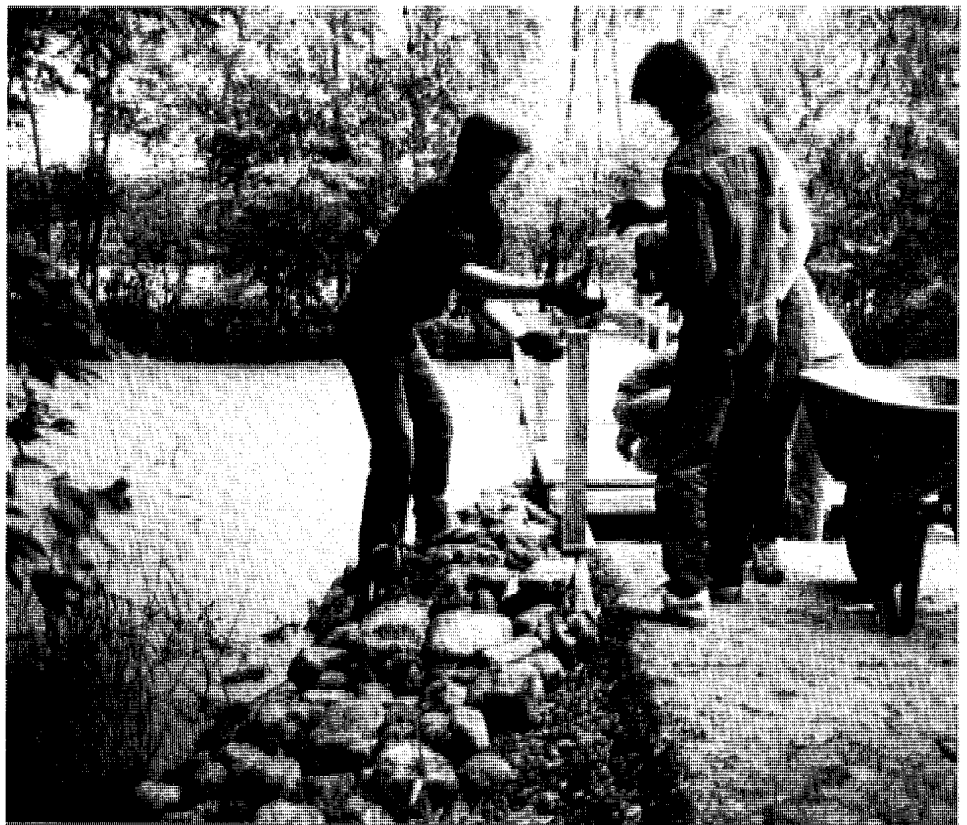


**CURA****reporter**

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## Nonprofits in the Twin Cities: Expectations and Realities

by *Barbara Lukermann*



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Interest in the nonprofit sector exploded in the 1980s, ignited by policies of the first Reagan administration designed to decrease the role of the federal government in a host of human service programs. These policies impacted on state and local government budgets creating new pressures for private sector organizations and for philanthropic giving. Fewer federal dollars and a continuing need for services simply meant that a restructuring of the service system was set in motion and along with that a re-

examination of what we expect from government and from the private sector. The nature of the partnership between government and the private sector has changed, but are the new arrangements any "better" than what was there before? How can the change be measured and evaluated? The Twin Cities Nonprofit Sector Project was one research effort designed to document changes and provide at least some preliminary answers to these questions.

**The Nonprofit Sector Project**

Since 1982 the Twin Cities has been one of sixteen communities participating in a national research project initiated by the Urban Institute under the direction of Dr. Lester Salamon. Local foundations (General Mills, Bush, Honeywell and the community foundations in St. Paul and Minneapolis) and CURA gave financial support to the Twin Cities portion of this effort. The purpose was to examine the Twin Cities in a national context and to develop a local information base on the size and character of the nonprofit sector; to measure the mutual relationships between nonprofits and government; and to show the actual impact of recent changes in public spending on nonprofit capacity to deliver services.

The sixteen sites for the overall study included communities that are vastly different in size as well as geographic setting. These were: New York, Pittsburgh, Providence, and Fayette County, Pennsylvania, in the Northeast; Chicago, Minneapolis/St. Paul, Flint, and Tuscola County, Michigan in the Midwest; Phoenix, San Francisco/Oakland, Boise, and Pinal County, Arizona, in the West; and Dallas, Atlanta, Jackson, and Warren County, Mississippi, in the South. Both size and location affect the need for human services, the local capacity to respond to that need, and the political and cultural value systems that largely determine how the community responds.

The Twin Cities have gained a national reputation for expansive philanthropy. State and local governments are seen here as supporting relatively generous social service programs. But are the Twin Cities as fulsome as we think? And have the Twin Cities fared better or worse than other parts of the nation as these changes in the nonprofit sector came about? The principal findings of the Twin Cities Nonprofit Sector Project will be presented and then linked with the broader public policy questions that face Minnesota as the decade of the 1980s comes to a close.

**Twin Cities Nonprofits**

As a class, nonprofits that provide direct human services occupy a significant niche in the local economy. In 1982 some 1,350 nonprofit agencies were located in the ten-county metropolitan Twin Cities area. Their combined revenue base was estimated at \$1.6 billion. When large hospitals and pri-

vate colleges are excluded, the revenue base drops to \$713 million. Many of these agencies are small, with budgets under \$170,000 a year. But a few large agencies (15 percent of the total) accounted for three-fourths of the \$713 million base.

The nonprofits vary in size, clientele, and the degree to which they rely on government for their revenue base. As compared with communities across the country, Twin Cities nonprofits have a larger revenue base, taking second place among the twelve city sites, that were studied. Minneapolis and St. Paul spent \$306 per capita on nonprofit agencies in 1982 (Figure 1). Only New York exceeded this on a per capita basis.

Growth of the nonprofit sector in the Twin Cities has been propelled by a number of government funded programs: medicare and medicaid, categorical block grants for social services, housing assistance programs, employment programs and some programs that support arts organizations. Three out of four local nonprofits were formed after 1960, and half after 1970.

At the turn of the century, a small cadre of charitable associations dominated the scene in Minneapolis and Saint Paul. Today the most outstanding feature of the nonprofit community is its heterogeneity—whether measured by the type of service provided, the size of the budget, or the persons that are served. Many, such as the Guthrie Theater, serve a well-to-do clientele and are organized and managed efficiently, along the lines of for-profit businesses, although profit is not their motive.

Survey data from over 500 local nonprofit agencies point to their heavy reliance on government as a source of revenue. When government sneezes, most get a little uneasy, and some downright sick. Government provided 40 percent of all their revenues in 1981, fees for service accounted for another 31 percent, and private giving contributed 22 percent.

The agencies most likely to be seriously affected by government retrenchments are those that serve the poor. These agencies as a group rely on government for 61 percent of their revenues. Government funding contributes 56 percent of the income for agencies delivering social services and 57 percent for agencies that provide employment and training, legal services, housing, or advocacy. It is not surprising when small

nonprofits focusing on these services become alarmed at a major federal initiative to cut-back funds and there is question about the willingness or capacity of state and local government to fill the breach.

For many of these agencies, the response has been to look for private giving. A Cooperative Fund Drive that taps giving at the workplace has been created to direct more private resources in their direction. A second strategy has been the creation of a research project, the Philanthropy Project, to examine the extent of foundation giving to organizations serving the disadvantaged and publicize the results. Both of these strategies have been successful in achieving their goals and raising public consciousness.

National policies, particularly through federally funded social welfare programs, have tended to shape nonprofit sectors in communities across the country so that they are generally more similar than dissimilar. In the Twin Cities, as compared with other communities, the agencies are younger, fewer serve minority populations (we have a smaller minority population), and the number of agencies and their revenue base is well above average. But in most other respects the composition of Twin Cities nonprofits across program areas is similar to the rest of the nation.

