

Report of the Oregon Telecommunications Coordinating Council on the Plan for Healthcare and Education Networks

February 22, 2005

Executive Summary

The Seventy-Second Legislature directed the Oregon Telecommunications Coordinating Council (ORTCC) to prepare a plan to ensure that education and health care communities are able to connect by broadband and other telecommunications infrastructures necessary for distance learning.

The ORTCC devised a methodology for analysis of the challenges and evaluation of potential solutions. Considerable effort was invested to include representatives from all of the current networks and all those organizations either currently providing or considering providing healthcare workforce education and other telehealth services using those networks. Surveys are underway and the collection of critical information from a number of sources is in progress. We have discussed potential barriers to connectivity and possible solutions to overcoming them. A resolution is being prepared for consideration by the current Legislative Assembly.

Based on the efforts and findings to date the ORTCC Health Education Committee makes the following recommendations

- *Promote and encourage expanded collaboration and coordination in the utilization of capacity on existing state-funded and private networks and to help extend those networks to locations where need is demonstrated and adequate capacity does not yet exist.*
- *Promote and encourage continued development of distributed education programs to provide the essential training and educational capacity needed to meet the growing demands for healthcare workers and to meet future needs for healthcare throughout the state.*

We have based our strategic plan on the above recommendations. We anticipate that the strategic plan will be completed and ready to present to the current Legislative Assembly by May 1, 2005. It is reasonable to estimate that full implementation of the plan will take several years. Significant progress toward achievement of the planning goals has been made, and we look forward to continuing our work on behalf of Oregon's citizens.

Report of the Oregon Telecommunications Coordinating Council on the Plan for Healthcare and Education Networks

The Seventy-Second Legislature directed the Oregon Telecommunications Coordinating Council (ORTCC) to prepare a plan to ensure that education and health care communities are able to connect by broadband and other telecommunications infrastructures necessary for distance learning.¹

The ORTCC formed the Health-Education Committee (HEC), which in turn formed a steering committee and three Subcommittees: 1) Technology and Connectivity, 2) Applications and Content, and 3) Legislative, Policy and Regulatory. The steering committee included persons from beyond the membership of the ORTCC to tap into the experience and expertise existing throughout the state.

Based on the findings to date the ORTCC recommends the following plan:

- *Promote and encourage expanded collaboration and coordination in the utilization of capacity on existing state-funded and private networks and to help extend those networks to locations where need is demonstrated and adequate capacity does not yet exist.*

All of Oregon will benefit from greater collaboration, coordination, and interconnection of networks and network management as we work on the expansion of telehealth, healthcare workforce training and distance education programs. There is a demonstrated growing need for the broadband connectivity and networking as identified in the authorizing legislation.

Initial findings indicate the state does not need a new network dedicated to meeting the healthcare-education need, but should promote and encourage the utilization of capacity on existing state-funded and private networks and help extend those networks to locations where need is demonstrated and adequate capacity does not yet exist.

- *Promote and encourage continued development of distributed education programs to provide the essential training and educational capacity needed to meet the growing demands for healthcare workers and to meet future needs for healthcare throughout the state.*

In order to address the applications and content in distance and e-learning for the healthcare workforce it is necessary to develop, **on behalf of Oregon healthcare workforce students**, an, accessible, mobile, responsive, and accountable system of learning. In order to attain that goal with the current and future resource limitations, it is necessary to aggregate need and distribute delivery using distance and e-learning.

A strong requirements document is the foundation for planning. The simulation-based healthcare workforce training initiative and other distance education programs are essential

not only to provide the training needed to fill the many unfilled healthcare job opportunities in the state, but also to assist in the economic development of the state and its communities.

The Applications and Content subcommittee requested that the plan recommendations they brought forward be transferred to the Governor's Healthcare Workforce Advisory Board, as they are the more appropriate group to be working on those recommendations. Representatives from that group will continue to meet on an on-going basis with the ORTCC Health Education Committee to discuss progress and collaborate on issues as needed.

The ORTCC endorses the joint resolution brought forward in the recommendations, and will assist the in working toward its passage in the Legislature.

The Governor's Healthcare Workforce Advisory Board will complete and present the Applications and Content report to the Legislature.

