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by

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Executive Summary

Borgess Health Alliance and Bronson Healthcare Group play a vital economic role in Kalamazoo County. First, they are major employers in the county. Second, their activities support hundreds of additional jobs in Kalamazoo County as individuals from the county as well as surrounding counties receive tertiary care service from the the two medical providers. Third, they enhance the county's quality of life by providing excellent medical services that are not available in many communities of similar size.

The major findings (see Table 1) of this report are:

- Borgess and Bronson and their joint activities -- West Michigan Cancer Center, Kalamazoo Center for Medical Studies and the West Michigan Air Care-- employ more than 5,800 individuals in Kalamazoo County. These activities of the two medical providers account for 4.7 percent of the county's total employment.
- Borgess and Bronson and their joint activities contribute nearly \$200 million in payroll in the county.
- In addition to the 5,830 individuals who they directly employ, the two medical providers and their joint activities support an additional 1,371 workers in the county. These individuals work in a vast array of different economic sectors including retail, wholesale, business services, and financial services and earn an estimated \$63.0 million in wages and salaries.
- The total economic presence of the two medical providers and their joint activities is large. A total of 7,200 individuals are employed earning \$261.3 million in wages and salaries, county wide.

Introduction

Regions grow when their core industries increase their sales of goods and services to customers located outside the region. Regions can also expand when their non-core firms retain these dollars by meeting the consumer needs of the core industry employees and the new needs of its core industry suppliers. Traditionally, manufacturing activities have played the major role in generating income with the region's service sectors limited to the secondary role of income retention. Today, the separate roles of manufacturing and services are blurred. Many printers and bakeries, while labeled as manufacturing operations, serve only the local market, while a growing number of service providers serve a customer base that stretches well across county lines. Health care is clearly one of these service producing sectors and has become one of the county's core economic activities.

This report provides an estimate of the economic presence and economic impact of Borgess Health Alliance and Bronson Healthcare Group on Kalamazoo County. The *direct economic presence* of the two health care systems consists of all the individuals that they employ and their total payroll. In addition, it includes the number of and the wages and salaries earned by persons who work at the joint activities of the two medical facilities.

The medical providers' *economic impact* is a more complex concept for it is a measure of their *net contribution* to the county's economy. In order to prepare an estimate of this economic impact, one must answer the following hypothetical question: *What would be the economic impact on Kalamazoo if both Borgess Medical Center and Bronson Methodist Hospital closed?*

The question is a difficult one. In the case of a major manufacturing operation, such as the General Motors plant in Comstock Township or Pharmacia & Upjohn, the answer is more straight forward. Since *none* (or extremely few) of their customers are located inside the county, there is little reason why new identical firms would take their place if they closed. Therefore, the direct economic impact of their closing is their total workforce and payroll. In the case of a local

TABLE 1
Total Economic Presence of Borgess and Bronson in Kalamazoo County
1997

	Employment*	Total Payroll (\$millions)
BORGESS HEALTH ALLIANCE	2,850	\$95.7
BRONSON HEALTHCARE GROUP	2,467	\$81.3
JOINT ACTIVITIES		
West Michigan Cancer Center	87	\$4.3
Kalamazoo Center of Medical Studies	371	\$15.7
West Michigan Air Care	55	\$1.3
DIRECT ECONOMIC PRESENCE:	5,830	\$198.3
ECONOMIC IMPACT:	1,371	\$63.0
TOTAL ECONOMIC PRESENCE:	7,201	\$261.3

*Includes full- and part-time.

grocery store, the answer is equally straight forward: zero impact. Since *all* of its customers are located inside the county, it is very likely that another store would take its place and/or existing stores would expand. The *net* loss of jobs and payroll would be minimal.

If both Borgess Medical Center and Bronson Methodist Hospital closed, it is very unlikely that Kalamazoo County, with a population of 230,000, would not have at least one replacement hospital opening its doors to meet the medical needs of county residents. However, it is equally improbable that the county would enjoy the same level of medical services currently being offered by the two medical centers. This report provides an estimate of the economic impact of the two medical facilities using a metropolitan comparison approach. The centers' *total economic presence* is the addition of their *direct presence* and their *economic impact*.

Direct Economic Presence

The *direct economic presence* of the two health care systems is quite large as shown in Table 2. In total, the two medical providers and their joint activities -- West Michigan Cancer Center, Kalamazoo Center for Medical Studies, and the West Michigan Air Care -- employ 5,830 individuals and generate a total payroll of nearly \$200 million in 1997. By themselves, they employ more than 5,300 individuals and contribute \$177 million in wages and salaries in the county.

Table 2 does not show the full economic presence of the two medical providers, however. Because of their unique level of services, Borgess and Bronson and their joint activities support hundreds of additional county workers, who are employed in health and non-health sectors, such as, retail, finance, and business services.

