

# RURAL HEALTH FACTS

September 2011

## North Dakota Dementia Care Services Project: Contributing to Health Cost Savings

### About the North Dakota Dementia Care Services Project (DCSP)

- The DCSP is designed to inform persons with dementia and their caregivers about dementia care issues which, in turn, may increase support, decrease depression, delay nursing home placement, and reduce unnecessary health care use.
- The project provides *care consultations* for caregivers that assess needs, identify issues and concerns, disseminate available resources, develop care plans, provide education about dementia, make referrals, and/or follow-up with prior consultations. Also, the DCSP provides education for communities, professionals, and law enforcement agencies.
- Created by the Dementia Care Services bill (N.D. House Bill 1043), the DCSP is administered by the Alzheimer's Association of MN/ND under contract with the North Dakota Department of Human Services and evaluated by the UND Center for Rural Health. Although data used in this fact sheet are for the period of January 2010 to August 2011, the project is currently active and ongoing.
- As health care costs for patients with dementia are about three times higher than for patients without dementia,<sup>1</sup> the project's impact on these costs is a central focus of the evaluation.

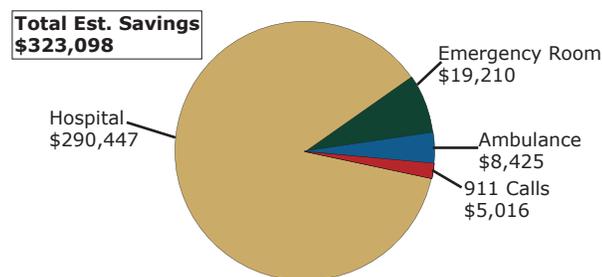
### Significant estimated cost savings associated with the DCSP

- Total estimated health care (i.e., hospital stays, emergency room, 911 calls, and ambulance runs) cost savings associated with DCSP participation was \$323,098 (Figure 1). The

amounts listed in Figure 1 represent the decrease in costs incurred by participants between their first three months and ensuing four to ten months of project participation.

- The largest estimated amount (i.e., \$290,447 or 90%) of the savings was due to reduced hospital care (Figure 1).
- Cost savings were estimated based on the change in the number of health care utilization events per person with dementia and the cost of those events.
- Separate ambulance cost figures were used for urban and rural locations, as these costs are typically higher in rural areas.

**Figure 1. Estimated health care cost savings for DCSP participants.**



- The amount saved for each time interval (i.e., months of DCSP participation, described below) was estimated by multiplying the difference in the number of events per person between that interval and the initial three month period, and the cost per event.

- Table 1 illustrates estimated costs for the initial three months and total estimated costs saved after 6, 9, and more than 9 months into the DCSP.
- The largest estimated cost savings across all health service types tended to occur in the 4-6 month period of program participation;

notably, hospital cost savings totaled \$187,656.

- Estimated cost savings tended to decrease beyond 6 months; this is not surprising as progression in Alzheimer's/dementia severity can increase the need for health care (Table 1).

**Table 1. Estimated health care cost savings at 6, 9, and more than 9 months relative to initial 3 months enrolled in DCSP, by service type.**

|                                | Number of Events | Number of People | Cost per Event  | Amount Saved Relative to First Three Months |
|--------------------------------|------------------|------------------|-----------------|---|
| <b>Hospital Use at:</b>        |                  |                  |                 |   |
| 1 – 3 Months                   | 297              | 329              | \$2,598         |   |
| 4 – 6 Months                   | 37               | 121              | \$2,598         | \$187,656                                   |
| 7 – 9 Months                   | 21               | 67               | \$2,598         | \$102,578                                   |
| > 9 Months                     | 27               | 30               | \$2,598         | \$213                                       |
| <b>Total Hospital Savings</b>  |                  |                  |                 | <b>\$290,447</b>                            |
| <b>Ambulance Use at:</b>       |                  |                  |                 |   |
| 1 – 3 Months                   | 45               | 325              | R:\$830 U:\$552 |   |
| 4 – 6 Months                   | 12               | 120              | R:\$830 U:\$552 | \$2,986                                     |
| 7 – 9 Months                   | 2                | 66               | R:\$830 U:\$552 | \$4,847                                     |
| > 9 Months                     | 3                | 29               | R:\$830 U:\$552 | \$592                                       |
| <b>Total Ambulance Savings</b> |                  |                  |                 | <b>\$8,425</b>                              |
| <b>Emergency Room Use at:</b>  |                  |                  |                 |   |
| 1 – 3 Months                   | 105              | 329              | \$498           |   |
| 4 – 6 Months                   | 24               | 121              | \$498           | \$7,279                                     |
| 7 – 9 Months                   | 2                | 67               | \$498           | \$9,653                                     |
| > 9 Months                     | 5                | 30               | \$498           | \$2,278                                     |
| <b>Total ER Savings</b>        |                  |                  |                 | <b>\$19,210</b>                             |
| <b>911 Calls at:</b>           |                  |                  |                 |   |
| 1 – 3 Months                   | 126              | 329              | \$79            |   |
| 4 – 6 Months                   | 16               | 121              | \$79            | \$2,397                                     |
| 7 – 9 Months                   | 2                | 67               | \$79            | \$1,869                                     |
| > 9 Months                     | 2                | 30               | \$79            | \$750                                       |
| <b>Total 911 Call Savings</b>  |                  |                  |                 | <b>\$5,016</b>                              |

Note: R = Rural location for the ambulance response; U = Urban location for the ambulance response

## Conclusion

- Results indicate that providing enhanced support to persons with dementia and their caregivers via the DCSP coincides with substantial estimated health care cost reductions.

## Reference

<sup>1</sup>Alzheimer's Association. 2010 Alzheimer's disease facts and figures. Alzheimer's & Dementia. 2010; 6:158-194.

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For more information, contact  
Marilyn G. Klug, PhD  
701.787.0089 • marilyn.klug@med.und.edu

**Center for Rural Health**

The University of North Dakota  
School of Medicine & Health Sciences  
501 North Columbia Road, Stop 9037  
Grand Forks, ND 58202-9037  
Tel: 701.777.3848 • Fax: 701.777.6779  
ruralhealth.und.edu

