2020 BENCHMARKING TRENDS: SHORT-TERM DISABILITY

DISEASES OF THE DIGESTIVE SYSTEM

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OVERVIEW

IBI's Disability and Leave Benchmarking database is the nation's largest dataset of claims from employer-sponsored short-term disability, long-term disability, federal family and medical leave, and Workers' Compensation benefits programs.

This year's benchmarks are based on our largest, most comprehensive dataset ever:

- Thirteen carriers and TPAs provided 10.6 million claims
- More than 100,000 employer policies
- Nearly 900 SIC industry codes

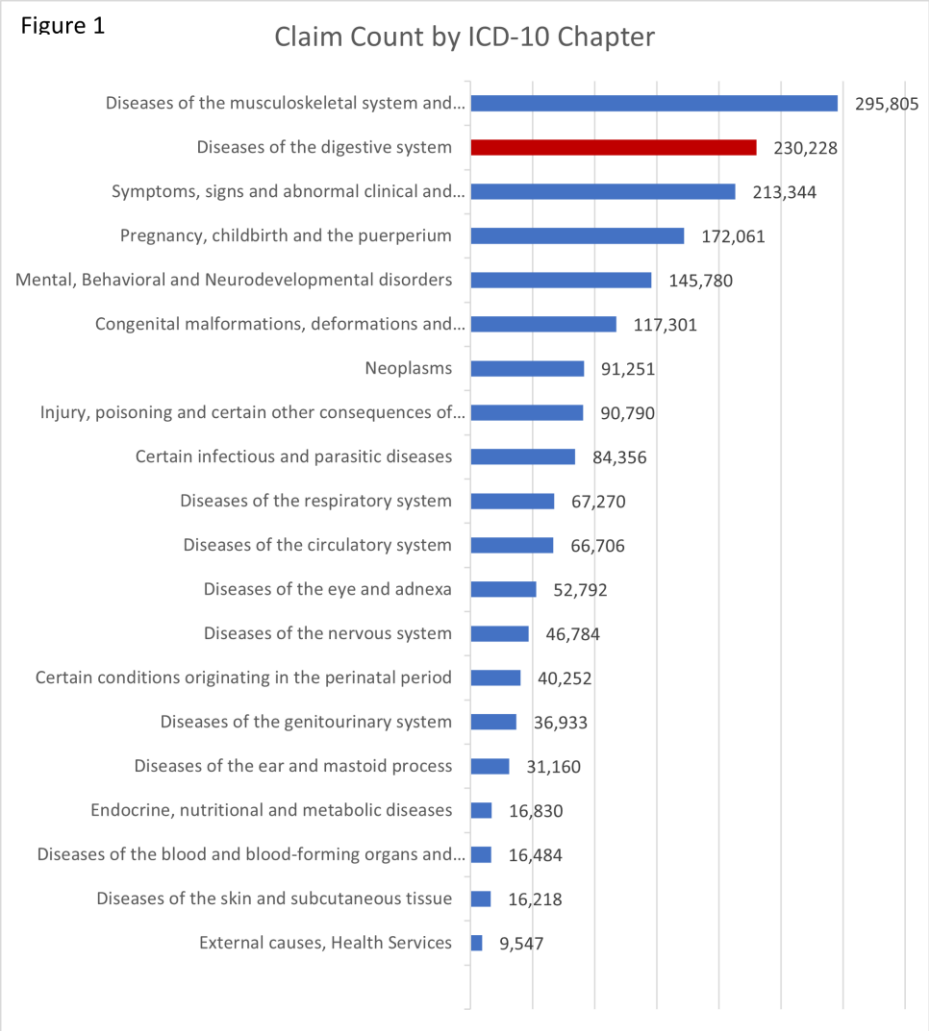
While year over year comparisons are difficult due to factors such as changes in our data consortium contributing members, industry merger and acquisition activity, changes in employer groups, and ultimately changes in the underlying employee composition, we are able to present high level summaries by product line highlighting material observable trends in the results both by Standard Industrial Code (SIC), and across International Classification of Diseases (ICD) chapter condition summaries