**Partnership Between Government and Nonprofits**

A partnership is a two-way street where both parties gain from a sharing of goals. In this instance nonprofits depend on govern-

**Figure 1. INCOME OF NONPROFIT HUMAN SERVICE AGENCIES IN TWELVE METROPOLITAN SITES AND THE UNITED STATES, 1982\***

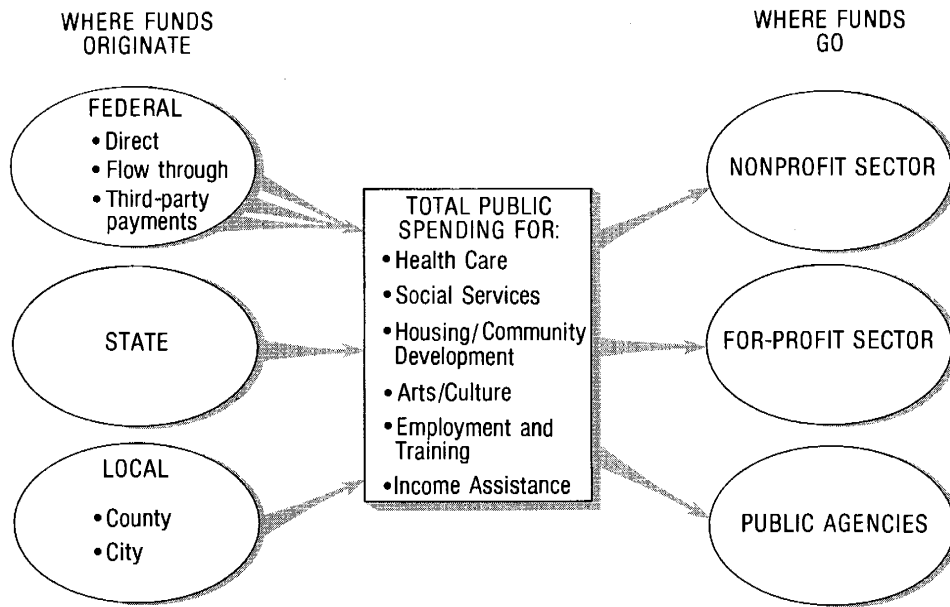
Site	Per Capita Income
New York, N.Y.	\$488
Minneapolis/St. Paul	306
Providence, R.I.	255
San Francisco, Calif.	238
Chicago, Ill.	187
Pittsburgh, Pa.	170
Atlanta, Ga.	154
Jackson, Miss.	151
Boise, Idaho	142
Phoenix, Ariz.	127
Dallas/Forth Worth, Tex.	119
Flint, Mich.	103
ALL SITES	269
UNITED STATES	\$266

\* These figures include revenues for organizations engaged in amusement and recreation activities, health services, legal services, education and research, social services, plus a small proportion of civic, social, and fraternal organizations. Revenues from hospitals, institutions of higher education, and private schools are excluded.

Source: Data on revenues are computed from U.S. Bureau of the Census, 1982 Census of Service Industries—Geographic Area Series; population figures used for calculating per capita data are from U.S. Bureau of the Census, Current Population Reports—Local Population Estimates (Series P-26), 1984.

**cover photo: Twin Cities Tree Trust is a nonprofit agency based in St. Louis Park that is dedicated to rebuilding the urban forest. They train and employ youth, especially economically disadvantaged and handicapped youth, to work in their nurseries; carry out landscaping projects; maintain city parks; and construct trails, bridges, boardwalks, retaining walls, and the like. Workers here are constructing a new bridge at Camp Courage as part of the Summer Youth Employment Program. To survive federal budget cuts from the summer youth program, the Tree Trust has added a program that employs disadvantaged and handicapped adults during the Winter, thus substituting state dollars earmarked for these groups for the lost federal income. Even with this replacement and an increase in foundation support, the Tree Trust's income is down 24 percent in 1987 from what it was in 1981.**

**Figure 2. THE FLOW OF PUBLIC DOLLARS**



ment to maintain the viability of their organization and in turn governments depend on these organizations to provide services to the community in a flexible way that allows them to respond to changing needs and opportunities. In a very direct sense government has fostered the growth of the nonprofit sector by expanding public resources and by deciding that government need not, and indeed should not become the sole provider for services that are

needed in the community. Analysis of public spending in Hennepin and Ramsey counties affirms the importance of private organizations (both nonprofits and for-profits) in carrying out the business of government.

Figure 2 shows how public dollars flow across sectors. In some instances grants are made directly from government to private organizations. A large proportion of federal and state dollars "flows through" to local government, that are then responsible

for disbursements. Money also moves through third-party reimbursements when a private agency, such as a mental health clinic, provides services to a client and then is reimbursed through a government program. These reimbursements involve huge amounts of money. The Medicare program, for example, funnels approximately \$300 million of federal money each year into Hennepin and Ramsey counties.

In Minnesota we have created a state supervised but county administered approach to delivering many health and social services. Funds flow through different government agencies to county and city departments and in turn some of these funds move on to private agencies through purchase-of-service contracts. Tracking the flow of these monies was not easy! In many instances for-profit and nonprofit providers are indistinguishable to the consumer if local government has set standard costs and quality of service is comparable. Many county and city purchase-of-service agreements are not so much concerned with the status of the agency that they contract with as with the service quality and cost effectiveness of that agency.

The actual amount of public spending and the proportion that passes through into nonprofit agencies serves as a measure of the mutual reliance between government and the nonprofit sector.

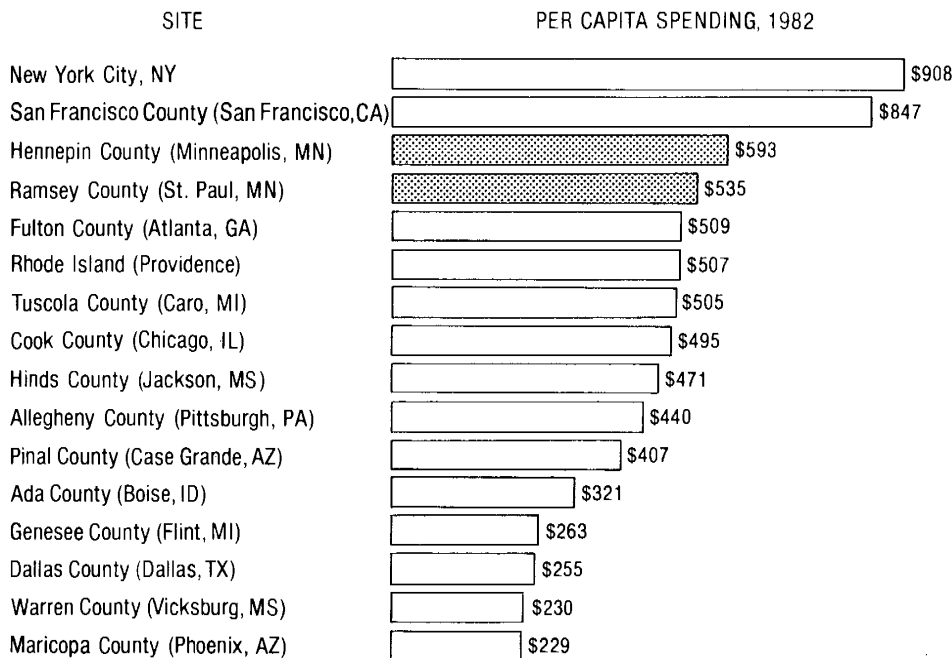
**Public Spending through Local Nonprofits**

In 1981 Hennepin County had the equivalent of \$567 per capita in public dollars to fund services in five program areas: social services, health, employment, housing, and the arts.\* Ramsey County spent \$513 per capita, lower primarily because Ramsey has a much smaller hospital sector. The federal government provided 58 percent of all the public funds in Hennepin County and 51 percent in Ramsey County. Local governments provided 15 percent in Hennepin and 14 percent in Ramsey County.

The Twin Cities are well above average when compared to other sites on per capita spending (see Figure 3). Only New York and San Francisco spent more. To some extent the Twin Cities' position at less than the top is explained by the smaller minority and low income population here. Public spending is well above average in the Twin Cities because of higher funding from state and local government, because of a large regional health industry, and because of aggressive use of special grant programs such as Urban Development Action Grants (UDAG), and Urban Health Initiative Grants.

About half of all public funds in the Twin Cities area were channeled to private sector providers of human services. In Hennepin County one-quarter moved to

**Figure 3. GOVERNMENT SPENDING ON SELECTED\* HUMAN SERVICE PROGRAMS IN STUDY SITES**

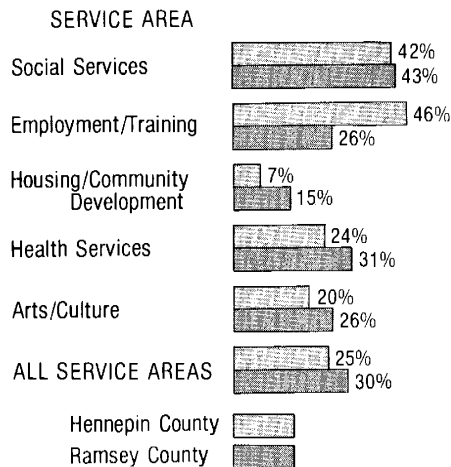


\*Excludes income assistance and Medicare dollars.

Source: slightly modified from "Human Service Spending in Chicago: The Changing Roles of Government and Private Funders," Salomon et al. Draft copy, Urban Institute: Washington D.C., Figure 1, unpagged.

\* Note that all dollar figures relating to spending exclude the large Medicare and income assistance programs.

**Figure 4. PERCENT OF TOTAL GOVERNMENT SPENDING THAT WENT TO NONPROFIT AGENCIES, 1981**



nonprofits and in Ramsey County, 30 percent (see Figure 4). Government reliance on the nonprofits varied according to the type of service provided. The largest share of funding in both Hennepin and Ramsey counties was in the area of social services where more than 40 percent of government spending went to nonprofits.

