

Grant Saso, AIA, Project Architect
Little Diversified Architectural Consulting, Inc.
Orlando, FL
grant.saso@littleonline.com

Garrett Herbst, AIA, Project Manager
Little Diversified Architectural Consulting, Inc.
Charlotte, NC
garrett.herbst@littleonline.com

Helena Cheung, AIA, Studio Principal
Little Diversified Architectural Consulting, Inc.
Charlotte, NC
helena.cheung@littleonline.com

AI IMPACT 2024 | 40th Annual FPC Seminar + Expo
Sept 29 - Oct 1, 2024

Harnessing AI for Conceptual Design Excellence in Healthcare

Course Number: AHCA 12
Credit Designation: 1 LU/HSW
AIA CES Provider Number: E240

October 1, 2024



1

The seminar has teamed with a registered provider of AIA - approved continuing education under Provider Number E240. All registered AIA CES Providers must comply with the AIA Standards for Continuing Education Programs.

Any questions or concerns about this provider or this learning program may be sent to cessupport@aia.org or 800-242-3837 Option 3.

This learning program is registered with AIA CES for continuing professional education. As such, it does not include content that may be deemed or construed to be an approval or endorsement by the AIA of any material of construction or any method or manner of handling, using, distributing, or dealing in any material or product.

AIA continuing education credit has been reviewed and approved by AIA CES. Learners must complete the entire learning program to receive continuing education credit. AIA continuing education Learning Units earned upon completion of this course will be reported to AIA CES for AIA members. Certificates of Completion for both AIA members and non-AIA members are available upon request.

2

AIA Learning Objectives

- 1** OBJECTIVE | Understand the strategic integration of AI within the healthcare workflow and its profound impact on shaping the conceptual design process.
- 2** OBJECTIVE | Gain insight into how AI produces visually compelling outputs, enabling a deeper understanding of design implications and fostering creativity.
- 3** OBJECTIVE | Explore a variety of AI programs and tools applicable to conceptual design, learning how to effectively leverage them to generate conceptual renders and images.
- 4** OBJECTIVE | Utilize AI tools to cross-reference and identify common traits across user-demographics.

3

HCO

LITTLE
DIVERSIFIED ARCHITECTURAL CONSULTING

PATIENT PICK-UP

**HARNESSING AI FOR
CONCEPTUAL DESIGN
EXCELLENCE IN HEALTHCARE**

40th Annual FPC Seminar + Expo

4

GH1

AT LITTLE, WE DELIVER RESULTS BEYOND ARCHITECTURE.

RESULTS YOU WOULDN'T EXPECT FROM AN ARCHITECTURAL FIRM.

440+
PEOPLE IN SIX LOCATIONS

ORLANDO, FL
CHARLESTON, SC
CHARLOTTE, NC
DURHAM, NC
NEWPORT BEACH, CA
WASHINGTON, DC

SERVICES:
Architecture
Interior Architecture
Engineering
Sustainability
Brand Experience
Planning
Site Design
Smart Building Technologies

“ALWAYS REMEMBER WHAT’S IN IT FOR THE OTHER PERSON.”
- Bill Little, Founder

40th Annual FPC Seminar + Expo

5

HCO

IMPACTING LIVES

OUR MISSION
To partner with our clients, their patients and care providers in the creation of hopeful, healing, and healthy built environments.

100+
MEDICAL OFFICE BUILDINGS IN THE PAST 8 YEARS

2M+
SQUARE FEET OF DESIGNED MEDICAL OFFICE BUILDINGS

#13
DESIGN AND CONSTRUCTION OUTPATIENT AE FIRM

40
YEARS OF HEALTHCARE DESIGN EXPERIENCE

#27
2024 MODERN HEALTHCARE RANKING

02
AMERICAN COLLEGE OF HEALTHCARE ARCHITECTS

14
LEED ACCREDITED PROFESSIONALS

RECENT AWARDS

First Place
2023 Healthcare Environment Award in Conceptual Design
PAPILLO DOMUS

Shortlist
2023 Children’s Hospice International Design Competition
PAPILLO DOMUS

Finalist
2024 Fast Company World Changing Ideas
PAPILLO DOMUS

Honorable Mention
2023 IIDA Carolinas DesignWorks - Pediatric Inpatient Category
LEVINE CHILDREN’S 7A MEDSURG

First Place
2023 IIDA Carolinas DesignWorks - Outpatient Healthcare Category
ATRIUM HEALTH, MCP LEVEL 4

