the mix does anything get better on the
16 sharing side versus.....
17 MR. BRADY: It would. It certainly would get better, but
18 the difficulty is some villages have no commercial interest
19 other than the village corporation.
20 MS. BROWN: Okay.
21 LT. GOV. ULMER: And at the village level in addition to
22 the school district and the health clinic you might have the
23 village corporation. If it's a coastal village during the
24 summertime you might have a commercial fish processing unit.
25 MS. BROWN: Uh-hum.

1 LT. GOV. ULMER: You know, it's -- it's a very different
2 economic structure than it is in most of urban America. And so
3 you have a slightly different challenge associated with finding
4 critical mass to actually get the kind of economics flowing
5 that makes these investments possible. This discussion in a
6 way mirrors the discussion we had with some of the people that
7 we traveled with in Kotzebue and we went out to the village of
8 Noatak.
9 And it was really interesting to hear one of the school
10 district employees talking about the bandwidth envy in the
11 villages. You know, the kids have great experiences in the
12 school and they go home and tell their parents and their
13 parents can't have anything close to that experience at home.
14 And it even creates difficulties for the school board because
15 how do they explain to villagers why they can't get on this
16 highway that their kids are on. And, of course, we're not
17 saying anything bad about the E-Rate subsidy because we love
18 it. It enables our rural schools to have access.
19 The question is how can you restructure either the way in
20 which the regulations work, or the way in which the economics
21 work to allow that existing under-utilized bandwidth to be
22 utilized by citizens as well as the schools and the health
23 clinics? That is the question. That is the challenge. Yes?
24 MR. RUSSELL: I don't know how the schools procure in
25 other parts of the state, but in Western Alaska where I do see

1 the RFPs for internet service the schools preclude a local
2 internet provider from bidding. They require that the
3 bandwidth for the school go all the way to the internet. I
4 could have a T-1 pipe sitting in Emmonak and I could not bid on
5 the school contract. I have to -- my bid has to include a
6 dedicated satellite link as well as a dedicated local loop.
7 The schools will not -- and they're very specific in their
8 RFPs, they will not allow sharing of bandwidth. So I'm --
9 United Utilities is an ISP in Western Alaska in, I don't know,
10 eight or nine villages. We cannot as an ISP bid for the school
11 internet 'cause it's specifically precluded by the way the
12 contracts or the RFPs are worded.
13 Some of this discussion is also about health clinics. And
14 I really think that's going to be the next panel. I don't
15 think the health clinics are really in the internet. That's
16 not what they're looking for as far as I know. So when we talk
17 about combining the school and the health clinic on the
18 internet service I'm not sure that's really a combination
19 that's viable. I think they're looking for capacity for health
20 reasons back to the hospitals and stuff like that, although I'm
21 sure they would like internet service. It's not my
22 understanding that that's the primary objective of the health
23 clinic data capacity.
24 LT. GOV. ULMER: Any other panel members care to comment
25 on this?

1 MR. HALL: I might just add a comment to.....
2 LT. GOV. ULMER: Yes.
3 MR. HALL: .....Chuck's comment where I agree they're
4 looking for bandwidth for different purposes. There still may
5 be opportunity for sharing the bandwidth on the satellite back
6 to rest of the world. And to the extent they've got diversity
7 traffic there would still be some economics in sharing that
8 backbone bandwidth even though in one case it's going to the --
9 it may be going to a hospital in Anchorage and in the other
10 case it may be traffic connecting to the internet.
11 LT. GOV. ULMER: Any other comments? Yes?
12 MR. FURSTENBERG: I'll say expand on that just a little
13 bit. One of our experiences has been with trying to integrate
14 this service with the cell relay project that Steve mentioned
15 is that many of these communities they want access into
16 basically the world we would call it, but they also want a
17 local hub. And then you get into double satellite hop and
18 that's extremely difficult. So one of the things that I think
19 if we were to ever get to the point of doing this very
20 broadband broadcast distribution is that all of the local hubs
21 or what they want to call their local hub would have to be
22 connected to this access point via terrestrial only facilities
23 so that it would be a single hop in all cases.
24 Now, in many cases that's a no brainer, that's the way it
25 works. But in other cases it would require, for instance, the

