

The Value of a Comprehensive Texas Information and Referral Network: August 2000 Update

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Introduction

Researchers with the Ray Marshall Center for the Study of Human Resources (RMC), a policy research and evaluation unit of the University of Texas at Austin's Lyndon Baines Johnson School of Public Affairs, prepared the December 1998 report, *The Value of a Comprehensive Texas Information and Referral Network* under contract with the Texas Health and Human Services Commission. The report estimated the benefits, costs and net value of a comprehensive I&R Network comprised of 25 Area Information Centers (AICs), a centralized automated information warehouse, a state website, and a 211 Single Number System (SNS) dedicated to health and human services information. Since the issuance of that report, I&R administrators and staff at the state and local levels have been steadily implementing the first three components of the system. In July 2000, the Federal Communications Commission (FCC) officially designated 211 as the national health and human service number, largely clearing the way for Texas to roll out the 211 SNS component. In support of its appropriations request to do so, the Texas I&R Network approached the RMC to revise our earlier analysis based upon updated information related to the single number system (SNS).

This report summarizes the results of the revised benefits/costs analysis for the Texas I&R Network. As in the earlier report, we found that state appropriations for a comprehensive Texas Health and Human Services Information & Referral Network will create more benefits than cost and will return a net value to society. Despite an increase in total cost for the Network, we estimate that the unadjusted net benefit to society rose by nearly \$0.3 million to \$14.7 million and that the share of the total costs borne by the state government dropped more than \$1.0 million. State cost reductions are the result of increased local contributions to this collaborative public/private effort.

To arrive at these estimates, we reviewed previous and additional assumptions related to our valuation formulas. We decided that the basic conceptual cost/benefits model used to arrive at our original estimates retained validity. We incorporated the new information into our model to produce the revised estimates.

Factors Influencing Estimated Values

The RMC and state I&R office staff identified four factors which have changed enough since the previous analysis to influence the distribution of the costs, benefits and estimated net value of the I&R Network.

- **Call Volume Estimate.** Based on actual experiences in the first two-years of AIC implementation, I&R staff have upwardly adjusted call volume projections.
- **Population Growth.** The state population has increased during the two-year lag in SNS implementation, in effect enlarging the potential universe of payees and beneficiaries as Texas begins introducing the SNS component.
- **Cost Estimates.** I&R staff have identified larger, but more accurate cost estimates for the telecommunication service rate and other operating costs related to the SNS.
- **Cost-Sharing.** I&R staff now recommend reducing the initial State budget outlay for local I&R Center operating costs from 75 percent to 50 percent during the implementation phase.

Population and call volumes are key variables in the valuation formulas used to estimate the costs and the benefits of the comprehensive system. In general, we assigned shares of projected call volumes to individuals or entities to calculate the magnitude of costs and benefits that accrue to them. Further, we assumed that total call volume would level off at a number equal to ten percent of the state's population near the end of the implementation phase. Thereafter during the operational phase of the I&R Network, call volume projections increase at the estimated population growth rate.

The state I&R staff have also provided higher cost estimates for introducing and operating the AICs with the 211 SNS. The cost estimates for the "automated" system components, i.e., the centralized information warehouse and state-maintained website, have not changed. Table 1 compares the proposed 1998 and 2000 total annual budgets for implementing the SNS component and the I&R system (excluding the costs of the automated components).¹ Under the most recent budget, total costs over the four-year period have risen by nearly \$9.5 million. Budget projections have risen between \$2.2 million and \$2.5 million each year.

¹ Both Table 1 and Table 2 encompass a four-year period comprised of the three-year implementation period through the first year of statewide operations.

Table 1
Annual Budget Differentials

	Year 1	Year 2	Year 3	Year 4	Total
1998	\$3,049,304	\$5,082,472	\$6,822,812	\$7,372,312	\$22,326,900
2000	\$5,307,263	\$7,360,344	\$9,318,364	\$9,818,927	\$31,804,898
Difference	\$2,257,959	\$2,277,872	\$2,495,552	\$2,446,615	\$9,477,998

Source: Texas I&R Network Proposed 211 System Budget (1998, 2000).