Here is the draft plan developed by the Health Education Technology and Connectivity subcommittee to address the first goal:

GOAL 1: Promote and encourage collaboration and coordination in the utilization and expansion of both state and private networks.				
Task/Strategy	Activity to Date	Next Steps	Who is responsible	Completion Date
1. Inventory state networks, where they go geographically and institutionally and where they interconnect	<p>a. State of Oregon – data gathered w/high level schematic</p> <p>b. Higher Ed – data gathered w/schematic</p> <p>c. Community Colleges – data gathered, no schematic</p> <p>d. K-12, ESDs – data gathered schematics available</p> <p>e. Hospitals – survey in process through Telehealth Alliance of Oregon (TAO)</p> <p>f. Public Health Offices – survey completed by Dept. of Homeland Security, data requested</p> <p>g. Libraries – no data</p> <p>h. Oregon Tribes – data requested</p>	<p>a. Develop schematic for each disparate network</p> <p>b. Completed</p> <p>c. Focus on solutions for those colleges that currently have no connectivity</p> <p>d. Support current networks. Discourage legislation that would cause elimination.</p> <p>e. Support TAO efforts to complete survey and collate data. Support efforts to create broadband network for all hospitals.</p> <p>f. Obtain survey results. Support efforts to create broadband access for all offices.</p> <p>g. Collect data for all public libraries, ORBIS and Pioneer networks</p> <p>h. Continue efforts to collect data</p>	Technology and Connectivity subcommittee	<p>May 1, 2005 w/ biennial updates</p> <p>Note: The committee is still discussing where best to keep the collected information and how to determine who should have access for security reasons.</p>

2. Create a database that identifies resources to fund needed infrastructure		a. Develop the database b. Post to ORTCC website	Technology and Connectivity subcommittee	May 1, 2005 w/ annual updates
3. Endorse efforts by TAO, Office of Homeland Security and others to provide broadband connectivity to all healthcare facilities.	Organizations with healthcare networks or plans to develop healthcare networks identified.	Maintain efforts to identify new networks and ensure that organizations are aware of the efforts of others to avoid duplication of efforts where possible.	Technology and Connectivity subcommittee	Ongoing with written updates every six months
4. Identify and address issues for sharing networks such as security, interoperability, political and regulatory.	a. Workgroup discussions held, some issues identified b. Draft Memorandum of Understanding developed for consideration	a. Continue discussions. b. Identify a test project to determine issues raised when interconnecting a State-run network with a private healthcare network and to test MOU. c. Develop a methodology for addressing identified needs. d. Encourage DAS to cooperate when planning and building state owned networks	Technology and Connectivity subcommittee	Ongoing discussions Test project completed and outcomes presented to the Legislature in February 2006 Methodology developed for addressing needs developed by May 2006
5. Develop database of organizations or institutions that provide technical training in videoconferencing, streaming media, web casting and other distance and e-learning technologies		a. Collect information for database. b. Post link to database on all healthcare education websites. c. Identify issues to providing such training especially in rural areas. d. Develop a plan to	Technology and Connectivity subcommittee	Database completed by August 2005 Issues identified and a plan to address developed by February 2006

		address the issues in c. above		
6. Discourage special interest legislation that negatively impacts local government's ability to provide infrastructure and public/private partnerships	Prepared information for telecos and Legislative Assembly that addresses negative impacts of HB 2445	Ongoing throughout Legislative session	ORTCC	End of 2005 session

The following recommendations for stakeholder action were developed by the Applications and Content subcommittee:

An overall goal in the State of Oregon effort to address healthcare workforce shortages is to increase the quality and quantity of the healthcare workforce.

For the purposes of the HB 2577 directive to address the applications and content in distance and e-learning for the healthcare workforce, the statewide goal is to develop, **on behalf of Oregon healthcare workforce students** an accessible, mobile, responsive, and accountable system of learning. In order to attain that goal with the current and future resource limitations, it is necessary to aggregate need and distribute delivery using distance and e-learning.

For the benefit of the students, each of the stakeholder groups below has individual and unique power to assist the statewide effort in realizing these goals.

Legislature:

- 1) In both policy and budgeting, invest equally in technology and applications & content
- 2) Pass a resolution which supports principles from Statewide Simulation Alliance and local/collaborations (a Legislative resolution is proposed)
- 3) Carefully review policy decisions on education, healthcare and technology issues to insure that new or existing policies do not create barriers to what's emerging from the collaboration of healthcare and education in their efforts to increase the quality and quantity of Oregon's healthcare workforce
- 4) Direct the Legislative Leadership to endorse grant applications (i.e. write letters of support) for local collaborations and statewide initiatives (a Legislative resolution is proposed)
- 5) Implement strategies such as budget items, budget notes, etc., to encourage appropriate action to remove identified barriers
- 6) Support statewide initiatives
- 7) Inform and educate Oregon's Congressional Delegation and federal agency representatives regarding barriers to successful healthcare workforce development (one example are issues around streamlining financial aid requirements and processes to fit in a virtual learning environment)
- 8) Sustainability standards – endorse
- 9) Clout for local collaborations working together and on statewide basis