1 school district headquarters in Mountain Village would really
2 have to have an office somewhere in Anchorage or Bethel or
3 someplace -- well, actually Bethel wouldn't work, but someplace
4 where they could access the main hub terrestrially. It would
5 minimize the complications for that. So, again, it just
6 requires a group effort, I think, to get that coordinated to
7 make it really efficient.
8 LT. GOV. ULMER: Any other questions? Commissioner Ness.
9 COMMISSIONER NESS: I think you pointed out something that
10 was very useful, and that is it requires a group effort. And
11 in the areas that we've seen where there has been a group
12 effort to try to work through some of this difficult situations
13 we've seen much more efficient use of the facilities. And
14 that, I think, is one lesson that we have seen here in Alaska
15 and we've seen in other places around the country that that is
16 an incredible component ingredient of this.
17 One observation that I made in our brief stay this past
18 weekend and that is in some places where there are community
19 libraries and the community libraries have access to E-Rate
20 funding that may be a better vehicle for the adult population
21 to share the experience that their children are getting in the
22 school, but in a number of the villages that I've visited in
23 Alaska the local library is really the school library. And I'm
24 wondering whether there might be a way of addressing this
25 regulatory hurdle on E-Rate by looking at some of these

1 libraries and focusing on them as community centers and
2 community libraries, rather than just simply school libraries?
3 Anyone have any thoughts or comments from your experience in
4 dealing with that?
5 LT. GOV. ULMER: I guess I would ask the question would E-
6 Rate tolerate that? I mean if, for example, the schools would
7 open up their doors at night and say anyone in the community is
8 welcome to come use the school library and come use internet
9 capacity of the schools paid for by E-Rate, would E-Rate
10 tolerate that? And, you know, I worry that that wouldn't be
11 okay.
12 I notice Karen Crane is here from the State Libraries.
13 Karen has been very helpful in making certain that all the
14 school districts were positioned to apply for E-Rate, and also
15 runs a program called SLED which ties together the community
16 and state libraries, but I guess I would ask the FCC folks to
17 comment on the E-Rate permissibility question.
18 2200
19 (Tape change)
20 Tape 2
21 0050
22 MS. BROWN: Yeah, there is clearly some rules with respect
23 to the use of the capacity by the school, for the school, et
24 cetera. This has been an area that we've thought a lot about,
25 with respect to rural America in particular, where there just

1 is not a lot of competition for the residential customer. And
2 that we clearly do get some push back from competitors at all,
3 you know, in places where there's lots of competition for
4 residential service. But it's one where I think we need to
5 look very closely for rural America, and particularly for
6 places like Alaska.
7 We had the same discussion up in South Dakota. There's
8 the capacity there, there's the ability to get it to the heart
9 of the community, into the school, and yet there's no ability
10 for the commercial interests and the residential folks to use
11 it. And I think we're going to have to take it up and look at
12 it with respect to -- particularly with respect to rural
13 America. And then really get the decision makers and policy
14 makers to put their heads together on this, as well as the
15 industry, to see whether there's an openness to sharing some of
16 these facilities, and what the cost allocation issues would be.
17 LT. GOV. ULMER: So let's ask the industry. Would you
18 push back in the State of Alaska? If we moved in that
19 direction, what would be the industry's response?
20 MR. RUSSELL: Well, if I understand what you're saying, I
21 think it'd be great if the local ISP could, you know, bid on
22 these services for the schools, for the libraries. Again, I'm
23 not sure it's what the health clinics want, but -- or if they
24 want internet, fine, and be a viable -- be able to bid. And
25 then, you know, have it evaluated as a real bid and not have

1 these particular entities, you know, just want their own
2 networks, not be part of the infrastructure of the community.
3 LT. GOV. ULMER: Any other comments from the panel?
4 MR. HALL: As an industry member, we clearly recognize the
5 problem of providing advanced services to rural Alaska. And I
6 think, speaking for myself with ACS, and I believe the members
7 of the panel that represent different companies, we're all
8 anxious to be able to provide the improved services that rural
9 Alaskans want and need. So I think we would all cooperate and
10 jump on a bandwagon that would eliminate any hurdles that would
11 allow us to make the economics look more favorable and allow
12 the industry to better provide the services that are expected
13 to rural Alaskans.
14 LT. GOV. ULMER: Karen Crane, do you have any insight from
15 the library system on this, something that hasn't been said?
16 MS. CRANE: Not at this time.
17 LT. GOV. ULMER: All right, great. Thank you. Well, we
18 have pretty much run out of time, and we are actually on time,
19 which is a relief. I want to thank the satellite panel for
20 sharing your expertise with us and your comments this morning,
21 we really appreciate it.
22 Our next agenda item is a telehealth demonstration by
23 Hazel Julius, who is a health practitioner in the Bethel area.
24 For the last six years, she's worked in Toksook Bay, and she
25 now trains new health aides. Hazel is fluent in both English