Table 2 identifies the principal sources of cost increases and cost savings found in the two budgets. Under the revised budget, projected costs for telecommunication service have increased each year, totaling approximately \$1.7 million more over the first four years of SNS operation. The next cost leader is the cost of operating the AICs which increased nearly \$1.5 million as well. A one-time Set-up and Engineering charge is new to the 2000 budget and adds nearly \$215,000 to costs in the implementation phase. Several line items were not accounted for in the 1998 budget, including professional fees, and minor operational costs. These and miscellaneous small line items (salaries, materials, travel, etc.) are bundled in the Other category and account for an additional \$400,000. Capital Outlay for start-up costs (primarily software) has declined, representing approximately \$150,000 in cost savings.

Table 2
Sources of Cost Increases and Cost Savings

		Year 1	Year 2	Year 3	Year 4	Total
Telecommunication	1998	\$241,400	\$355,568	\$481,908	\$481,908	\$1,560,784
	2000	\$506,037	\$759,055	\$1,012,075	\$1,012,075	\$3,289,242
	Difference	\$264,637	\$403,487	\$530,167	\$530,167	\$1,728,458
I&R Centers	1998	\$3,000,000	\$5,400,000	\$7,400,000	\$7,400,000	\$23,200,000
	2000	\$4,113,000	\$5,838,000	\$7,365,000	\$7,365,000	\$24,681,000
	Difference	\$1,113,000	\$438,000	(\$35,000)	(\$35,000)	\$1,481,000
Set up and Engineering	1998	\$0	\$0	\$0	\$0	\$0
	2000	\$107,874	\$53,937	\$53,937	\$0	\$215,748
	Difference	\$107,874	\$53,937	\$53,937	\$0	\$215,748
Capital Outlay (Software)	1998	\$400,000	\$300,000	\$200,000	\$0	\$900,000
	2000	\$321,000	\$231,000	\$195,000	\$0	\$747,000
	Difference	(\$79,000)	(\$69,000)	(\$5,000)	\$0	(\$153,000)
Other	1998	\$157,904	\$376,904	\$590,904	\$1,340,404	\$2,466,116
	2000	\$259,352	\$478,352	\$692,352	\$1,441,852	\$2,871,908
	Difference	\$101,448	\$101,448	\$101,448	\$101,448	\$405,792

Source: Texas I&R Network Proposed 211 System Budget (1998, 2000).

State I&R staff also have recommended adjusting the state and local budget shares for operating the AICs, in effect increasing the local private contribution to the I&R Network. Under the current scenario, the state and local entities will each be responsible for 50 percent of the operating budget. Under the earlier scenario, the state bore responsibility for 75 percent of the operating budget for the first four years. Thereafter, the state share declined by 5 percent a year through year eight when state and local shares stabilized at 50 percent each.

Other Considerations

We also considered events and conditions related to our original assumptions and valuation formulas that could influence the net value of the Texas I&R Network. Principal among these were cost avoidance at the Texas Department of Human Service (DHS) due to support for the Texas Works initiative provided by the I&R Network, potentially beneficial links with Texas Workforce Centers, and the possibility of N11 overlap. In addition to these, we also reviewed other considerations negotiated for the earlier report, including the penetration of web access, volunteerism and donations, and staff training. We declined to make any adjustments regarding these for this report.

We decided that changes in cost avoidance attributable to DHS earlier or possibly associated with TWC in the present, probably cancel each other out. Resource areas at DHS offices established as part of the Texas Works initiative are not as widely available as anticipated during the preparation of the earlier report, perhaps giving reason to adjust the valuation formula. Nevertheless, we decided that cost avoidance due to reduced intake and eligibility certification procedures is still valid; individuals may be connected with more appropriate services through the I&R Network from the DHS office, from a Texas Workforce Centers or from any other allocation. Rather than estimating a cost-savings/benefits increase based on closer links with Texas Workforce Centers to help workers access additional human services in support of their work effort and/or lowering the expected benefits because of changed conditions at DHS, we decided the earlier benefit estimate was acceptable.

A final concern for this revision was the potential for public confusion regarding the proliferation of N11 dedicated lines. Among many effects, we had assumed earlier

that the presence of 211 will likely reduce inappropriate calls to 911. Now, with the recent assignments of all N11s to functional areas, we considered whether it was appropriate to assume that some individuals would become confused between 911, 211, 311, 511, etc. We discovered that areas with multiple N11 lines in use have found that effective marketing helps to eliminate this and now assume that the Texas marketing campaign will replicate results elsewhere.