As in previous benchmarking periods, the 2020 Short-term Disability (STD) benchmarking data is based on active claims during the calendar year and includes metrics driven by prevalence, summarized, and reported by Standard Industrial Code (SIC), International Classification of Diseases (ICD) Chapter, plan type, gender, age, and percentile. 2020 results are comprised of almost three million unique claims representing 30,000 employers and more than 1,000 SIC codes, once again creating the single largest independent source for STD benchmarking.

Results by Condition

Condition reporting is done at the ICD-10 Chapter level to assure reporting integrity, claim de-identification, and a low enough level of detail to provide insight into identifying anomalies and opportunities for targeted interventional mitigations.

Figure 1



Data analysis from IBI's Benchmarking Trends Report for 2020 revealed an increase of short-term disability (STD) claims for digestive diseases. This was the second most prevalent diagnosis among all STD claims, with over 200,000 thousand claims (Figure 1). Most of the claims (88%) came from female employees between the ages of 30 to 39 years old.

DISEASES OF THE DIGESTIVE SYSTEM

In looking more in depth into diseases of the digestive system category as a driver of STD claims, it is important to understand the costs and time lost associated with the disease category. We used IBI's Disability Diagnosis Analyzer tool to gather this information. The Disability Diagnosis Analyzer (DDA) tool uses STD and LTD claims from the Disability and Leave Benchmarking system to demonstrate the disability burden of illness, diseases, injuries, and pregnancies. Using this tool, we can project total disability incidents in the U.S. workforce covered for STD benefits, and project the costs associated with a typical incident. For long term projections, the DDA can show the likelihood of STD claims becoming Long Term Disability (LTD) claims and associated costs. The tool can be filtered by diagnosis and gender of claimants for greater specificity.

For this analysis, at first, we looked overall at digestive diseases. We found that STD claims for all digestive diseases result in 40.9 days per year lost on average: with cost ranges between $1,600 to $9,100 per claim. For lost time impact 2% of all STD claims convert to long-term disability claims and 24% of those claims are active for at least 2 years.

Drivers of STD Claims within the Digestive Diseases Category

The diseases that are driving the costs and lost time the most are appendicitis, gallbladder diseases, and hernias. We broke down the data to understand the overall costs and time lost for each of these prevalent diseases driving the STD claims (Table 1).

Table 1: Overall costs and time lost for prevalent diseases in STD claims

Disease	Overall Claims	Cost of New STD Claims	Avg. STD payment	Avg days lost - initial STD	% LTD claims active >2 years
Appendicitis	24,000	$24,000	$1,700	30	3
Gallbladder Diseases	57,000	$55,000	$1,800	30	20
Hernias	96,000	$91,000	$2,600	40	10
Totals	**177,000 claims**	**$170,000**	**$6,100**	**100 days**	**33%**

Then, we further analyzed the data by gender, to create an understanding of employee demographics for these prevalent diseases driving the STD claims (Table 2). From Figure 1, the total STD claims for digestive diseases is 230,228. Table 1 shows the total claims for these three prevalent diseases (appendicitis, gallbladder diseases, and hernias) as 177,000. These three predominant diseases account for 76.86% of all STD claims for digestive diseases.

When we look at the data broken down by gender, it is interesting to note that even though 88% of all claims for digestive diseases came from female employees, more male employees made claims for these

three dominant diseases. Another noteworthy point from the data is that men have almost double the amount of hernia claims than women, and along with that, higher costs of new claims for hernia.

Additionally, looking at gallbladder diseases, our data aligns with known risk factors such as sex; details on risk factors are in Table 3. Research[i] consistently shows that women are more prone to developing gallstones, and the data here shows that women had almost double the amount of STD claims and cost for gallbladder diseases than men.