The two counties differed somewhat in the percent of total spending that went to nonprofits, but very little when the amount of money spent was compared on a per capita basis. Hennepin County spent \$143 per capita through nonprofit agencies and Ramsey County, \$156 per capita. The dominance of the health sector was most striking (\$88 per capita in Hennepin County and \$91 per capita in Ramsey County went to nonprofit health service agencies). Non-profit hospitals, clinics, HMOs, and nursing homes are relatively more dominant in the Twin Cities than in the other cities and sites across the nation. Next to the health sector, social services in the Twin Cities received less than half as much in government spending—\$39 per capita in both counties. Government spending through nonprofits in the other service areas was at \$10 per capita or less in both counties.

**Actual Versus Expected Changes**

Reagan’s “private sector initiatives” program was premised on a belief that “government” had become too big and intrusive in people’s lives and that the private sector, including business, philanthropy, and private organizations providing services, could take up the slack as the federal government reduced its expenditures. A hope that the corporate sector could fill the breach was swiftly dispelled, given the magnitude of the proposed budget cuts. In 1981, expectations were for massive cuts in federal domestic spending, increased reliance on state and local governments, increased contributions from philanthropy,

and a leaner, more entrepreneurial delivery system.

In retrospect the magnitude of the change has been far less than expected and some of the changes that have occurred were simply not anticipated. How does what was expected compare with what actually happened?

- Loss of federal funds has not been as great as predicted, particularly in health and social services. In housing and employment, however, losses have been severe.
- Private giving to nonprofits has increased but not as much as expected. In fact, increases have been much smaller in the Twin Cities than in other areas of the country. The Twin Cities, however, started from a larger base of foundation and corporate giving.
- Nonprofit revenues from government actually increased rather than decreased between 1981 and 1983, but not across all program areas and certainly not for all nonprofits.
- Competition for the philanthropic dollar has come from government which is also strapped for funds at the local level, as well as from the nonprofit agencies.
- Nonprofits have been compelled by government and foundations to develop greater financial self-sufficiency, placing more reliance on their own income, whether from fees or “cash cows” (business ventures created to produce income for the agency).
- Increasing revenue from fees for service has been the typical strategy used by nonprofits to cope with government retrenchment.

One predicted change did occur. Financing for subsidized employment services was shifted from federal to state and local government. In Hennepin County state funding, through Minnesota’s emergency job program fund, accounted for 10 percent of total funds for these services in 1981, but by 1984 the state was contributing 50 percent.

Early loss of government funds from the retrenchment had been more than made up by 1983. Between 1981 and 1983, the nonprofits in the Twin Cities ended up with a 5 percent net increase in inflation adjusted government derived revenue. This contrasts with the other fifteen study sites, which as a whole, lost 6 percent. In part, the Twin Cities picture is explained by more

state and local dollars flowing to these agencies, but also by the fact that federal expenditure decreases were stemmed. Entitlement programs, particularly in health programs, and projects already underway softened the impact of the federal cutbacks. In many instances Congress declined to go along with proposed budget cuts.

The resiliency of Twin Cities’ nonprofit agencies in retaining a strong government revenue base speaks to the continuing need of government for the services these agencies offer. This need does not imply a simple substitution of state and county funds for federal dollars. Nor does the fact that government support was maintained mean that the situation is stable. On the contrary, during 1982 the economic recession in Minnesota and state budget crises meant a cut in state money flowing to the counties and for Ramsey County, in particular, these were hard times. Approximately three million dollars in purchase-of-service contracts with private agencies in Ramsey County were eliminated.

Between 1981 and 1984 Hennepin and Ramsey counties would have taken in \$75 million more in federal dollars, had the 1981 base level continued over the following three years. Two-thirds of the loss was in Hennepin County and one-third in Ramsey County, which is proportional to their population base. The degree of loss, however, was only one-third as great as the overall national loss in federal monies during this period (Figure 5).

In the Twin Cities a partial substitution of state and local monies buffered the loss of federal dollars between 1981 and 1984. Hennepin County ended up receiving the same level of public spending while Ramsey County took a net loss of 3 percent. The largest shifts were:

- Significant losses in Ramsey County for social service programs (down 12 percent over the three years).
- Increases for arts and cultural programs (up more than 10 percent in both counties, though the actual dollar increases were small).
- And a large increase for nonprofit employment and training agencies in Hennepin County as dollars from the state’s emergency employment program replaced the lost federal job training funds (up 27 percent).

Tightening of the public purse affected the nonprofit agencies in these two counties in very different ways (Figure 6). In Ramsey

**Figure 5. CHANGES IN FEDERAL SPENDING, 1981-1984**

Year	Nationwide	Hennepin County	Ramsey County
1981	base	base	base
1982	-15%	-7%	-9%
1983	-17	-4	-3
1984	-18	-6	-8



**Family Tree, a neighborhood health clinic in St. Paul, has responded to cuts in government funding in a way typical of many nonprofits by increasing their fees for service. Income from fees-for-service made up 35 percent of their income in 1981, but 41 percent by 1984. Though the number of patient visits remained the same in both those years the average cost of a visit to Family Tree was \$13.34 in 1981 and had risen to \$20.82 by 1984. Here Sara Stedman (left) is shown receiving payment for a visit from Maddy Brown.**

County nonprofits lost approximately \$8 million between 1981 and 1984: half in losses to social service agencies and near half in losses to health organizations. In Hennepin County, nonprofits gained \$21 million: a third for social services, a third for health services, and a sizeable \$5 million for community development, housing, and advocacy.

The survey data point to belt-tightening as a more common solution: making do with a smaller staff, freezing staff salaries (already low in smaller organizations), dropping programs or tightening eligibility, and increasing fees. Over 70 percent of the or-

ganizations surveyed listed management related changes that they have made. A flurry of workshops has helped nonprofit staffs develop marketing and business plans, and become more adept at securing foundation grants.

One reason for the disparity between these counties is the decreased reliance in Ramsey County on nonprofits for social services—an absolute loss of \$4.5 million, representing 25 percent fewer dollars in 1984 than in 1981. As a result more public spending in Ramsey County social service programs now stays within the public sector.

### Assessment of the Changes

The outcomes of these recent changes affecting the nonprofit community can be assessed against five different criteria: the status and capacity of the nonprofit sector to survive and thrive as strong provider organizations; the communities' capacity to meet their own needs and to provide access to services; the reallocation of funds within the community; the shift of responsibility from one level of government to another and from public to private responsibility; and a standard of fairness or equity. Each is discussed in qualitative terms, reflecting not only the research but more general observations by others in the community.

**Status and capacity of the nonprofit sector.** On balance a stronger, leaner nonprofit sector has developed over the past five years; one that is better managed, more entrepreneurial in taking advantage of new business opportunities, and more aware of the benefits of cooperation. In the early 1980s predictions were for multiple mergers, greater rates of dissolution, and more consortiums that would advocate broad common goals among nonprofit agencies. Mergers among nonprofit hospitals and neighborhood settlement houses have oc-

**Figure 6. CHANGES IN PUBLIC MONIES FLOWING TO NONPROFITS IN HENNEPIN AND RAMSEY COUNTIES, 1981-1984**

Program Area	Hennepin County (In Millions of Dollars)	Ramsey County
Social Services	+\$ 7.5	-\$4.5
Employment/Training	+ 1.1	- 0.1
Health Services	+ 7.5	- 3.5
Housing/Community Development	+ 4.9	—
Arts/Culture	—	—
<b>ALL PROGRAM AREAS</b>	<b>+\$21.0</b>	<b>-\$8.1</b>

curred, but this has not been a solution for most organizations.

Recently the Minnesota Council of Non-profits has been formed and expressly designed to assist smaller community-based organizations through a variety of cooperative support systems. Growth in the non-profit sector has slowed, but the pace of organizations going out of business does not appear to have changed radically. Adaptability and resiliency in the face of change are fundamental characteristics of nonprofit organizations.

**Capacity to meet needs.** Are the needs of the people in our community being met under the restructured service system as it has evolved? Serious doubts creep in when one examines this criterion. Higher fees for service may well mean that the poorest people are no longer being served. And one may question whether the system can continue to rely on increased fees for its survival. There is abundant evidence to show that what were once considered emergency needs have now become chronic conditions: homelessness, real hunger, and inability to find work.

Community resources have not increased to accommodate the escalating needs of the poorest citizens. Substantial increases in demand for services were reported in the same areas where the heaviest budget cuts fell: employment services, housing, legal services, and advocacy. Just as the corporate community concluded that the private sector does not have the capacity to substitute for government, so the non-profit community has concluded that it does not have the financial capacity to expand services in proportion to needs.

**Reallocation of resources.** Pressure to make substantial shifts in the allocation of resources came up against huge counter pressures from organizations and programs already being funded. The pressures to change are quite visible. United Way agencies are developing new priorities for giving. New federated fund drives have begun to enter the marketplace. Research reports from the The Philanthropy Project have publicized how foundations are currently allocating their funds and suggested different priorities. The community is more aware than ever before of how private giving is allocated and well aware that non-profit does not mean services to the disadvantaged only. But competition for funding now comes from multiple directions and for many worthy projects, making it difficult to accomplish more than tiny shifts in allocation. At the crux of our dilemma is the question of whether social welfare needs should be given an overall higher priority. A clear sense of the public's will in this matter has not yet emerged.