Boards of Education:

- 1) Adopt policies and rules supporting operating schools & colleges in an e-learning environment
- 2) Identify & remove or amend barriers (OARs) to facilitate access to e-learning throughout the state (example: address boundaries as virtual learning supercedes boundaries & districts)

- 3) Develop or amend course and program approval policies to implement principles of access, transferability, mobility, articulation and learning outcomes (within state funded institutions)
- 4) Change system so it is based upon proficiencies and learning outcomes rather than seat time
- 5) Address issue of current fund distribution creating competition between institutions – reward collaboration NOT competition
- 6) Serve in role as leaders in bringing concerns to accreditation bodies (i.e. item #4)
- 7) Inform and educate Oregon’s Congressional Delegation and federal agency representatives regarding barriers to successful healthcare workforce development (one example are issues around streamlining financial aid requirements and processes to fit in a virtual learning environment)
- 8) Provide leadership and direction to provide accountability in fiscal management as well as outcomes performance standards

Joint Boards of Education

- 1) All of those above
- 2) Lead the discussion of necessary changes to cross-sector issues, such as articulation

Education Institutions

- 1) Develop a master statewide schedule for healthcare education courses
- 2) Become LEARNING centered
- 3) Support professional development for faculty & staff in e-learning pedagogy and provide incentive – i.e. compelling reason to do (personal potential and/or the next killer app)
- 4) Develop inter- and intra-institutional policies that provide for sharing curriculum
- 5) Develop and use compatible technologies (i.e. inter- and intra-institutional)
- 6) Promote and create inter-operable processes and systems such as registration applications, dual degree and financial aid (See other stakeholder recommendations re federal problems, particularly with financial aid)
- 7) Provide leadership for collaboration between technology professionals and instructors
- 8) Collaborative approach to student services, including scheduling of curriculum (collaborative scheduling across state)
- 9) Develop and implement off-cycle programming (out of sequence) of courses
- 10) Communicate scheduling to students (not about competition)

Faculty:

- 1) Resolve issues around intellectual property to enable collaboration (one potential resource is entertainment & literary industries)
- 2) Develop, adopt and institutionalize policies that enable shared curriculum around the state

Healthcare Industry:

- 1) Provide leadership in development and sustainability of local coalitions to provide quality education to current and potential healthcare workforce
- 2) Be spokesperson and leader for “sharing the vision” -- at both state and local levels

- 3) Provide public advocacy
- 4) Work with education partners to develop career pathways and inform program and course development
- 5) Research and development of workforce pipeline needs
- 6) Work with all partners to develop compatible use of technology
- 7) Think outside of the box, i.e. e-learning -- entire industry needs to perceive itself as a teaching organization/institution
- 8) Identify and assist in resource development around the upcoming "Killer Apps," not just within healthcare industry but education and other industries as well

Summary and Concluding Remarks

The ORTCC's Health-Education Committee and its subcommittees devised an effective plan for analysis of the challenges and evaluation of potential solutions to the charge outlined in HB 2577:

(a) Ensures that the education and health care communities are able to connect by broadband and other telecommunications infrastructures necessary for distance learning.

(b) Encourages cooperative activities among the education and health care communities for the purpose of establishing and implementing curriculum applications that are necessary to fully utilize the connected networks.

(c) Fully utilizes the resources of the education and health care networks.

The Health Education Committee and its subcommittees determined that while the plan developed by the Technology and Connectivity subcommittee was within the scope of expertise of the Council that recommendations developed by the Applications and Content subcommittee could be better dealt with by the Governor's Healthcare Workforce Advisory Board. The two groups will continue to meet together to discuss overall progress and to work on issues requiring collaboration.

We see the resulting plan as strategic in nature with an outlining of steps toward achieving its objectives. The plan is dynamic and will change as the technology and healthcare environment change. Significant progress toward achievement of our planning goals has been made, and is continuing. An updated plan showing additional progress will be presented to you in May. We look forward to continuing our work on behalf of Oregon's citizens, and will have an updated plan to present to you in May.

References

¹ SECTION 4. (1) The Oregon Telecommunications Coordinating Council shall collaborate with health care education providers and members of the health care industry to develop and implement a plan that:

(a) Ensures that the education and health care communities are able to connect by broadband and other telecommunications infrastructures necessary for distance learning.

(b) Encourages cooperative activities among the education and health care communities for the purpose of establishing and implementing curriculum applications that are necessary to fully utilize the connected networks.

(c) Fully utilizes the resources of the education and health care networks.

(2) The plan developed under this section shall include determinations about the technical and financial resources needed to implement the plan.