40th Annual FPC Seminar + Expo

6

GARRETT HERBST
Project Manager
Little

HELENA CHEUNG
Studio Principal
Little

GRANT SASO
Project Architect
Little

40th Annual FPC Seminar + Expo

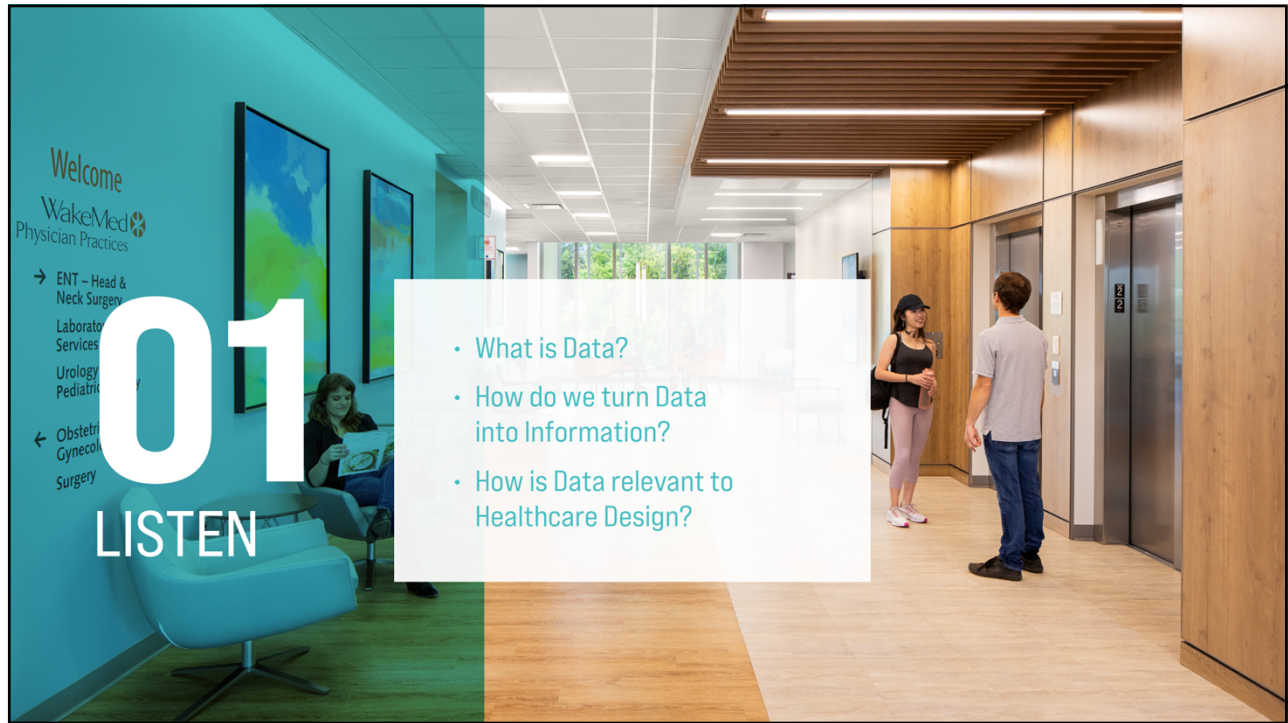
7

AGENDA

- 01 LISTEN**
 - What is Data?
 - How do we turn Data into Information?
 - What does Data mean in Healthcare?
- 02 CRAFT**
 - Our Knowledge: How it's expanded with AI information.
 - What does it mean?
- 03 ELEVATE**
 - Impact of AI in our Process
 - Impact of AI on Client Success
 - Future Possibilities

40th Annual FPC Seminar + Expo


8



9



10



STRUCTURED DATA

Demographics
Environmental Conditions
Location-Based Data

id	name	rating	reviews	address	city	state	zip	lat	lon
1	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
2	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
3	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
4	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
5	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
6	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
7	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
8	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
9	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
10	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
11	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
12	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
13	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
14	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
15	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
16	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
17	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
18	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
19	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
20	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
21	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
22	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
23	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
24	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
25	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
26	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
27	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
28	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
29	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822
30	AdventHealth Kissimmee	4.1	2359	2450 N Orange Blossom Trail, Kissimmee, FL 34744	Kissimmee	FL	34744	28.316410349999998	-81.40540934047822

40th Annual FPC Seminar + Expo

11



AdventHealth Kissimmee

4.1 (2,330)

2450 N Orange Blossom Trail, Kissimmee, FL 34744

Open 24 hours

adventhealth.com

(407) 846-4343

BHVWVJ, Kissimmee, Florida



UNSTRUCTURED DATA

Images
Social Media Posts
Reviews

40th Annual FPC Seminar + Expo

12


HOW DO WE TURN DATA INTO INFORMATION?