**Shifts in responsibility.** In a situation where everyone in the act is leveraging their own resources against all the others, it is difficult to conclude that there has been an effective long term shift in responsibility from one level of government to another, or

from the public to the private sector. A question about the appropriate role of government and the responsibility of society toward its poorest members is often answered rhetorically, but never followed up with appropriate funding for the programs that would serve the very poor. Just as distinctions between nonprofit and for-profit providers are becoming blurred, so are distinctions between public and private. Private foundation dollars now flow to government agencies as well as to private nonprofits. Public and private dollars are packaged together to help expand the supply of goods for low income households. State and local funds are merged with federal funds to support ongoing programs. But it is still evident that the federal government has a much wider tax base from which to draw than local and state governments and that the federal level is where the greater numbers of public tax dollars are raised to support locally delivered services.

**Equity and fairness.** Some for-profit competitors and some levels of government as they look for new revenue sources are reexamining the special tax-exempt status of nonprofits. Two trends make this an issue. One is the increased participation of for-profit businesses in many human service areas that have traditionally been nonprofits' turf. The second is the diversification of nonprofits into enterprises designed to raise additional income to support their basic services.

The first trend comes about because the demand for human service is growing and both government and individuals are willing to pay. Day care, home health care, and chemical dependency treatment are growing businesses. When third-parties will pay for these services under an entitlement or insurance program (either public or private) the assurance that there will be an income flow makes for an especially attractive business opportunity. The requirement that



**The Association of Retarded Citizens responded to losses in government funding by creating a new business venture or "cash cow." Their store in Richfield, Value Village Thrift, was begun in March of 1982 and has grown to become their third largest source of income in 1987 (surpassed only by funding from the United Way and from their own fees-for-service). A large part of the success of this business comes from the staffing by volunteers. Here Jo Gagnon (left) and Ella Crane, both volunteers, consult about pricing an item for the store.**

nonprofits cover costs of care for those unable to pay may or may not be there, but most have seen this as their mission.

The second trend, nonprofits developing profit-making enterprises, is directly related to the new fiscal policies that are pushing nonprofits into a more entrepreneurial mode. Foundation grants are likely to be short term and receiving them is usually dependent on evidence that the nonprofit is becoming financially self-supporting. Unlike the United Way, foundations are wary of adopting an agency or a cause for long periods of time. Government contracts have been unstable since 1981. So there is reason for nonprofits to respond to financial pressures by developing side-line businesses. Art museums sell T-shirts and clinics sell training programs. The outcome of the debate on tax-exempt status has yet to be reached.

Seven years is perhaps too short a time for radical change to occur in how human services are funded and provided. To a large degree, nonprofit agencies have had the capacity to adjust to the new rules of the game, even though the magnitude of change has been less dramatic than proponents of federal cutbacks desired or opponents feared. Organizational resiliency, however, may not be the best measure for assessing the import of changes set in motion under Reagan's administration. It is easier to measure organizational response to cost containment strategies than to document what has happened to the needs for human services. The nonprofit sector and private philanthropy collectively admit to functioning within a harsher reality now, where scarce resources must be rationed. We still don't know what has happened to access to service—this is the next challenge.

**Barbara Lukermann is a senior fellow at the Humphrey Institute of Public Affairs at the University of Minnesota and a member of the graduate planning faculty at the institute. She has been the local research associate for The Urban Institute Nonprofit Sector project since 1982. The project was supported financially by CURA and worked with the guidance of a community advisory committee chaired by Leonard Wilkening, President of the Wilder Foundation.**

**The Nonprofit Sector Project resulted in five publications for the Twin Cities area and comparable reports for each of the other fifteen sites across the country. The survey data cover 1981-83 through two waves of mailed interviews. *The Twin Cities Nonprofit Sector in a Time of Government Retrenchment* (Urban Institute 1984) and *Twin Cities Non-***

***profit Organizations: The Challenge of Retrenchment* (Urban Institute 1987) are available from CURA (see order form in this CURA Reporter). Two reports on government spending cover 1982 and 1983: *Government Spending and the Nonprofit Sector in St. Paul/Ramsey County, Minnesota* (Urban Institute 1985) and *Government Spending and the Nonprofit Sector in Minneapolis/Hennepin County, Minnesota* (Urban Institute 1985). These may be ordered**

**through The Urban Institute, Library Clearinghouse, 2100 M Street, Washington, D.C. 20037 (202/857-8688) for \$12.95 each. A fifth report *Human Service Spending in Minneapolis and St. Paul: The Changing Roles of Government and Private Providers* is a forthcoming work that will be a joint publication of The Urban Institute and CURA. Copies of the comparable reports for the other sites in the study are available through The Urban Institute.**

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## To Promote the General Welfare

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Now, at the two hundredth anniversary of the Constitution of the United States, it is important to consider the diverse ways in which the American people have responded to poverty, inequality, and dependency and have devised the essentials of a caring society.

The University of Minnesota's School of Social Work and the Social Welfare History Archives are presenting a series of lectures and discussions in October and November that will explore the history, philosophy, and constitutional principles of programs for the promotion of the general welfare. Formal lectures by eminent scholars on the historical, ethical, political, and cultural dimensions of different phases of welfare policy will be followed by forum discussions with local scholars, practitioners, and policymakers.

The first two lectures in the series will occur before this *Reporter* goes to press.

**The Welfare of Families and Children**, on Thursday, November 5th at 4:45 p.m. brings Lela Costin, professor emeritus of social work at the University of Illinois, Urbana-Champaign to speak. Discussion following her talk will be led by Roger Toogood, director of the Children's Home Society of Minnesota, and H.E. Mason, professor of philosophy at the University of Minnesota. Clarke Chambers will moderate.

Professor Costin's reputation has been earned in the policy field of family and child welfare and in social welfare history. Her biography of Grace and Edith Abbott, *Two Sisters for Social Justice* (1983), received acclaim for its astute analysis of the role professional women have played in the development of public policies for family and child welfare. The "feminization of poverty" and the "pauperization of children"—phenomena of recent concern—are deeply rooted in the American experience. They touch on issues of dependency and social

responsibility about which citizens and government have been ambivalent for many generations. Controversy has long surrounded proposals for family and child welfare. Debates have centered on the ideological issue of self-reliance; the presumed inviolability of the family from government intrusion; and on constitutional issues such as due process and the level of government appropriate for expressing society's concern for the welfare of its most vulnerable members.

**The Constitution and Social Justice**, the last of the forums, will be held on Thursday, November 19th at 7 p.m. Mary Frances Berry, professor of American social thought at the University of Pennsylvania, Philadelphia will speak while Esther Wattenberg moderates responses from Lee Greenfield, chair of the Health and Human Services Committee of the Minnesota House of Representatives, and H.E. Mason.

This fourth and final session is intended to explore, in light of the earlier presentations and discussions, the implications of American traditions and values for long-persisting concerns about: equality of opportunity; changing definitions of public responsibility for those unable to care for themselves; the consequences of a growing dependent "under class," defined as often by gender and race as by economic circumstance and income; and the concept of distributive justice. Professor Berry is the author of four books and many articles on constitutional history and civil rights. She brings to her scholarship her experience as U.S. Assistant Secretary of Education and Commissioner on the U.S. Commission on Civil Rights.

All sessions in this series will be held at Cowles Auditorium in the Humphrey Center at the University of Minnesota, 301 19th Avenue South, Minneapolis. The forums are free and open to the public.

# Citizen Opinion on the Economy

by William J. Craig

A survey in early summer found over 1,200 Minnesota adults concerned about the state's economy, somewhat optimistic about their personal financial situations, but not inclined to make major purchases. Minnesotans fell far below national levels of consumer confidence. Outstate Minnesotans were markedly pessimistic on the economic measures as compared to residents of the metropolitan area. Older Minnesotans were similarly pessimistic.

The Minnesota State Survey was conducted by the University's Minnesota Center for Survey Research from May 27 to June 24. Adults were interviewed in 1,215 randomly selected households.\* Questions on personal financial situations and consumer confidence were phrased to match the national "Survey of Consumer Confidence" conducted by the University of Michigan's Survey Research Center in April 1987.

## Concern About the Economy

Over two-thirds of those interviewed mentioned the state's economy as an important problem facing Minnesotans. Fewer than half mentioned taxes, an issue that in earlier years has been of equal importance. Despite low unemployment levels in the state, concern over jobs was the single most frequently mentioned problem. While nearly seven of every eight outstate respondents mentioned the economy as a problem, only half mentioned it in the metropolitan area.

The question about important problems in Minnesota was asked in two parts. Telephone interviewers for the Minnesota State Survey asked, "In your opinion, what do you think is the single most important problem facing people in Minnesota today?" Over one-third of those surveyed spoke about the Minnesota economy; most were concerned about unemployment and jobs. Taxes were mentioned by one-quarter of the respondents.

People were then asked, "What other important problems are facing Minnesotans today?" Interviewers probed for two more problems. Table 1 presents a summary of the total results. Each person interviewed could have mentioned three problems. Not all did.