1 and Yup'ik, I think I'll ask her to make her presentation in
2 English this morning. Hazel, could you step forward? I'm not
3 sure -- Hazel, do you need any kind of special equipment, or
4 are you running a tape? I haven't been told. What are we
5 doing?
6 MS. JULIUS: Projecting.
7 LT. GOV. ULMER: We're projecting. Okay, all right. If
8 the rest of the telehealth panel would join us at the table,
9 that would be very helpful. I will introduce you after we have
10 the telehealth demonstration by Hazel. Do we need to dim the
11 lights so that people can see, or can you see that all right?
12 MS. JULIUS: Well, thank you. My name's Hazel Julius,
13 Community Health Aide practitioner with the Yukon Kuskokwim
14 Health Corporation. At the heart of the health care delivery
15 system, the Yukon region, there are about 180 health aides who
16 are working 48 village health clinics.
17 LT. GOV. ULMER: Pardon me, Hazel. Could you just bring
18 the mic closer to your mouth, so that we can get the
19 transcription?
20 MS. JULIUS: Okay.
21 LT. GOV. ULMER: Great, thank you so much.
22 MS. JULIUS: They are primarily Native Alaskans who live
23 and work in their home villages providing front line emergency
24 and primarily health care in consultation with hospital
25 provider staff. In 1999, community health aide practitioners

1 in the Yukon region have over 105,000 patient encounter in the
2 village clinics. The community health aide program is unique
3 to the state of Alaska, providing access to health care where
4 it would be -- otherwise be unavailable.
5 The YK Delta is located in Southwestern Alaska, and covers
6 an area the size of the state of Oregon, 75,000 square miles.
7 The area is inhabited by 58 federally recognized tribes, living
8 in approximately 50 villages located along the Yukon and
9 Kuskokwim River systems. The City of Bethel serves as a
10 commercial hub for the region, and is located 80 miles from the
11 Bering Sea, and 400 air miles from Anchorage, Alaska's largest
12 city. The most distant village is about 200 air miles and
13 takes about one hour by air to get to Bethel. No road system
14 exists in this region.
15 In order to receive many health care services, people must
16 leave their homes and families and depend on either air travel,
17 which is available the year long, weather permitting, or boats
18 in summer and snowmachines in winter. Often unpredictable
19 weather and frequent high winds make travel hazardous.
20 This is Chevak, 120 miles from Bethel, population in
21 December of 1999 was 763, not connected by any roads to any
22 other villages. Chevak has many occasions to celebrate with
23 dancing. The style has remained much the same for centuries,
24 passed down from one generation to another. Drummers and the
25 main singers sit in the front rows, the drums are made from

1 wood and sealskin or plastic sheetings. Springtime in the
2 village makes for interesting travel. This is made in Chevak.
3 VHF radio is the usual way of contacting people in the
4 village or surrounding area, and used to contact people without
5 phones, or to announce to the village the clinic hours or hour
6 -- or holidays.
7 Well child exams are the -- are a routine part of health
8 care. The birth rate in the Delta is among the highest in the
9 nation. Immunizations are a part of normal preventive care.
10 Patient education is crucial to keeping a health community.
11 The information comes from the CHAM and other materials. CHAM
12 refers to community health aide practitioner manual, which is
13 used as a guide. The CHAM book has information about health
14 problems and preventive medicine that should keep community
15 health aides to remember any improved skills in providing
16 health care.
17 Kids in the Delta are no different than kids anywhere.
18 Some of them don't like to give blood, and some of them are
19 ready for anything. The health aide is the first person who
20 has to deal with traumatic injury in the village. The
21 emergency medic skills are very important. Health aides give
22 IVs, this can save a life. This past winter we had two
23 different incidents involving two infants that were weathered
24 in the village, and our health aides started IVs on them, which
25 was crucial for the two infants.

1 Satellite communication can have a big effect on the
2 health aide's job. The first computers came to the clinics
3 halfway through 1998. These are two technicians, John Charlie
4 and Tom, helping the health aide getting the computer installed
5 in Kwethluk. The computers must fit in the crowded clinic
6 corners.
7 These are after the computer was installed in the clinic,
8 it was already helping to promote communication, and this is
9 Elena Alexis, community health aide from Kwethluk. A folder is
10 set up for health aides only, and we can get access to the
11 internet to get more information.
12 For example, one of the basic instructors, who was on a
13 village trip to do a post-session evaluation on one of the
14 health aides, she came across a patient who was on a new
15 medicine that was -- she was not familiar with. She tried
16 looking up -- looking it up in the 1998 medical drug reference
17 and it was not listed. Sophie Carl, a community health aide
18 practitioner from Kipnuk, got on the internet and got
19 information about the newly approved drug therapy the patient
20 was on, which was helpful information.
21 We did two surveys of e-mail use by health aides, one in
22 December of 1999 and in April of 2000. The vast majority of
23 health aides are locked on to the e-mail system every week from
24 their village. Various reasons prevent reliable connections.
25 Ear disease is very common on the Delta. Here is a CHP