40th Annual FPC Seminar + Expo


13

01

AI & DATA



LLM
Large Language Model
(ChatGPT, Claude, Gemini)



Power BI
Microsoft Tool for
Data Visualization

40th Annual FPC Seminar + Expo

14



15

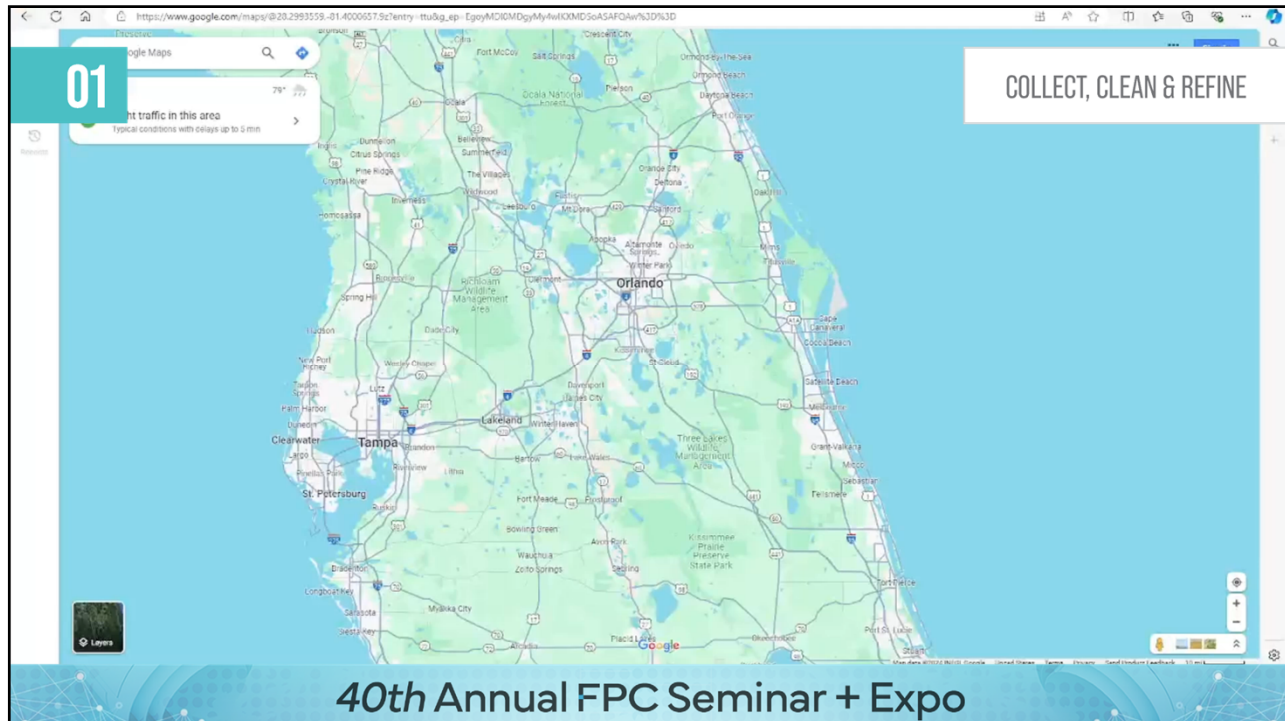


16

HOW DO WE COLLECT, CLEAN AND REFINE DATA?