Concern about the economy came out on top as it did in 1985. But the margin by which

it leads other issues, especially taxes, is a new phenomenon. The economy was mentioned half again as often as taxes and three times as often as the environment or social problems.

The level of concern about the economy is roughly comparable to levels found in 1984 and 1985 state surveys. Concern about taxes has dropped dramatically. Public policy actions may have eased anxiety about taxes. Actions by the state Department of Revenue and the Minnesota Legislature have simplified tax forms and changes in the tax structure have removed Minnesota from the dubious distinction of being perceived as "the state with highest taxes."

Other changes have occurred in the problems that Minnesotans perceive. The biggest change in top rankings is a new concern with health issues, largely emerging because of AIDS. Concern about social problems has doubled since 1985. Dropping from the top five problems were education (fourth in 1984 and third in 1985) and government (fifth in 1984).

A more detailed look at the highest ranked problems is presented in Table 2.

Mention of jobs and unemployment made up half of the economic concern. The farm situation and the state's business climate account for most of the remainder of the economic problems mentioned.

Concern about the economy is particularly high in outstate Minnesota. Place of residence far outweighs income or age in determining opinions about the economy. Concern with the economy is 60 percent higher outstate than in the metro area. Outstate Minnesotans mention jobs and unemployment nearly twice as often as Minnesotans in the metro area and the farm situation is mentioned two and one-half times as often outstate. The outstanding difference in the breakouts about the economy by income and age, is that people with incomes below \$25,000 are more apt to mention jobs as a problem.

While concern with the state's economy is uniformly high across age and income groups, levels of concern on other state problems vary widely. Concern about taxes, for example, is much higher in the metropolitan area and among higher income groups and those aged forty-five or older. Environmental concern is higher in

**Table 1. MOST IMPORTANT PROBLEMS FACING MINNESOTANS, 1984-87\***

	1987		1985		1984	
	Percent	Rank	Percent	Rank	Percent	Rank
Economy	68	1	73	1	56	2
Taxes	45	2	66	2	59	1
Environment	22	3	21	4	16	3
Social (e.g. crime, drugs, welfare)	21	4	10	5	6	6
Health (e.g. AIDS)	13	5	2	8	3	9

\* In earlier years the question read "issues" instead of "problems." No survey was conducted in 1986. In 1987 people were asked the most important problem, then about other important problems; in 1984 and 1985 they were asked only to name two to three important issues. Coding categories from earlier surveys have been matched to the 1987 scheme to the extent possible.

**Table 2. PROBLEM RATINGS BY DIFFERENT GROUPS OF MINNESOTANS**

	Total	Metro Area	Outstate Area	Income	Income	Age	Age
				under \$25,000	over \$25,000	18-44	45+
Economy	68%	53%	85%	75%	66%	70%	67%
general	6	6	6	8	5	6	6
jobs/unemployment	34	24	45	40	31	35	33
business climate	12	12	11	9	14	12	12
farm	14	8	20	15	14	13	15
other	3	3	4	4	3	5	2
Taxes	45	50	40	38	53	41	52
Environment	22	26	18	16	26	23	21
Social	21	23	19	23	20	21	22
Health	13	13	13	14	12	11	15

\* The survey response rate was 74 percent. For surveys of this size the sampling error is less than 3 percent, so that these 1,215 adults may be considered to represent all Minnesota adults give or take 3 percent on any answer.



the metropolitan area and among higher income groups. But none of these differences approaches the disparities shown between metropolitan and outstate Minnesotans on economic issues.

### Personal Financial Situation

On the whole, Minnesotans look at their own financial situations in much the same way as people do in the rest of the country. The first and last columns in Table 3 show nearly identical response rates for Minnesotans and other Americans who were asked to compare their financial situations this year with last year and to predict their financial situation next year.

In answer to the first question nearly half (45 percent and 42 percent) said their situation had gotten better in the past year and only one-quarter (26 percent) said it had gotten worse. The remaining group said their situation had stayed the same, even though this was not an offered response.

When asked to predict their financial situation a year from now, half of both groups (Minnesotans as well as respondents from across the country) guessed that things would be about the same as at present. A small number (10 to 12 percent), said things would get worse. One-third of the Minnesotans and 37 percent across the United States said things would get better. People tend to be conservative in their predictions, but in this case those expecting a change were three times more likely to be optimistic than pessimistic.

The breakout of Minnesotan's answers by geographic area, income, and age, however, tells another story. People in the metropolitan area have been much better off in the past year than those outstate and they also expect to be better off next year than do outstate Minnesotans. Many with lower incomes must be viewing their situations as temporary; for although they had much higher rates of adverse economic change during the past year, they view changes in the next year with virtually the same optimism as the wealthier group.

The most striking disparity, however, shows up in the breakout by age. Minnesotans who are forty-five or older had the lowest percentage of any group reporting that they were better off now than a year ago and predicting that they would be better off next year. The rate at which these older Minnesotans chose the "better off" answer was only half that of Minnesotans on a whole (25 percent instead of 45 percent on the first question and 17 percent instead of 33 percent on the second). These are people whose careers have peaked and many see their situation as unchanging over time. Following the same group into Table 4, we can note a continued pessimism and uncertainty. This older group is less willing to buy and more uncertain about whether this is a good time to buy than any other sub-group of Minnesotans.

**Table 3. PERSONAL FINANCIAL SITUATIONS**

Q: Would you say you are *better off* or *worse off* financially than you were a year ago?

	Minnesota							United States*
	Total	Metro Area	Outstate Area	Income under \$25,000	Income over \$25,000	Age 18-44	Age 45+	
Better off	45%	52%	38%	34%	57%	60%	25%	42%
Worse off	26	24	28	35	20	24	29	26
Same	28	24	33	31	23	16	44	32
Don't know	<1	<1	<1	<1	<1	<1	1	<1

Q: Do you think that a year from now you will be better off financially, or worse off, or just about the same as now?

	Minnesota							United States*
	Total	Metro Area	Outstate Area	Income under \$25,000	Income over \$25,000	Age 18-44	Age 45+	
Better off	33%	40%	26%	32%	37%	46%	17%	37%
Worse off	12	11	13	11	10	7	18	10
Same	50	44	57	52	50	45	58	49
Don't know	5	4	5	6	2	3	7	4

\* Data from University of Michigan's Survey Research Center, April 1987.

### Consumer Confidence

Consumer confidence, as measured by a willingness to consider major purchases, is much lower in Minnesota than in the nation as a whole. Table 4 shows that while nearly three-quarters of the country (74 percent) think this is a good time to buy major household goods, only slightly more than half (54 percent) of Minnesotans do. The percentage who think that it is a bad time to buy (16 percent) is the same for Minnesotans and the nation as a whole. The big difference lies in the numbers of Minnesotans who are uncertain, just don't know, or can't be pinned down.

As seen in Table 4, this uncertainty holds for all types of Minnesotans, residents of the

Twin Cities and outstate, upper and lower income, and all ages. All groups have over 20 percent who are unable to say whether this is a good time to buy or not. Phone calls to the office that completed the national survey, the Survey Research Center at the University of Michigan, confirmed that interviewers here and there used identical procedures in trying to urge respondents to decide between good times and bad. Minnesotans truly are more undecided, more uncertain about the future of the economy.

Once again, the metropolitan area is more optimistic than the rest of Minnesota. Sixty percent in the Twin Cities area say that this is a good time to buy, while only 46 percent of outstate Minnesotans agree.

**Table 4. CONSUMER CONFIDENCE**

Q: About the big things people buy for their homes—such as furniture, a refrigerator, stove, television, and things like that. Generally speaking, do you think now is a *good time* or a *bad time* for people to buy major household items?

	Minnesota							United States*
	Total	Metro Area	Outstate Area	Income under \$25,000	Income over \$25,000	Age 18-44	Age 45+	
Good time	54%	60%	46%	52%	59%	63%	41%	74%
Bad time	16	13	20	19	13	15	18	16
Neither	14	14	14	12	15	11	18	10
Don't know	16	12	20	17	13	11	23	<1

\* Data from University of Michigan's Survey Research Center, April 1987.

Economic and demographic factors also affect how people respond to this question. Those with lower incomes and especially older people are less likely to say that this is a good time to buy.

To the extent that people follow these inclinations, sales of major household goods will be lower here than nationally and state revenues from sales tax collections will be down. This survey marks the first time that this question has been asked in a large scale survey of Minnesotans, so it is impossible to say how reliable an indicator their answers may be in predicting retail sales.

### Conclusions

For themselves personally and for the state as a whole, Minnesotans' top concern is with the economy of the state. The future of jobs and unemployment seems to be of particular concern, what with recent decisions of local firms to move jobs out of state and declines in industries that had given Minnesota its strength: agriculture and mining.

These concerns are particularly strong among the half of the population that lives outside the Twin Cities metropolitan area. This is not surprising given the location of the declining industries. But metropolitan consciousness has been affected as well. Here too concern for the state's economy ranks as the number one problem facing Minnesota.