Table 2: Overall costs and time lost for prevalent diseases in STD claims by gender*

	FEMALES				
Disease	**Overall Claims**	**Cost of New STD Claims**	**Avg. STD payment**	**Avg. days lost - initial STD**	**% LTD claims active > 2 years**
Appendicitis	11,000	$11,300	$1,600	30	2
Gallbladder Diseases	40,000	$35,000	$1,600	30	19
Hernias	27,000	$26,900	$2,500	42	8
	MALES				
Disease	**Overall Claims**	**Cost of New STD Claims**	**Avg. STD payment**	**Avg days lost - initial STD**	**% LTD claims active > 2 years**
Appendicitis	13,000	$12,700	$1,800	30	5
Gallbladder Diseases	21,000	$15,000	$2,000	30	18
Hernias	65,000	$64,700	$2,600	40	13

*Costs include wage replacements paid to employees on STD leave--typically about 62% of their normal pay. For this reason, wage replacements undercount the productivity losses caused by STD leaves

INDUSTRY ANALYSIS

To investigate further, IBI wanted to understand which industries these claims were coming from. IBI used Standard Industrial Classification (SIC) Codes to identify these industries within our database. SIC codes have a hierarchical, top-down structure that begins with general characteristics and narrows down to more specific industries. The codes are made up of 4 digits. The first two digits of the code represent the major industry sector to which a business belongs; then the third and fourth digits describe the sub-classification of the business group and specialization, respectively.

For example, IBI's STD data analysis revealed that hernias were most prevalent within the SIC code of 8062. To understand the specific industry for this code, we break down the SIC code by digit hierarchy. SIC 2-digit code "80" refers to establishments that are engaged in furnishing medical, surgical, and other health services to persons. Adding "6" as a third digit to get "806" indicates that the business is within the Hospital Industry. The fourth digit distinguishes the specific industry sector, so a code of "8062" indicates that the specific industry is "General Medical and Surgical Hospitals"

Prevalent Digestive Diseases by Industry

Our analysis of the SIC codes in relation to the STD claims revealed that the prevalent claimed were generated by eight main industry types.

As mentioned, three diseases of the digestive system with the most STD claims are varying types of hernias, gallbladder related and appendicitis. Using the SIC codes described above, we further analyzed the data to discover which industry generated the most clams for each type of digestive disease.

Table 3. Diseases of the digestive systems and industries with most STD claims

Diseases with most claims	Industries where claims came from
Appendicitis	1. General Medical & Surgical Hospitals 2. Offices and Clinics of MDs (Doctor of Medicine) 3. Management Consulting Services 4. Home Health Care
Gallbladder related diseases	1. General Medical & Surgical Hospitals 2. Management Consulting Services 3. Medical Laboratories 4. Offices and Clinics of MDs (Doctor of Medicine)
Hernias	1. General Medical & Surgical Hospitals 2. Manufacturing 3. Motor Vehicles Manufacturing 4. Airport Transportation

Many of the claims come from health-related industries such as hospitals, medical labs, and offices. In this industry, workers are classified as essential during the COVID19 pandemic and could account for these industries being prevalent among the claims. Research shows that employees are delaying

receiving medical care[ii,iii] during the pandemic for non-emergent issues. Workers may have delayed care for earlier signs and symptoms of these diseases, until they became severe and requiring immediate medical attention.

STD Claims by Industry

To get a big picture idea of what overall STD claims in these industries looked like, we used IBI's Full Cost Estimator (FCE) tool to discern financial and productivity (absenteeism and presenteeism) costs for these industries.

The FCE uses various data sources - millions of claims in IBI's Disability and Leave Benchmarking data, survey responses to Health and Productivity Questionnaires as well as nationally represented data from Center for Disease Control and Bureau of Labor Statistics – to model financial and productivity costs. The FCE provides information on disability, absences, presenteeism and opportunity costs of illnesses. This information can be for the entire U.S. workforce or can be filtered by industry type and employee head count and can be further refined using your company's own benefit policies.