Economic Impact

In determining the economic impact of Borgess Health Alliance and Bronson Healthcare Group, the challenge is estimating which of their current activities would be "replaced" and which

	Employment*	Total Payroll (\$millions)
BORGESS HEALTH ALLIANCE		
Borgess Medical Center	2,113	\$85.0
Other Activities in the County	737	10.7
Total County	2,850	95.7
BRONSON HEALTHCARE GROUP		
Bronson Methodist Hospital	1,886	67.5
Other Activities in the County	581	13.8
Total County	2,467	81.3
WEST MICHIGAN CANCER CENTER	87	4.3
KALAMAZOO CENTER FOR MEDICAL STUDIES	371	15.7
WEST MICHIGAN AIR CARE	55	1.3
TOTAL	5,830	\$198.3

*Full- and part-time.

would be lost to Kalamazoo County residents. We assume that all of Borgess and Bronson's outpatient care facilities, nursing homes, and small rural hospitals e.g Vicksburg and Pipp would remain in operation. Nevertheless, the purely hypothetical closure of Borgess and Bronson would leave a void in the county that would be, at least, partially filled by one of following:

- A new non-profit hospital to serve primarily county residents.
- A new for-profit hospital to, again, serve primarily county residents.
- Another regional health care system, such as Spectrum in Grand Rapids, building a "branch" medical facility in the county.

In any of the following scenarios, it is very unlikely that Kalamazoo County residents would receive the same level and quality of care that is currently provided in the county by the new provider(s). First, its customer base would shrink as many of Borgess and Bronson's current users who reside outside the county would seek medical treatment in surrounding areas. Allegan County residents would turn to Grand Rapids, Barry and St. Joseph County residents would probably drive to Battle Creek, for example. Second, it would be unlikely that the new facility would offer little more than a general level of medical services. Individuals needing specialized services would travel elsewhere.

To estimate the level of services that could be expected at this hypothetical "replacement" hospital we pooled hospital statistics from the 10 cities listed in Table 3. These cities were selected because:

- Like Kalamazoo, they are not a part of larger metropolitan areas.
- Their medical provider(s) can be classified as offering a "secondary level" of services - basic medical services without specializations.

Due to the size differences between the cities and Kalamazoo, we calculated the employment level at their hospitals per 1,000 residents.

It is important to note that the hospitals in these cities provide quality care. They are accredited by the Joint Commission on Accreditation of Healthcare Organizations, have cancer programs approved by the American College of Surgeons, are certified for participation in Medicare programs and participate in the Blue Cross Plan. While offering quality care, their services are limited. In fact,

Bay City, Michigan	Janesville, Wisconsin
Butler, Pennsylvania	Jackson, Michigan
Decatur, Illinois	Lima, Ohio
Elkhart, Indiana	Meadville Pennsylvania
Findley, Ohio	Monroe, Michigan

fewer than 50 percent of these hospitals offer the following "tertiary" services listed in Table 4 that are currently available at either or both Borgess and Bronson.

In addition to losing the above medical procedures, the hypothetical closure of Borgess and Bronson would result in the closure of:

- West Michigan Cancer Center
- Kalamazoo Center for Medical Studies
- West Michigan Air Care.

TABLE 4
Tertiary Services and Operations that would likely not be offered at secondary hospital(s)

Angioplasty	Neonatal intensive care
Arthritis treatment	Open heart
Burn care services	SPECT
Certified Trauma Center	Pediatric intensive care
Children wellness program	Physical rehabilitation inpatient services

The closings of the two medical centers would also force physicians that require the hospital's tertiary care services to leave the area. These would include physicians with the specialties listed in Table 5.

As shown in Table 6, we estimate that 18.2 percent of the current workforce, or nearly one thousand workers at the two medical centers, would not be replaced. But the direct impact would go deeper: all of the personnel at the center's joint activities would also lose their jobs. In short, nearly 1,500 individuals would lose their

jobs, and the county would lose \$58.1 million in payroll (Table 8).

The economic loss to the county, however, would be much greater than these numbers suggest. The economic impact of the loss of these jobs would ripple through all sectors of the county's economy. In estimating the economic impact, we used the economic model of Kalamazoo County maintained at the W.E. Upjohn Institute which is especially designed to measure the economic impact of changes in public and private activities. The model was created by Regional Economic Models

Table 5
Physician Specialities Lost

Endocrinology	Oral Surgery
Geriatrics	Pediatric Specialities
Hematology	Pedodontics
Infectious Diseases	Periodontology
Maternal Fetal	Radiation Oncology
Medical Oncology	Rheumatology
Neonatal-Perinatal Medicine	Traumatic Surgery
Ophthalmic Surgery	

Incorporated (REMI) in Amherst, Massachusetts. The model is, in fact, three separate models that are integrated into one. First, its input-output component allows for the estimation of the interindustry linkages in the county.