Older Minnesotans, those forty-five years and older, stand out as another group with a particularly pessimistic outlook. For this group, however, the concern is more with personal finances. A high proportion say that their financial situation has stayed the same or is getting worse. This perception leads to some of the lowest levels of consumer optimism.

Consumer confidence across the state remains well below national figures. To the extent that this hesitancy results in fewer purchases, the prophecy will be fulfilled. Less money will circulate in the state economy through retailers and state sales tax revenues will be reduced.

**Will Craig is the assistant director of CURA and director of the Minnesota Center for Survey Research.**

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## The Information Chain

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Public agencies use information to make decisions and, in turn, their decisions can determine what kind of information is produced or made available. These and other links in the information "chain" will be explored at an all-day conference to be held November 20th at the College of St. Catherine in St. Paul. The conference is entitled "The Information Chain Under Stress: How Is It Performing In Our Community?"

The conference will look at five Minnesota case studies to track how the information chain worked successfully or broke down because of stresses—for example, because budget cuts were made in data collection efforts or because data has been

"privatized" by businesses or other organizations. Participants will discuss what guidelines are needed to improve the process and what information values their agencies should foster.

The time of the conference is 8:30 a.m. to 4:00 p.m. Anyone interested in attending can call Jane Larson at the Metropolitan Council (telephone: 291-6500). Sponsors are the Metropolitan Council; the University of Minnesota's Center for Urban and Regional Affairs and the Minnesota Extension Service; the Citizens League; the College of St. Catherine; the Legislative Reference Library; and Metronet, the information network of Twin Cities libraries.

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## CURA-Related Publications

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For readers interested in public participation at the local level an article on "**Citizen Panels: A New Approach to Citizen Participation**" may prove stimulating. In it the Minneapolis-based Center for New Democratic Processes reports on a model they have developed over the last decade for creating "citizen panels." The idea springs from the jury system and is a way of selecting and involving people who represent the broader public, not special interest groups. The case study used in this article is a citizen panel examination of the impacts of agriculture on water quality in Minnesota. CURA was one of many sponsors of this effort, providing a graduate student as a staff assistant. The article, by Ned Crosby, Janet M. Kelly, and Paul Schaefer, appears in the March/April 1986 issue of **Public Administration Review**, pp. 170-178.

The common experiences of refugees lead to predictable behavior changes Carolyn Williams writes in the introduction to her **Annotated Bibliography on Refugee Mental Health**. "Because of this, refugees are at higher risk for mental health problems than other groups in the general population." Her 335-page bibliography lists both books and journal articles about refugee mental health from a number of specialized disciplines. Four main sections are Understanding Refugees in Context, Specific Mental Health Issues and Refugees, Concerns of Selected Subgroups of Refugees, and Other Bibliographies on Refugees or Related Topics. The book was produced by the University of Minnesota's new Refugee

Assistance Program: Mental Health-Technical Assistance Center and published by the U.S. Department of Health and Human Services through the U.S. Government Printing Office (1987). CURA and the Southeast Asian Refugee Studies Project (SARS) provided technical support for the project. Copies of the bibliography are available from SARS, University of Minnesota, 330 Humphrey Center, 301 19th Avenue South, Minneapolis, MN 55455, 612/625-5535.

"Unmarried mothers and their children are the fastest growing family formation in the United States," Esther Wattenberg begins her lead article in the summer 1987 issue of **Public Welfare**. Establishing paternity for these children is key, she argues, to being able to protect the rights of children born out of wedlock and in allowing human service professionals to serve their best long-term interests. Failure to establish paternity deprives children of a host of economic and legal benefits. Teenage mothers tend to avoid agency efforts to establish paternity. Wattenberg offers a number of recommendations that she hopes will encourage voluntary paternity adjudication. "**Establishing Paternity for Nonmarital Children: Do Policy and Practice Discourage Adjudication?**" grows out of Wattenberg's project on Paternity Adjudication and Child Support Obligations of Teenage Parents, a project funded by the Ford Foundation in cooperation with the McKnight Foundation and CURA.

# Radon in Minnesota

by Dean Abrahamson

There is a growing awareness in environmental circles of the health dangers associated with a radioactive gas, radon. The gas, both colorless and odorless, can collect in houses and other buildings. CURA and the Humphrey Institute have compiled all the available data on radon levels in Minnesota and have measured radon levels in nearly 200 dwellings. This article presents an overall view of the radon problem in Minnesota and suggests individual actions and state actions that might result from a public policy initiative on radon.

## What is Radon?

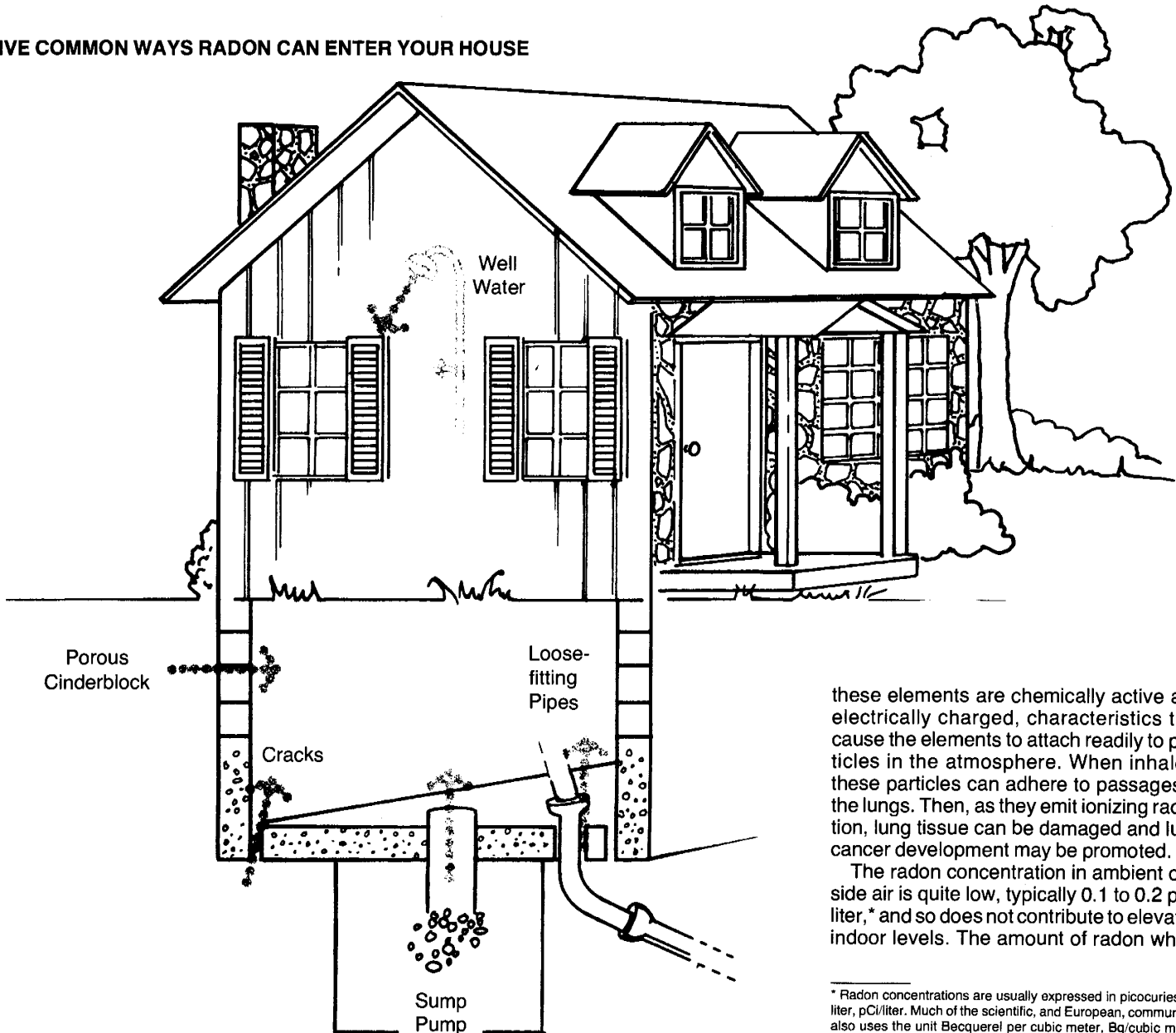
Uranium and thorium are naturally occurring radioactive materials found throughout the earth's crust. Both decay through a series of radioactive elements to produce radium. Radium, in turn, decays to produce radon, a radioactive gas.

Radon moves up to the earth's surface through cracks in rocks and the spaces between soil particles. It also moves with groundwater. Once radon reaches the earth's surface, it is usually dispersed in the

atmosphere and diluted to very low concentrations. Houses and other buildings, however, can act as traps for radon. Radon can seep into a house by migrating through porous or cracked foundations, or through sumps and drains. In addition, radon may escape from water and building materials.

Radon is a colorless, odorless, and tasteless gas. Radon, which has a half-life of less than four days, breaks down into a series of other radioactive elements. Unlike radon,

## FIVE COMMON WAYS RADON CAN ENTER YOUR HOUSE



these elements are chemically active and electrically charged, characteristics that cause the elements to attach readily to particles in the atmosphere. When inhaled, these particles can adhere to passages in the lungs. Then, as they emit ionizing radiation, lung tissue can be damaged and lung cancer development may be promoted.