1 using a standard otoscope to see a child's eardrum. A few of
2 the clinics have access to high power scope provided by the
3 Otitis Media project which started in 1982. Cleaning up the
4 areas using a high power scope. The next step in ear care is
5 the video otoscope. And then the next step after that is to
6 link the pictures from the video otoscope to e-mail so they can
7 be sent to the referral hospitals.
8 This is Jesse Gunlik, an otitis media instructor, teaching
9 Stella Lake on how to use the equipment. Stella Lake is a
10 community health aide practitioner from Chevak.
11 Telemedicine is used as a learning tool for health aides
12 in training. This allows health aides to see the ear on the
13 screen, and then learn how to describe an eardrum. Video
14 otoscope also allows the patient to be part of the exam, by
15 allowing them to see their own eardrums. Patients usually ask
16 questions how to prevent ear infection, which leads to patient
17 education and prevention. Telemedicine will be used for visual
18 communication from village clinic to regional clinics for
19 consultation and referrals.
20 Right now we have five villages participating in
21 Telemedicine project. Chevak, Hooper Bay, Saint Marys, Kotlik,
22 and Marshall. We are scheduled to put telemedicine in all of
23 our clinics by the end of 2000, and we will need better
24 telecommunications so we can keep our computer on line and so
25 we can send images back to Bethel to the doctors and to our

1 instructors.
2 And this a hematoma in a child's ear taken the first day
3 after an injury, and on the -- and this is the same ear on the
4 third day.
5 To wrap it up, e-mail is a great help to health aides in
6 rural Alaska for four reasons. One, we work long, hard hours
7 and we seldom get to see the immediate results of our actions.
8 The most severe injured get medivacked to the hospital and we
9 don't hear much about them. It makes a difference to know
10 whether we did a good job or not. Two, with the e-mail and
11 internet we can find out about medicine and treatments from
12 sources anywhere in the world. Three, more and more medical
13 courses are being delivered on the Web, and in addition, when
14 we find some interesting cases, we can share them with other
15 health aides and our instructors. Four, we work in clinics
16 with only one or two health aides. A lot of things happen.
17 Sometimes the work atmosphere is almost too much. We need to
18 be able to communicate with other health aides and other
19 medical practitioners. Thank you.
20 LT. GOV. ULMER: Thank you very much, Hazel. Those of us
21 who had the opportunity to go to Kotzebue and Noatak saw some
22 of that being demonstrated, and I -- that may have also
23 happened in Sitka. But it was very up close and personal.
24 Matter of fact, we saw pictures of a -- the office in
25 Noatak, and it was just really quite remarkable to see the

1 wounds that -- a wound that took place in the village, that the
2 doctor in Kotzebue could then analyze and give instructions to
3 the village health aide, and assess whether or not the person
4 needed to be medivacked into either Kotzebue or into Anchorage.
5 It was certainly illustrative for us of what a difference it
6 makes to be able to have this technology.
7 Well, the other members of our panel today. Dr. Tom
8 Nighswander, facilitator for the Alaska Telehealth and Advisory
9 Commission. Dr. Nighswander has been active in the rural --
10 rural health since 1972 in Alaska. The majority of this time
11 has been spent as a family practitioner and emergency room
12 physician at the Alaska Native Medical Center in Anchorage. He
13 has also traveled extensively to the villages, and supervised
14 community health aides. As facilitator of the Alaska Health --
15 Telehealth Advisory Council, he can help provide policy
16 development and coordination of Telehealth projects in Alaska.
17 Rebecca Grandusky, CIO of the Yukon Kuskokwim Health
18 Consortium, is responsible for technology services, health
19 information services, and telecommunications services in a
20 rural health care organization. YKHC operates a 50 bed
21 hospital, 48 clinics, and one subregional clinic. None of
22 these facilities are connected by roads.
23 And Bob Cita, Alaska Federal Health Care Access Network.
24 Bob is the Information Services Director for the Southeast
25 Alaska Regional Health Care Consortium, or SEARHC. It is one