We ran the FCE tool, filtering for each of these industries for 200K employees. Looking at the summarized data in Table 4, these industries face hefty STD claims costs, both financially and productivity speaking. Home health care services averages the overall lowest costs, while management consulting services averages the highest overall costs among these eight industries. However, management consulting services averages less total absence days when compared to manufacturing, motor vehicle manufacturing and hospital industries. The data shows that wages replacement costs in management consulting are higher than the other industries; therefore, even though there are less claims in the management consulting industry, the costs are higher.

Table 4: Details of STD costs for all disease types by Industry (per 200K employees)

Industry	Employee Head Count	Total Active Claims	Avg Days per claim	Total Absence Days	Wages & benefits replacement Costs / day	Total Wages & benefits replacement Costs	Total Opportunity Costs	Total Costs
Air Transportation	*200K*	5,754	37.1	213.6K	$270	$57.7M	$37.8M	$95.5M
Home Health Care Services	*200K*	6,643	30.2	200.9K	$165	$32.8M	$12.0M	$45.0M
General Medical & Surgical Hospitals	*200K*	9,214	27.3	251.2K	$294	$73.8M	$45.5M	$119.3M
Management Consulting	*200K*	7,865	29.8	234.3K	$347	$81.2M	$57.2M	$138.4M
Manufacturing	*200K*	9,230	33.4	308.6K	$243	$75.1M	$37.9M	$113.0M

Medical Labs	*200K*	5,852	27.1	158.7K	$233	$36.9M	$18.9M	$55.8M
Motor Vehicles Manufacturing	*200K*	11,030	32.1	353.8K	$253	$89.4M	$40.8M	$130.2M
Physician's Offices	*200K*	7,642	25.4	193.8K	$266	$51.5M	$31.9M	$83.4M

It is important to keep in mind that this cost model in Table 4 is representative of STD claims for all diagnoses within these industries, not only digestive diseases. However, our data shows that these eight industries see the greatest number of claims for the prevalent digestive diseases discussed, which attributes to these high financial and productivity costs. Using our benchmarking data, we were able to estimate the percent and number of claims, costs, and absences for overall digestive diseases by industry.

Table 5: **Details of STD claims for digestive diseases by Industry**

Industry	% Of all claims that are digestive disease	Number of claims	Lost days per claim	Costs per claim	% Female claimants	% Male claimants
Air Transportation	13.59	2,688	86.5	$3,298	88.32	11.68
Home Health Care Services	9.10	1,559	78	$3,157	90.51	9.49
General Medical & Surgical Hospitals	15.88	22,960	51.7	$2,124	96.84	3.16
Management Consulting	17.70	2,814	71.9	$4,381	92.40	7.60
Manufacturing	10.69	44,852	76.5	$2,697	78.83	21.17
Medical Labs	8.65	660	55.9	$3,237	84.09	15.91
Motor Vehicles Manufacturing	6.74	1,088	65.4	$4,067	54.32	45.68
Physician's Offices	13.82	2,628	2,628	$1,158	94.75	5.25

Table 5 breaks down the STD claims data for all digestive diseases for these eight industry groups. Among these claims would be the prevalent diseases previously mentioned – appendicitis, gallbladder disease, and hernias. We see that among these industries, overall claims were made by more female employees than male employees. The management consulting industry had the highest percentage of

digestive disease claims and costs among these eight groups. Notably, while motor vehicle manufacturing has the lowest percentage of claims for digestive diseases in this group, the costs are considerably high.

HOW EMPLOYERS MIGHT USE THIS INFORMATION

Early Signs and Symptoms of Prevalent Digestive Diseases

It can be helpful to educate employees on the early signs and symptoms of appendicitis, gallbladder diseases, and hernias, as well as some risk factors to pay attention to keep in mind. This can help to reduce financial and productivity costs for employers in the long run.

