Health As An Investment In Productivity: A Research Agenda For Rural Economic Development

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Three Ring Healthcare Consortium
A Report On Work In Progress

• In 2005 BBRED was asked by the Georgia Rural Economic Development Center to take on a project examining if, and how, employers in rural communities were providing workplace wellness programs.

• This report describes the research agenda which has emerged as a result of that study.
Investments in Health

• From an economic perspective, investments in health are viewed as investments in human capital.

• Human capital is the sum of acquired schooling, training and productivity-enhancing improvements in the population.
Investments In Health Complement

- Investments in health increase the return on all other investments in human capital, like schooling.
- And in fact, other investments in human capital increase the effectiveness in investments in health, e.g., increases in schooling improve health investment outcomes.
A Bottom Line Issue

• Workforce wellness is a bottom line issue for American business and producing wellness plans and programs has become a major industry.

• A simple example, Lincoln Industries, Lincoln Nebraska, total employment 565, cost of wellness program $400,000 per year, saving $2.0 million. Improvements in worker fitness reduced worker’s comp from $500,000 to $10,000 in 2008.
Translating Risk To Cost

- There are a host of studies calculating the explicit and implicit costs of chronic health conditions as well as the estimates of costs based on health risk factors.

- [www.ecu.edu/picostcalc](http://www.ecu.edu/picostcalc), is a website that will allow one to calculate three costs, medical cost, Workmans Comp cost, and lost productivity based on each state’s underlying risk factors when a physical inactivity rate is added to the risk.
An Example

- **Evans County Georgia**
  - Based on an estimated working age population, ages 25 to 65, of 6,040 and an estimated annual compensation of $28,000
  - Adding inactivity to the base health risk per the state profile the health related costs are:
    - Medical Care = $668,210
    - Workers Comp = $36,489
    - Lost Productivity = $9.9 million
Other Findings

- Based on nearly 8,000 workers for the Dow Chemical Company, data was collected on work impairment and absenteeism along with self-reported **chronic conditions**: allergies; arthritis; back/neck disorders; diabetes; and various heat conditions. (Academy Briefs, *Health and Productivity Management*, Vol. 4, No.3.)

- Estimated cost per employee per year: $2,278 for medical care; $661 absence; $6,721 on the job impairment.
Connecting Health Risk And Productivity

• A number of studies have also used the Work Limitations Questionnaire (WLQ) to correlate health risks factors and chronic health conditions with losses in worker productivity.

• On study also reported in Academy Briefs, Health and Productivity Management, Vol. 5, No.1, presented results from a study of 28,375 subjects showing that low risk subjects, those with 2 risk factors accounted for an annual loss in productivity per worker of $1,400
More Risk Factors More Lost Productivity

• In the same study the presence of 3 to 4 risk factors increased the losses in productivity to $2,600 per employee per year.

• Risk factors included in the study were:
  – Physical inactivity
  – High Blood Pressure
  – Smoking
  – Overweight
Where IT All Began

• The goals of the initial study were:
  – to identify the standard practices for workplace wellness program among small employers;
  – to determine how those practices might be improved; and,
  – to identify a firm or firms willing to participate in a pilot project designed to develop and demonstrate ‘best practices’ for small firms.
Conclusions

- Understanding how firms in rural communities provide workplace wellness is an important component of understanding regional competitiveness.
Study Area & Method

• The study area included 21 counties in southeast Georgia, all small rural counties.
• Conducted a telephone survey of small firms with 10 to 99 employees asking about wellness programs and practices
• Conducted interviews with CEOs and/or Human Resources Directors of firms with 100 or more employees.
Findings

• The real bottom line answer is that workplace wellness programs in the sense generally practiced by large-national corporations do not exist in rural communities.

• Both large and small firms had made attempts to provide some aspects of wellness, but no real ongoing programs were found.
A Repeated Echo Of Frustration

• Particularly in the interviews with CEOs and Directors of Human Resources there was a repeated echo of:
  – I know how important wellness is and it contribution to productivity;
  – There are simply no resources available in the community to support a systematic wellness effort
  – Very high level of employee *indifference/resistance* to what has been introduced/provided
New Research Questions

• In rural communities even large firms are small, so is the impediment to workplace wellness program that the cost of a comprehensive wellness program is too high relative to benefits the firm can expect to capture?

• Are workers in rural communities more (less) healthy than their more urban counterparts?
New Questions: Continued

• Are markets in rural communities too small for specialists and businesses in health-support services to emerge?
• Is there a lack of human capital, the specialists needed to implement the programs?
• Who/What institutions in small communities might be involved in supplying workplace wellness programs?
Phase II

- The goals of phase two of the research was to find out if there were networks of programs and/or providers meeting the needs for workplace wellness in other ways, ie were, or could, firms getting support from community partners?
- Did the potential exist that a network or collective partnership of health and wellness providers could supply programs needed by rural businesses?
Everybody Narrowly Focused

• A survey of potential health and wellness community providers such as hospitals, chambers of commerce, public health departments and recreation departments were interviewed about their support for workplace wellness programs that employers were seeking.
Almost Zero

• The overall finding was that there was no leadership, collaboration or even dialogue about or between health services providers and firms about how to present or improve workplace wellness.