For example, through the input-output model, we estimate the impact of the lost physicians on retail employment throughout the county. It is due to this component of the model that we are able to use industry-specific employment and income multipliers to measure interindustry impact in contrast to some analyses that use only one multiplier.

Second, the model's econometric component estimates the economic impact of changes in wage and material prices. The model is unique for it provides the means to estimate the overall impact of lower wage rates due to the loss of the 1,482 jobs, which can facilitate future employment growth.

Finally, the model includes a forecasting component which enables it to generate a forecast of the economic impact.

TABLE 6
Tertiary Care and Joint Activities

	Employment	
	Direct	Impact
Tertiary Care	969	1,132
West Michigan Cancer Center	87	47
Kalamazoo Center of Medical Studies	371	180
West Michigan Air Care	55	12
TOTAL	1,482	1,371

As shown in Table 6, 1,371 additional jobs would be lost if Borgess Medical Center and Bronson Methodist Hospital were replaced with a "secondary" medical facility. Due to the estimated 18.2 percent reduction in staff at the two hospitals because of the discontinuation of tertiary care, an additional 1,132 jobs would disappear in the county. A large part of this loss

would be the departure of 138 physicians and their support staff of 264, who required the availability of the centers' tertiary care facilities. The closures of the three joint activities of the two medical centers would eliminate another 239 jobs.

TABLE 7
Employment Impact by Economic Sector
1997

Manufacturing	0	
Nonmanufacturing	1340	
Construction		97
Finance		95
Retail Trade		312
Wholesale		29
Services		775
Other		32
Government	31	
Total	1371	

The 1,371 jobs that would be lost in the county due to the reduction of medical services would be spread over a wide range of economic sectors as shown in Table 7 and would include:

- The retail workers who meet the needs of the tertiary care staff at the two centers.

- Employees at businesses that hold service contracts with the medical centers and their joint activities.
- The warehouse workers who stock the shelves at the affected retailers and business supply stores.
- Construction workers as fewer home repairs are demanded and fewer houses are built.

With the loss of jobs would be a loss of wage and salaries in the county. As shown in Table 8, the \$58.1 million in lost payroll due to the curtailment of tertiary service and the closure of the medical centers' joint activities would generate a further loss of \$63.0 million in the county.

CONCLUSION

Total Economic Presence of Borgess and Bronson on Kalamazoo County

Borgess Health Alliance and Bronson Healthcare Group and their joint activities directly employ 5,830 persons in Kalamazoo County and generate a total payroll of \$177 million. Combined the

	(\$Millions)	
	Direct	Impact
Tertiary Care	\$36.8	\$54.6
West Michigan Cancer Center	4.3	1.7
Kalamazoo Center of Medical Studies	15.7	6.4
West Michigan Air Care	1.3	0.3
TOTAL	\$58.1	\$63.0

joint activities of the two health care systems generate 4.6 percent of all jobs in the county and stand only behind Pharmacia & Upjohn in terms of employment. Due to their tertiary level of care and their joint activities, this study concludes that Borgess and Bronson generate an additional 1,371 jobs and \$63.0 million in total wages and salaries in Kalamazoo County.

In total, Borgess and Bronson and their joint activities create a total of 7,201 jobs and generate \$261.3 million dollars in wages and salaries in Kalamazoo County. The health care systems' economic impact is in fact greater than this however because this report did not attempt to:

- 1) Estimate the economic impact of visitors to the medical facilities.
- 2) Measure the economic impact of the significant cost reductions achieved at the two medical facilities, relative to surrounding medical centers. Such savings have a positive effect on the county's business environments and makes the county a more competitive location for businesses.

- 3) Capture Borgess and Bronson's contribution to the county's quality of life due to the high-quality services provided by the two medical centers. In conducting our comparative analysis of medical services provide in similar-sized community, we were struck by the level of services currently being offered by the two hospitals. It is a level of service that we may be guilty of taking for granted.

TABLE 9
Total Economic Presence of Borgess and Bronson in Kalamazoo County
1997

	Employment*	Total Payroll (\$millions)
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BRONSON HEALTHCARE GROUP	2,467	\$81.3
JOINT ACTIVITIES		
West Michigan Cancer Center	87	\$4.3
Kalamazoo Center of Medical Studies	371	\$15.7
West Michigan Air Care	55	\$1.3
DIRECT ECONOMIC PRESENCE:	5,830	\$198.3
ECONOMIC IMPACT OF TERTIARY CARE AND JOINT ACTIVITIES:	1,371	\$63.0
TOTAL ECONOMIC PRESENCE:	7,201	\$261.3

*Includes full- and part-time.