(3) The Economic and Community Development Department may seek funding from the federal government and private sources to develop and implement the plan described in this section.

SECTION 5. (1) The Oregon Telecommunications Coordinating Council shall report to the interim committees related to health care, in the manner provided by ORS 192.245, no later than July 1, 2004. The report shall include the plan developed under section 4 of this 2003 Act.

(2) The Oregon Telecommunications Coordinating Council shall report to the Seventy-third Legislative Assembly, in the manner provided by ORS 192.245, no later than February 1, 2005. The report shall include information on the implementation of the plan described in section 4 of this 2003 Act.

SECTION 6. Section 2, chapter 699, Oregon Laws 2001, is amended to read:

Sec. 2. Section 1, chapter 699, Oregon Laws 2001, is repealed on January 2, 2006.

SECTION 7. This 2003 Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this 2003 Act takes effect on its passage.

<http://www.leg.state.or.us/03reg/asures/hb2500.dir/hb2577.b.html>

Appendix 1 – Draft Memorandum of Understanding

Between and Among

Those entities, organizations and persons actively engaged in the provision of healthcare and/or educational services or training both within and without the physical boundaries of the State of Oregon; and who, in the delivery of such services or training, regularly utilize telecommunications equipment, facilities, infrastructure, applications or content.

WHEREAS:

It is in the best interests of both the provider(s) and the recipient(s) of healthcare and/or educational services or training to optimize the utilization of two-way, interactive telecommunications technology in a distance learning and/or video conferencing format; and

WHEREAS:

It is in the best interests of both the provider(s) and the recipient(s) of healthcare and/or educational services or training to fully utilize existing telecommunications infrastructure, connectivity and applications through the coordinated use of such potentially obtainable assets; and

WHEREAS:

It is in the best interests of healthcare and educational service providers, the recipients of such services and the residents of the State of Oregon, wherever and whenever possible, to avoid the duplication of existing resources;

IT IS, THEREFORE:

Understood and Agreed by the Parties to this Memorandum of Understanding

that they will likely realize a collective benefit by cooperating and collaborating for the purpose of exploring the extent to which existing or planned telecommunications infrastructure, networks, systems or capacity can be used to broaden access to and increase availability of existing, expanded and enhanced applications and content, while concurrently encouraging and facilitating the delivery of statewide healthcare and educational services.

ORGANIZATION: _____

BY: _____ DATE: _____

ORGANIZATION: _____

BY: _____ DATE: _____

ORGANIZATION: _____

BY: _____ DATE: _____

ADDENDUM
to the
Healthcare-Education Memorandum of Understanding

- I. The Memorandum of Understanding presumes only to encourage the identification of opportunities that may exist to coordinate and utilize established telecommunications assets for mutual benefit.
- II. No responsibilities or obligations, financial or otherwise, are expressly incurred or implicit by participation in the Memorandum or the efforts described therein, nor will any signatories to the Memorandum be legally or as a matter of practice bound to perform any duties or tasks not deemed in the best interests of their respective organizations.
- III. Establishment and maintenance of certain Quality of Service standards commensurate with the substantial requirements of healthcare and education service provision are essential elements in the attainment of the goals contained within this Memorandum and the furtherance of coordinated telecommunications activity throughout the State of Oregon. Quality of Service will be measured and evaluated on both qualitative and quantitative bases pursuant to the availability of high speed broadband service. High speed broadband service is for the purposes of this Memorandum defined as no less than 1Mb (one megabit per second) of synchronous (bi-directional) throughput at a reliability/availability level not less than 99.999%, latency not to exceed .002 (two milliseconds) and jitter not more than ten (10) milliseconds end-to-end
- IV. Certain expectations will be established pursuant to the responsibilities and obligations of end users and/or last mile service providers with regard to proprietary applications and content. The coordination of existing telecommunications activities and sharing of network capacity as defined in this Memorandum is specifically limited to middle-mile and backbone infrastructure, and does not extend to the coordination or sharing of, or otherwise any involvement in, the delivery of end-use programs.
- V. A goal of the participants to this Memorandum shall be to identify and/or establish certain roles and responsibilities outside or in addition to the sharing of infrastructure to be assumed by those engaged in the direct delivery of services at the end use level; and what resources, financial and otherwise, such direct providers can be reasonably expected to contribute.
- VI. Fundamental to the purpose of this Memorandum and the efforts precipitated thereby is an enduring awareness that a “Best Practices” standard should and will be applied to any and all activities associated with the achievement of initial or subsequent goals or any and all such solutions, activities or attitudes that may be suggested or proposed as a result of the efforts fostered by participation in this Memorandum.