The radon concentration in ambient outside air is quite low, typically 0.1 to 0.2 pCi/liter,\* and so does not contribute to elevated indoor levels. The amount of radon which

\* Radon concentrations are usually expressed in picocuries per liter, pCi/liter. Much of the scientific, and European, communities also uses the unit Becquerel per cubic meter, Bq/cubic meter. One pCi/liter = 37 Bq/cubic meter.

enters a building depends on the amount in the surrounding soil and ground water, and the tightness of the basement. The larger the area of cracks and other openings in the basement, the more radon can enter. A dwelling where the basement walls and floors are a large area when compared with the total volume of the building would be expected to permit relatively high concentrations of radon. On the other hand, large buildings with relatively small basement volumes and tight basement floors and walls would be expected to have relatively low radon concentrations. For that reason, residential radon is of most concern for single family houses, and of least concern for high rise apartment buildings.

Radon concentrations vary daily, seasonally, and from year to year. A rule of thumb is that winter levels are one and a half to two times higher than summer levels. In summer houses are more heavily ventilated. Basement levels are about twice those of the first floor. Usually the long-term variation is less than twice the average value, but it can be as high as ten times the average.

Relatively high radon concentrations would be expected in a state like Minnesota, where there are large amounts of uranium bearing granites. While no commercial uranium deposits are known to have been found, Minnesota's uranium levels are high enough that there has been extensive prospecting by mining companies. Glacial action centuries ago pushed uranium bearing sediments across the state. A high proportion of Minnesotans today live in single family houses with basements. And, because of the severe winters, these houses tend to be relatively well insulated and tight. Each of these factors may contribute to high indoor radon levels.

### Health Risks From Radon

Exposure to ionizing radiation can cause cancer and genetic damage. Exposure to radon brings a risk of lung cancer primarily. As with any exposure to ionizing radiation, there is no level which is completely safe. Uncertainty exists regarding the absolute risk of lung cancer from breathing air containing radon, and there is no conclusive epidemiological evidence from exposures levels found in most residences. Studies of miners who have been exposed to radon in uranium and iron mines, however, have established the lung cancer risk from exposure to radon.

It appears that the lung cancer risk from radon is second only to that from smoking, and the comparison is frequently made. A recent *Consumer Reports* review places the risk from residential exposure to 10 pCi/liter at about the same level as the risk from smoking one pack of cigarettes per day, and the Environmental Protection Agency (EPA) places the risk at that level at about five times the risk for a non-smoker (see Figure 1).

The EPA estimates that a person spend-

**Figure 1. RADON RISK EVALUATION CHART**

pCi/l	WL	Estimated number of lung cancer deaths due to radon exposure (out of 1000)	Comparable exposure levels	Comparable risk
200	1	440—770	1000 times average outdoor level	More than 60 times non-smoker risk 4 pack-a-day smoker
100	0.5	270—630	100 times average indoor level	20,000 chest x-rays per year
40	0.2	120—380	100 times average outdoor level	2 pack-a-day smoker
20	0.1	60—210	10 times average indoor level	1 pack-a-day smoker
10	0.05	30—120	10 times average outdoor level	5 times non-smoker risk
4	0.02	13—50	Average indoor level	200 chest x-rays per year
2	0.01	7—30	Average outdoor level	Non-smoker risk of dying from lung cancer
1	0.005	3—13	Average indoor level	20 chest x-rays per year
0.2	0.001	1—3	Average outdoor level	

Source: U.S. Environmental Protection Agency, *A Citizens Guide to Radon*, OPA-86-004 (August 1986).

ing a lifetime (taken to be seventy years) exposed to 4 pCi/liter will have a 1 to 5 percent chance of dying from lung cancer. The risk is directly proportional to the radon level: for example, if the level were 1 pCi/liter, the risk would be one-fourth as high, and if it were 8 pCi/liter, the risk would be twice as high. Overall, the EPA estimates that radon causes 10 percent of the country's 136,000 lung cancer deaths.

### Minnesota Radon Levels

Because of geology, the large proportion of single family houses with basements, and the need to have tight houses to cope with the winter weather, Minnesota would be expected to have elevated radon levels. Although only limited data are available, the evidence suggests that this is indeed the case. The Terradex Corporation, makers of one of the most widely used radon detectors, has published all of their United States residential radon data. Only seven states appear to have higher average levels than does Minnesota: Pennsylvania, New York, New Jersey, Florida, Colorado, Ohio, and California.\*

\* New Jersey, Pennsylvania, and New York contain an area known as the Reading Prong, a geological formation associated with exceedingly high radon levels generated from its uranium deposits. Uranium bearing phosphate deposits in Florida and extensive uranium mining in Colorado contribute to high levels of radon in both those states.

The Humphrey Institute and CURA Radon Project has collected all available Minnesota indoor radon data, and has conducted a survey in about 200 volunteer faculty member's houses. Several of the commercial radon testing services have shared their Minnesota data with us, as have all of the Minnesota investigators. The 927 Minnesota readings have been combined into a single data set, with individual readings identified by postal zip code.

So far, no Minnesota dwellings have been found with radon levels in excess of 40 pCi/liter, and only a few with levels in excess of 20 pCi/liter (Figure 2). However, about a third of the Minnesota readings are greater than the EPA action level of 4 pCi/liter, and perhaps 8 or 10 percent have levels in excess of 10 pCi/liter, the level at which the lung cancer risk may approximate that resulting from smoking a pack of cigarettes per day.

While Minnesota levels are much lower than the hundreds of pCi/liter found in some northeastern states, they are high enough to suggest that a significant public health problem exists here.

The Minnesota data, however, must be considered with some reservations. Most of the readings were made by individual householders who bought detectors from one of the commercial testing services and placed them in their houses themselves. At

least two detector types were used, and while their accuracy in controlled situations is relatively high, the charcoal detector readings can be affected by humidity. Many of the readings were taken in basements, and not in the portion of the house usually occupied, and measurements were taken at all times of the year. Of the total 927 Minnesota readings, only about 110 were taken under scientifically controlled conditions.

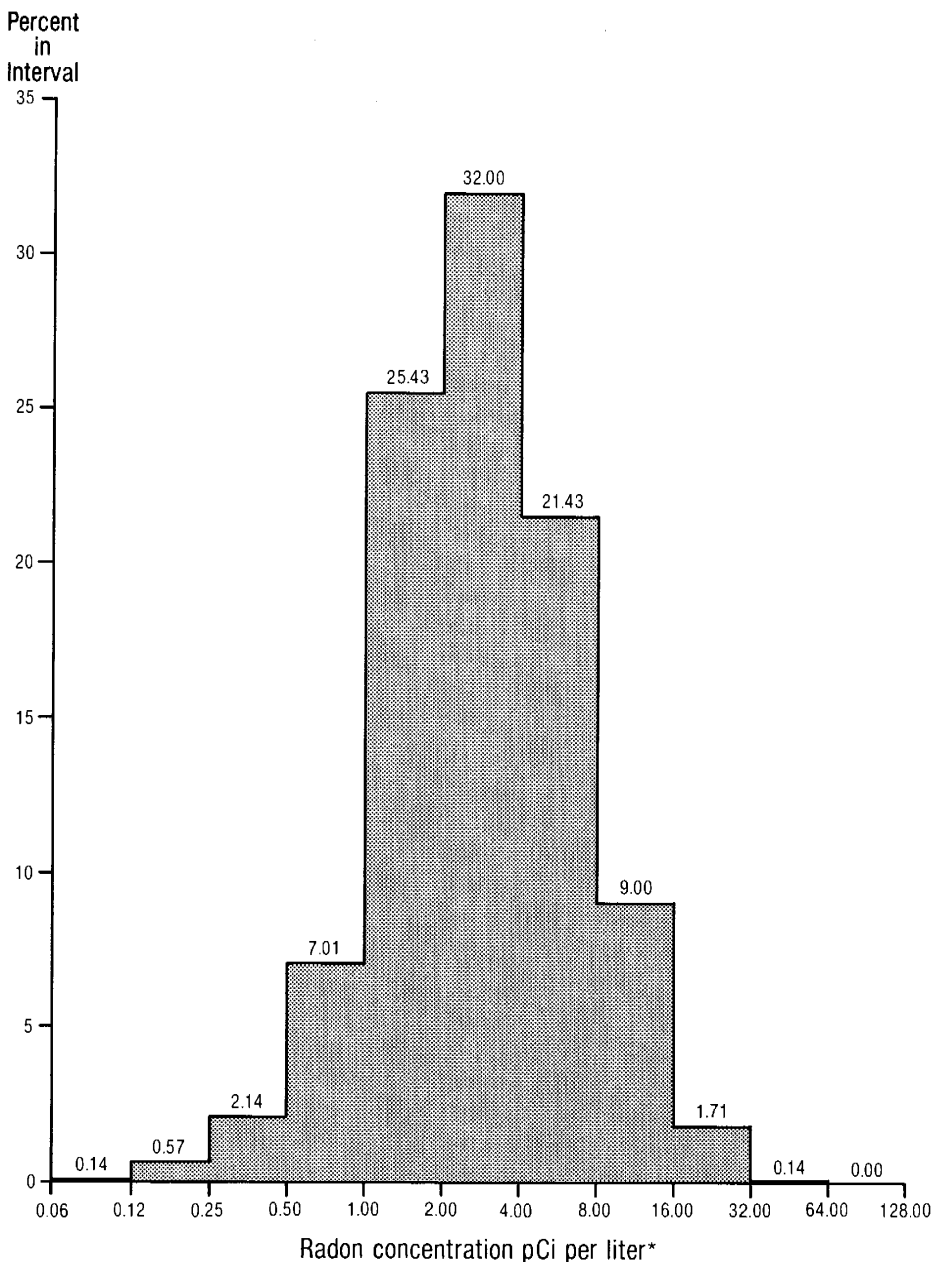
In spite of these reservations, we have some confidence that these data reflect the distribution of radon levels found in single family dwellings.