• Expect for one county, Evans County, GA

• The CEO of Evans County Memorial Hospital and other community leaders had established the Evans County Health Collaborative (ECHC).
What Happened Next

- In the summer of 2006, the ECHC worked to develop a proposal to bring a workplace wellness program to a group of small businesses:
  - Evans County Memorial Hospital
  - Evans County Board of Education
  - The Claxton Bank
  - Evans County Board of Commissioners
    (dropped out and later returned)
  - NeSmith Chevrolet
Implementation

• The implementation and research associated with the proposed program have been a central piece of the work supported by the Georgia Rural Economic Development Center and Georgia Southern University since July 1, 2006
It Sounded Easy on Paper

- Each business would establish its own workplace wellness goals and rewards for employee participation.
- Georgia Southern would provide administrative coordination and leadership for program development.
- Grants from the Georgia Rural Economic Development Center and Georgia Southern University would support education and activity programs to be offered to participating businesses until such program could become self-supporting.
A Comprehensive Program

• Website and Monthly Newsletter
• Speaker series, lunch-and-learn
• On-site wellness events with health screens at a rate of $25 (at cost to the hospital)
• Community-wide events
• Personal trainer and low cost access to fitness programs
Still Working

• FY 2008/09 will be the last year in which there will be grant support for the Evans County Workplace Wellness Project.
• The anticipated cost this year is estimated at $109,000.
• The goal is to leave the community with an operational program.
• It is not clear that can will be accomplished
Why Must We Understand How To Succeed

• Profile of workforce health in Evans County: In a health assessment survey of workers in the participating businesses the findings were staggering
  – Over a third of workers reported having hypertension and 7% reported having heart disease
  – Approximately one quarter reported having high cholesterol
Health Stats Evans County Workforce

- One fifth reported problems with chronic back pain
- Ten percent reported having asthma
- Ten percent reported having arthritis
- Ten percent of women and 5% of men reported having depression
- The Average BMI (the Average)
  - For women 28
  - For men 30
    - A BMI of 30 is obesity
Inactivity

- Seventy-six percent did no vigorous physical activity (This is actually the average for Georgia)
- Eighty-eight percent did no moderate activity
Worker Dissatisfaction With Health

- Two changes in health status were the most desired goals by employees
  - Lose weight
  - Reduce stress
Lost Productivity

• The workforce age population produces two types of goods: 1) goods and services for the market; and, 2) goods and services for the home.

• In 2006, Health and Productivity Management published the results of a national study in “Academy Briefs” that correlated health risk factors with losses in productivity. (Vol.5, No.1, page 28 Burton, WN, Chen CY, Conti, DJ, et al., note the study was based on a sample of 28,375 employees of a mid-western financial services company)
Risk Factors

- Smoking
- Physical Inactivity
- Overweight
- High Blood Pressure
- High Stress
- The study was based on self-reports of the risk factors (the Health Risks Assessment Survey) and self-reported work efforts (the Work Limitations Questionnaire).
Decreases In On-The-Job Productivity

- The presence of 2-factors reduced productivity by almost 16%.
- The presence of 3 or 4-factors reduced productivity by an additional 3% and 5%.
- These were converted to estimated dollar amounts of $1,400 to $2,600 per employee with 2 and 3-to-4 factors respectively.
A Second Sample

• Working in three rural counties neighboring Evans and using overlapping questions a telephone survey of 400 households was completed.
• The statistics for this larger sample match those for Evans County in terms of risk factors profile.
Three Ring Health Consortium: Some Basic Research
The Three Ring Sample

- The Three Ring Survey sample was used to estimate the percent of the population with zero to five health risk factors.
- The risk factors included: High Blood Pressure; High Cholesterol; Diabetes; Smoking; Physical Inactivity; and Overweight.
- Percent with Risks
  - Zero Risks 9.5%
  - 1 Risk 26.3%
  - 2 Risks 34.4%
  - 3 Risks 20.3%
  - 4 Risks 7.5%
  - 5 Risks 2.3%
Conversion To Losses In Productivity

- The estimates from the sample were used to estimate the occurrence of multiple risk factors in the three county’s workforce age population, the population ages 25 to 64.
- The rates of productivity loss were assumed to apply equally to market and home production.
  - (Note, one had to be 18 years of older to participate in the survey, so childhood data are not included in the estimates of population with risk factors.)
Estimating the Loss In Gross Regional Output: An Example

• The estimated 2008 population in the Three Ring Counties is 23,520.
• With 34.3% of the population with 2 Risk Factors, that is 8,056 people.
• Assuming the minimum loss associated with two risk factors is $1,400 per person, then the gross loss per year is $11.3 million dollars per year in lost productivity.
The Bottom Line Loss

- If one includes a 3<sup>rd</sup> risk factor, that is 20.3% of the population, or 4,775 working age people.
- The estimated loss associated with 3 Risk Factors is $2,600 per year, or a gross loss of $12.4 million dollars per year.
Individual Decisions Spillover

- Both inactivity and overweight are individually controlled risk factors, so that even if the pre-disposition to a heart related condition is genetic, the failure to motivate individuals to take steps to mitigate the risk factors that are within their control costs everyone
Conclusions

• One conclusion is that we need to convey to consumers more effectively that people make choices everyday that determine their health status.

• Health is produced and is not based just on one’s the basic health endowment.

• Health outcomes are a matter of consumer choice.
Other Conclusions

• The absence of workplace wellness programs mean that rural firms are at a competitive disadvantage.

• Lower productivity means that firms are less competitive, higher cost, lower profit enterprises than those firms able to address worker wellness.
It Is Not Easy

• In implementing the collaborative approach to providing a comprehensive program in a rural community we have encountered all the problems we anticipated and more.
What Was Expected

• A lack of local human capital was a deterrent
• A lack of facility was a deterrent
Some Things We Did Not Know

• The consumers did not understand the product
• Wellness is not part of the business culture and is not part of the community culture
• Initial participation rates were less than 1%
• It takes a constant effort to keep participation rate growing
Final Steps

• The ECHC has taken the step of creating a LLC to take management charge of the workplace wellness program.
• The LLC has established an advisory committee help promote and refine the programs that meet employee needs.
• The advisory committee will be task with creating a plan for full independence by Sept 30, 2009