Table 6. Signs, Symptoms and Risk factors for digestive diseases with most STD claims

	Appendicitis[iv,v]	Gallbladder Diseases[vi,vii,viii]	Hernias[ix,x]
Early Signs & Symptoms	Upset stomach and vomiting Fever and chills Constipation Diarrhea Trouble passing gas Swollen belly Family history	Intermittent pain upper right abdomen near the rib cage Pain that spreads to your right shoulder or back Gas Nausea Abdominal discomfort Chronic diarrhea	Dull aching sensation Pain when lifting objects Feeling full Feeling bowel obstruction Feeling of pressure Bulging in affected area
Risk Factors	Sex (being male) Cystic Fibrosis (in children) Loss of appetite	Ethnicity (more prevalent in Native Americans and Hispanic/Latino individuals) Obesity Consumption of high cholesterol and fatty foods Liver disease Diabetes Family history Pregnancy Being sedentary Sex (being female)	Heavy lifting Chronic Coughing Pregnancy Abdominal weight gain Constipation Family history

Mitigating the Onset of Prevalent Digestive Diseases

Of particular interest, are steps to take to mitigate the prevalence of hernias in the workplace, as many of these are as a resulting of heavy lifting. Based on the data, hernia claims came from hospitals, manufacturing, and airport transportation, where employees could be engaging in heavy lifting of

patients or equipment. There are some steps[xi,xii] that employers can implement for their employees to avoid hernias in the workplace due to heavy lifting

Proper Support Gear

Wearing a stabilizing belt is crucial for supporting the lower back while heavy lifting. These belts, commonly used by bodybuilder in weightlifting training can support employees back and posture to avoid straining during heavy lifting.

Having Proper Physical Form

Employers can educate their employees on the proper physical form for lifting, to prevent straining. Distribution of the weight, and a stable base or foundation are key to safely lifting heavy objects. Proper form for lifting involves keep the feet should-width apart, bending the knees and maintaining a straight back while looking ahead. Lifting slowly and leading with the hips are important part of the form needed for heavy lifting.

Using the Appropriate Equipment

When necessary, use lifting equipment such as forklifts or hoists to do heavy lifting in the workplace. Employers should set out parameters for the use of heavy lifting equipment so employees are aware of how much they should and should not lift on their own.

Wellness Programs

To mitigate the risk factors of hernias, employers can implement a health and wellness programs. Educating employees on healthier eating habits and providing programs for more physical activity to promote healthy weight and core strength are useful efforts. Additionally, education and programs to encourage employees to quit smoking can be useful, as one of the risk factors for hernia is chronic cough.

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[i] https://pubmed.ncbi.nlm.nih.gov/17103289/

[ii] https://www.npr.org/sections/health-shots/2021/10/14/1043414558/with-hospitals-crowded-from-covid-1-in-5-american-families-delays-health-care

[iii] https://www.cdc.gov/mmwr/volumes/69/wr/mm6936a4.htm

[iv] https://www.hopkinsmedicine.org/health/conditions-and-diseases/appendicitis

[v] https://www.mayoclinic.org/diseases-conditions/appendicitis/symptoms-causes/syc-20369543

[vi] https://www.hopkinsmedicine.org/health/conditions-and-diseases/gallbladder-disease

[vii] https://www.summahealth.org/specializedservices/digestive-gastroenterology/conditions-and-treatments/gallbladder-disorders

[viii] https://www.mayoclinic.org/diseases-conditions/gallstones/symptoms-causes/syc-20354214

[ix] https://my.clevelandclinic.org/health/diseases/15757-hernia

[x] https://www.hopkinsmedicine.org/health/conditions-and-diseases/how-to-tell-if-you-have-a-hernia

[xi] https://safeworksillinois.com/workplace-hernia-awareness-and-prevention/

[xii] https://www.rockwallsurgicalspecialists.com/blog/how-to-prevent-hernias-in-an-active-job