Methodological Approach

RMC researchers retained the analysis design of the 1998 report. At all appropriate points in our prior valuation formulas and tables, we:

- Adjusted the call volumes using new estimates provided by the I&R staff.
- Adjusted population projections using recent estimate from the U.S. Census found in the State Data Center website.
- Inserted updated cost estimates from the most recent budget provided by I&R staff.
- Adjusted the cost-sharing formulas for the AICs.

As before, our benefit/cost analysis uses a three-year implementation phase during which the comprehensive I&R Network is incrementally introduced across the state, followed by a seven-year operational phase. In this update, the three-year period of project implementation for the SNS components is projected to begin two years after the date designated in the original report. Values were estimated for the ten-year period, then converted to Net Present Value (NPV) using 2.0 percent and 3.5 percent discount rates.

The Estimated Value of the Comprehensive I&R Network

The changes in the population, call volumes, budget, and cost sharing had marginal, yet positive effects on the estimated net value of the comprehensive I&R Network. As Table 3 indicates, the comprehensive I&R Network still requires government expenditures to realize the positive net values for individuals and society. The revised estimates indicate that the most value still accrues to individuals, but at a slightly lower level and that costs, benefits and net value to government and society have

increased. From the vantage point of benefit/cost analysis, the positive net value to society is the most important figures.

Table 3
Comprehensive Texas I&R Network:
Ten-Year Estimated Comparative and Total Net Values

		Participants	Government	Society
I&R Network Costs	1998	\$28,882,645	\$57,154,591	\$86,037,236
	2000	\$35,062,001	\$59,037,573	\$94,099,574
	Difference	\$6,179,356	\$1,882,982	\$8,062,338
I&R Network Benefits	1998	\$67,052,537	\$33,060,482	\$100,113,019
	2000	\$72,504,303	\$35,962,396	\$108,466,698
	Difference	\$5,451,766	\$2,901,914	\$8,353,679
Net Value, Undiscounted	1998	\$38,169,892	(\$24,094,109)	\$14,075,783
	2000	\$37,442,301	(\$23,075,178)	\$14,367,124
	Difference	(\$727,591)	\$1,018,931	\$291,341
2.0% Discount Rate	1998	\$34,723,584	(\$22,769,032)	\$11,954,552
	2000	\$33,423,035	(\$21,398,688)	\$12,024,367
	Difference	(\$1,300,549)	\$1,370,364	\$69,815
3.5% Discount Rate	1998	\$32,434,227	(\$21,986,936)	\$10,447,291
	2000	\$30,782,186	(\$20,280,865)	\$10,501,321
	Difference	(\$1,652,041)	\$1,706,071	\$54,030

Individuals. The I&R Network is estimated to have a positive net value for individuals of \$37.4 million. Although this represents a \$728,000 decrease compared to the earlier analysis, it remains clear that Texas residents receive the largest benefits from the comprehensive I&R Network. Adjusted to net present value, individuals will receive \$33.4 million or \$30.8 million in benefits after a 2.0% or 3.5% discount rate has been applied for the ten-year period.

Government. The I&R Network produces a negative net value for the government of approximately \$23 million. The revised estimates lower the cost to

government by over one million dollars. The NPVs at the 2.0% and the 3.5% discount rates are \$21.4 million and \$20.3 million, respectively.

Society. The estimated net value of the I&R Network to society is \$14.4 million over the ten year period. This represents a \$291,000 increase in net value compared to prior estimates. The NPVs of the Network at the 2.0% and the 3.5% discount rates are \$12.0 million and \$10.5 million, respectively.

Final Comments

The revised estimates support the same policy implications identified in the 1998 report. First, based on a conservative tabulation of expected tangible costs and benefits associated with the comprehensive statewide I&R system, Texas would be advised to proceed with the investment. The analysis continues to indicate that society will likely reap positive net benefits from this investment. Second, as a classic example of what economists refer to as a public good, investing in an I&R network is a sensible choice, despite net governmental costs. This is particularly important as the process of devolution of responsibility from states to local areas continues in the fields of workforce, health, and other human services. The I&R Network serves as an example of public/private sector cooperation that produces benefits across Texas. Lastly, as we argued in the earlier report, benefits are likely to increase over time, while costs may tend to decrease.