40th Annual FPC Seminar + Expo

17



18

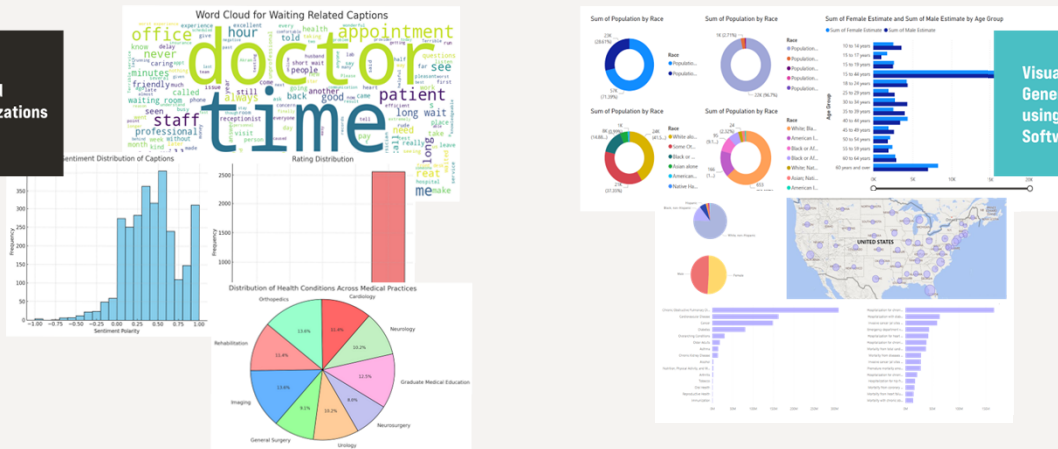
GHO

01

COLLECT, CLEAN & REFINE

AI Generated Data Visualizations

Visualization Generated using Specific Software



40th Annual FPC Seminar + Expo

19

WHAT DOES DATA MEAN FOR HEALTHCARE DESIGN?

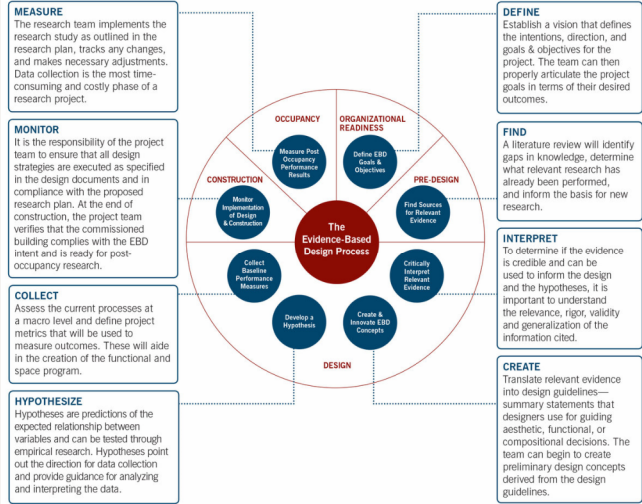
40th Annual FPC Seminar + Expo

20

EVIDENCE-BASED DESIGN

Evidence-Based Design (EBD) is the process of basing decisions about the built environment on credible research to achieve the best possible outcomes.

Source:
<https://www.healthdesign.org/certification-outreach/edac/about-ebd>



40th Annual FPC Seminar + Expo

IMPACTING LIVES



40th Annual FPC Seminar + Expo



23



24



25



26

IMPACTING LIVES

Human Experience	Wellbeing	Adaptability / Future Proofing
Efficiency & Performance	Practice Based Planning	

40th Annual FPC Seminar + Expo

27

IMPACTING LIVES

Human Experience	Wellbeing	Adaptability / Future Proofing
Efficiency & Performance	Practice Based Planning	Technology Integration