There are far too few Minnesota readings

to permit analysis by regions as small as a single zip code area, or even by county. As a result, it has not been possible to ascertain whether there are radon hot spots in Minnesota. About all that can be said is that both relatively high, and low, readings have been found in all parts of the state for which measurements have been reported. There are regions, however, where the data hint at higher than average levels. These places should undergo detailed investigation.

All of this raises two obvious questions: What can the individual householder do about indoor radon? and What, if any, state action is indicated?

**Figure 2. DISTRIBUTION OF 927 MINNESOTA INDOOR RADON MEASUREMENTS**



\*Note that this scale represents a geometric sequence.

## Detectors

There are two types of radon detectors suitable for use by homeowners: charcoal and alpha-track. The Humphrey Institute/CURA survey used alpha-track detectors. In our opinion, the alpha-track detectors are preferable since they provide an average level over the period of exposure—usually one to three months—while the charcoal detectors can be left in place for only three to seven days.

The American Lung Associations of Minnesota and its Hennepin County office are offering radon detectors (alpha-track) for \$20 each. The Hennepin County office is at 1829 Portland Ave. South, Minneapolis, MN 55404, phone 612-871-7332. The state office phone is 612-227-8014 or (800) 642-LUNG.

Charcoal detectors are offered for \$12 each from the Radon Project, University of Pittsburgh, Pittsburgh, PA 15260.

We used detectors provided by the Teradex Corporation—3 Science Road, Glenwood, IL 60425, phone (800) 528-8327. The cost for detectors in small lots is \$25 each.

The "Minnesota Homeowner's Guide to Radon" (Minnesota Department of Health) also lists other suppliers of radon detectors.

In all cases, the detector is sent back to the vendor for reading.

### What Can Householders Do?

#### Testing

The evidence strongly suggests that every small residence and workplace in Minnesota should be monitored for radon. Because of variations in local geology, buildings, and habits of the occupants, radon levels can vary considerably between adjacent structures of similar type. There are many reliable vendors of radon detectors, and the cost is modest—usually no more than \$25 for a single detector. A first measurement should be undertaken to determine whether or not radon levels are high. It should be carried out during the late fall or winter. The detector should be placed in the basement, away from drafts.

If the first measurement shows a radon level below 3 or 4 pCi/liter, the EPA's action level, things are probably all right, particularly if the reading was made in the basement. If the level is on the high side, it should be repeated, and a second detector placed in a heavily occupied room.

**Figure 3. SOME STANDARDS AND GUIDELINES RELATING TO RESIDENTIAL AIR CONCENTRATIONS OF RADON**

Radon Level pCi/liter	Comment
1	EPA's estimate of U.S. average
2	Maximum level allowed in new Swedish buildings
3-4	U.S. Environmental Protection Agency target level for houses on mining-contaminated sites
4	U.S. Environmental Protection Agency guideline for remedial action in residences
5	Bonneville Power Administration (U.S. Dept. of Energy) remedial action level in weatherized houses
5	Maximum level permitted in remodeled Swedish houses
8	National Council on Radiation Protection recommended remedial action level for continuous exposure
11	Maximum level permitted in existing Swedish buildings

### Private Remedial Action

When high radon levels have been established, the problem becomes what to do about it. There are two approaches: modifications to keep the radon out and measures to remove it from the basement. There is very little experience with these remedial measures. Professor Dennis Mathiason, Moorhead State University, has found that radon often enters a basement through a sump or other obvious opening in the basement floor or walls. It is often effective to seal such openings and vent them to the outside with a small fan. The important thing is to proceed systematically and try the lowest cost things first before proceeding to modifications that may cost many hundreds, or even thousands of dollars.

The householder is often caught between two conflicting goals. Energy conservation and economic considerations dictate that we make dwellings as tight as possible, yet tight dwellings may result in higher indoor air pollutant concentrations—including radon. For all but the most skilled householders, the assistance of an experienced, informed, contractor or energy conservation consultant is usually required.

### State Action

Some states have already begun vigorous indoor radon programs. Minnesota has not. These programs often include radon monitoring—either by the state or through state assistance in making detectors available to individual households. Some agency, either public or private, should assume the task of continuously collecting and analyzing all Minnesota radon data.

Certain consumer protection legislation may also be needed. It is to be expected that schemes for selling radon services—either surveys or remediation—will appear. Minnesota has had experience with, for example, questionable basement waterproofers, and similar radonproofers may soon be on the scene. Particular measures might well be taken to assure that certain groups, for example renters and children in

day-care centers, are not unnecessarily exposed.

In some states demonstrating low radon concentrations is required as part of real estate transactions. Regulations may be needed as to how and when these measurements are to be made. The impact that elevated radon levels may have on property values may also carry legal implications for those engaged in radon monitoring, remediation efforts, and weatherproofing.

Some states are assisting with radon remediation efforts by providing information or by providing assistance through low interest loans or grants.

Finally, measures might be put into place to prevent the construction of new buildings with indoor radon and other indoor air pollutant problems. Such measures would probably involve modifications to building codes and regulations.

Dean Abrahamson is a professor and program director in the Humphrey Institute of Public Affairs. His work on the radon project was carried out with the assistance of Thomas Anding, Associate Director of CURA, and Nina Manzi and Ellen Carlson from the Humphrey Institute. Financial support for the project came from Northern States Power Company and CURA. Data on Minnesota radon levels were provided by: Professor Daniel Steck, St. John's University; Professor Dennis Mathiason, Moorhead State University; Professor Bernard Cohen, University of Pittsburgh; KSTP-TV; the Terradex Corporation; and AirCheck.

Photos on pages 5 and 6 by Nancy Conroy

Drawing on page 11 reprinted with permission of *Consumer Reports*. Drawing by Petco Photo and Design.

## For Further Information

The U.S. Environmental Protection Agency offers free radon reports, including two pamphlets: "A Citizen's Guide to Radon" and "Radon Reduction Methods." Write to the Environmental Protection Agency, Public Affairs Office, 230 South Dearborn Street, Chicago, IL, 60604.

The Minnesota Department of Health, in collaboration with other groups, offers a free brochure, "Minnesota Homeowner's Guide to Radon." Copies can be obtained from the state's energy information center (612-296-5175 or [800] 652-9747 and ask for the energy information center) or from the health department's radiation control section (612-623-5350).

Many radon articles are now appearing in both the popular and the technical press. Some recent articles that may be of

interest are:

- "Radon Detectors: How to find out if your house has a radon problem," *Consumer Reports*, July 1987
- "The Radon Report," *New Shelter*, January 1986
- "Radon: What You Don't Know Can Hurt You," *Public Citizen*, April 1987
- H. Ward Alter and Richard Oswald, "Nationwide Distribution of Indoor Radon Measurements: A Preliminary Data Base," *Journal of the Air Pollution Control Association* 37 (3), March 1987
- A.V. Nero et al., "Distribution of Airborne Radon-222 Concentrations in U.S. Homes," *Science* 234, 21 November 1986

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# Student Papers in the Public Affairs Library

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Research papers prepared by masters degree candidates in the Hubert H. Humphrey Institute of Public Affairs are housed in the Public Affairs Library after they have been approved by the institute's faculty. Because many of these papers are of interest to our readers, we periodically list recently acquired papers (Plan B papers, as they are called). The Public Affairs Library is located in room 50, Humphrey Center, West Bank Campus of the University of Minnesota (612/625-3038). The faculty adviser for each study is indicated at the end of the entry.

- Anderson, Eric R. A service level analysis of the city of Edina's emergency medical services. 1987. 33 pp. Vaupel.
- Anderson, Lavon K. Acquired immune deficiency syndrome: responding to a deadly disease. 1987. 36 pp. Dewar.
- Boom, Mary. Dedicated revenues: a funding source for long-term care. 1987. 37 pp. Brandl.
- \_\_\_\_\_. Evaluation: the Center, summer 1985. 1987. 32 pp. + appendices. Eustis.
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