40th Annual FPC Seminar + Expo

28

IMPACTING LIVES

Human Experience Wellbeing Adaptability / Future Proofing

Efficiency & Performance Practice Based Planning Technology Integration

Equity

40th Annual FPC Seminar + Expo

29

IMPACTING LIVES

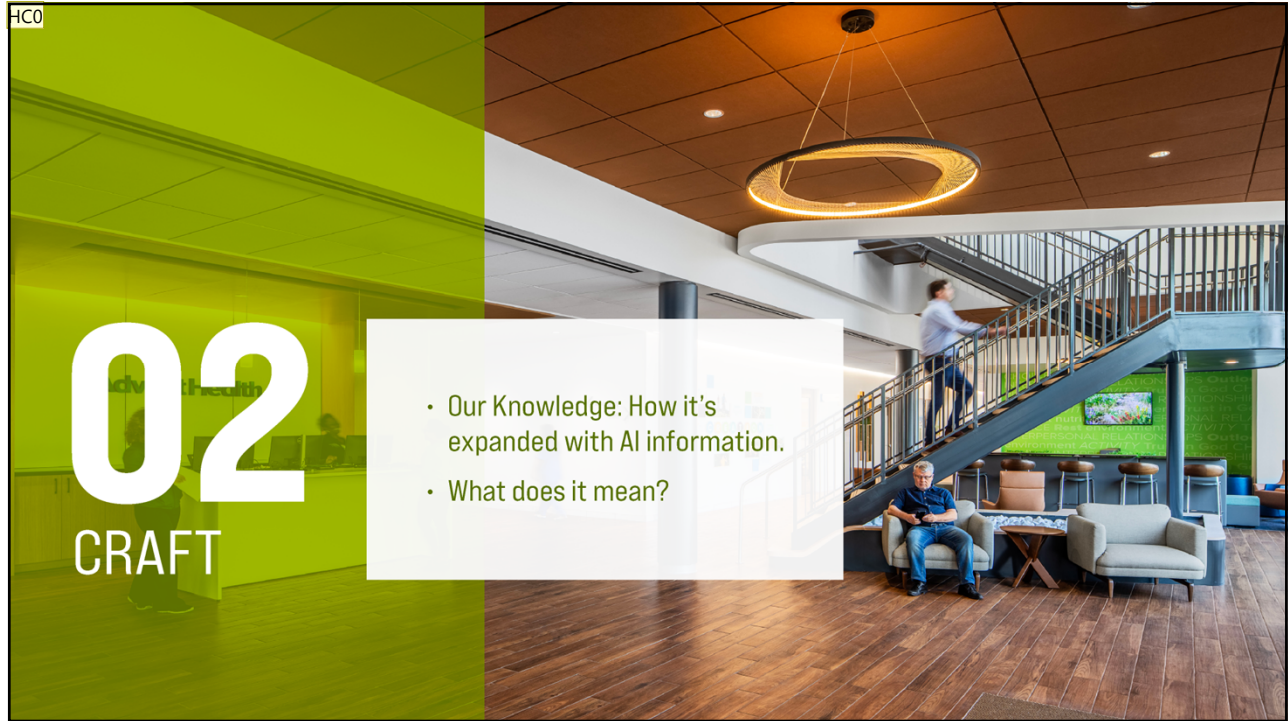
Human Experience Wellbeing Adaptability / Future Proofing

Efficiency & Performance Practice Based Planning Technology Integration

Equity

40th Annual FPC Seminar + Expo

30



- Our Knowledge: How it's expanded with AI information.
- What does it mean?

31

USE CASE:
**MEDICAL OFFICE BUILDING WITH
 AMBULATORY SURGICAL CENTER**

DESIGN DRIVERS

- Make a PLACE employees and visitors are proud of
- Architecture in MODERN language of recent improvements
- REINFORCE city's planning principles

PROJECT PARAMETERS

- OSCEOLA COUNTY
- MOB & ASC
- Multi-Specialty Practices

40th Annual FPC Seminar + Expo

32


OUR KNOWLEDGE

HOW IT HAS EXPANDED WITH
AI INFORMATION

40th Annual FPC Seminar + Expo

33

Men's Health




There are over 7.7 million men in Florida...


- 12%** Have ever had a heart attack, stroke, angina or coronary heart disease
- 13%** Have ever been told they had diabetes
- 18%** Are current smokers
- 27%** Do not participate in any physical activity
- 67%** Of men 50 years and older received colorectal cancer screening based on the most recent clinical guidelines
- 70%** Are overweight or obese

Source: 2016 Florida Behavioral Risk Factor Surveillance System
http://www.floridahealth.gov/bfrfs
http://www.healthiestweightflorida.com


Shape of Florida




63%
Adults are overweight or obese




29%
Adults who are overweight or obese describe themselves as being at 'about the right weight'




82%
Tried to eat more fruits and vegetables in the past 12 months




45%
Adults meet aerobic recommendations



38%
Adults meet muscle strengthening recommendations



46%
Almost half of adults are trying to lose weight




4 in 5
Adults agree with the statement "it is easy to purchase healthy foods in my neighborhood"

To see how the Florida Department of Health is using this data to improve the health of Floridians check out
http://www.healthiestweightflorida.com
http://www.floridahealth.gov

Source: 2016 Florida Behavioral Risk Factor Surveillance System
http://www.floridahealth.gov/bfrfs
http://www.healthiestweightflorida.com

Women's Health



There are over 8 million women in Florida...

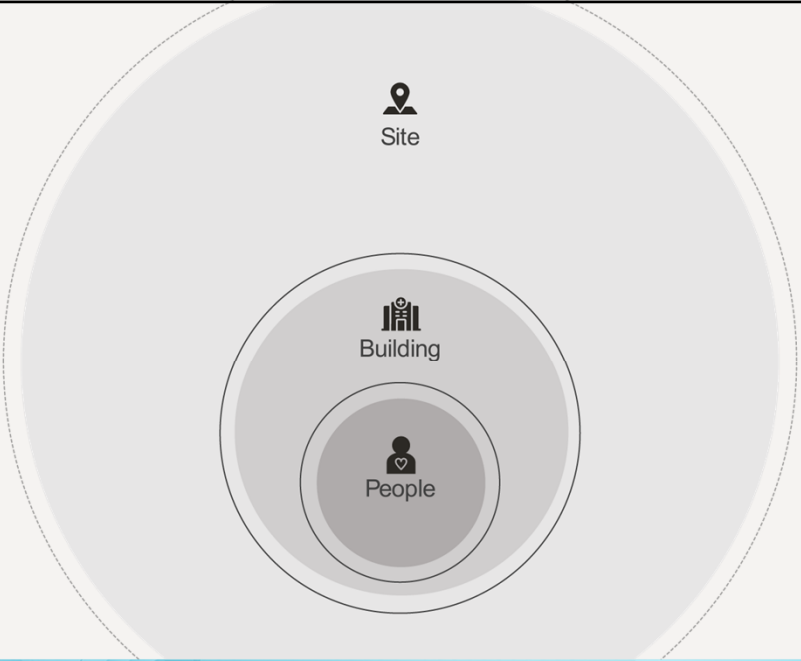
- 8%** Have ever had a heart attack, stroke, angina or coronary heart disease
- 11%** Have ever been told they had diabetes
- 13%** Are current smokers
- 32%** Do not participate in any physical activity
- 57%** Are overweight or obese
- 79%** Women ages 21-65 had a pap test in the past 3 years
- 82%** Women ages 50-74 received a mammogram in the past 2 years

Source: 2016 Florida Behavioral Risk Factor Surveillance System
http://www.floridahealth.gov/bfrfs
http://www.healthiestweightflorida.com

40th Annual FPC Seminar + Expo

34

GH0



TYPES OF DATA BY SCALE

SITE

- Existing Practices in the Area

BUILDING

- Types of Practices

PEOPLE

- Types of People
- Demographics of People in the Area
- Common Health Conditions per Region
- Common Health Conditions per Practice
- Behavioral Traits of Health Conditions
- Sentiment Analysis (Google reviews)

40th Annual FPC Seminar + Expo

35

HOW DO WE MAKE THIS DATA

MORE ACCESSIBLE?

40th Annual FPC Seminar + Expo

36

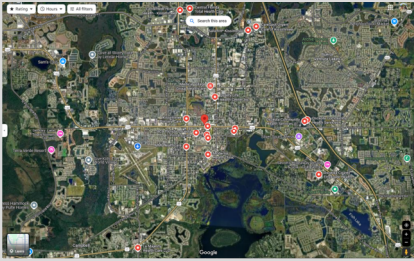
Slide 35

GHO [@Cory Hester] can you replace "Kissimmee" with "the Area"

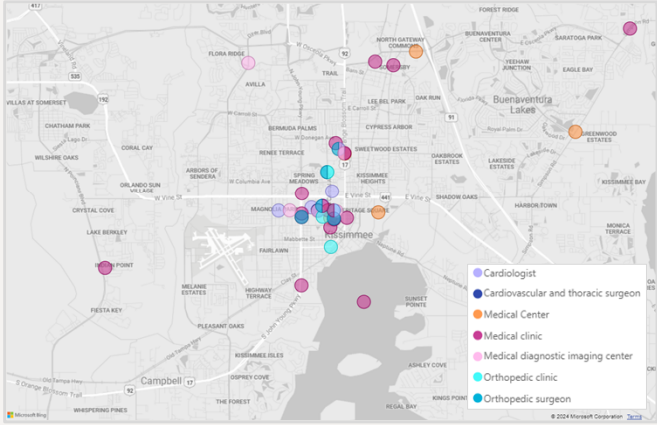
Garrett Herbst, 2024-09-11T13:28:24.795

EXISTING PRACTICES **02**

GOOGLE MAPS
Identify & Extract Key Healthcare Locations in the Area



VISUALIZATION
Using PowerBI, quickly visualize the Types & Quantity of Practices around the Site




- Cardiologist
- Cardiovascular and thoracic surgeon
- Medical Center
- Medical clinic
- Medical diagnostic imaging center
- Orthopedic clinic
- Orthopedic surgeon


40th Annual FPC Seminar + Expo

37


TYPES OF PEOPLE **02**




PATIENT



LOVED ONES



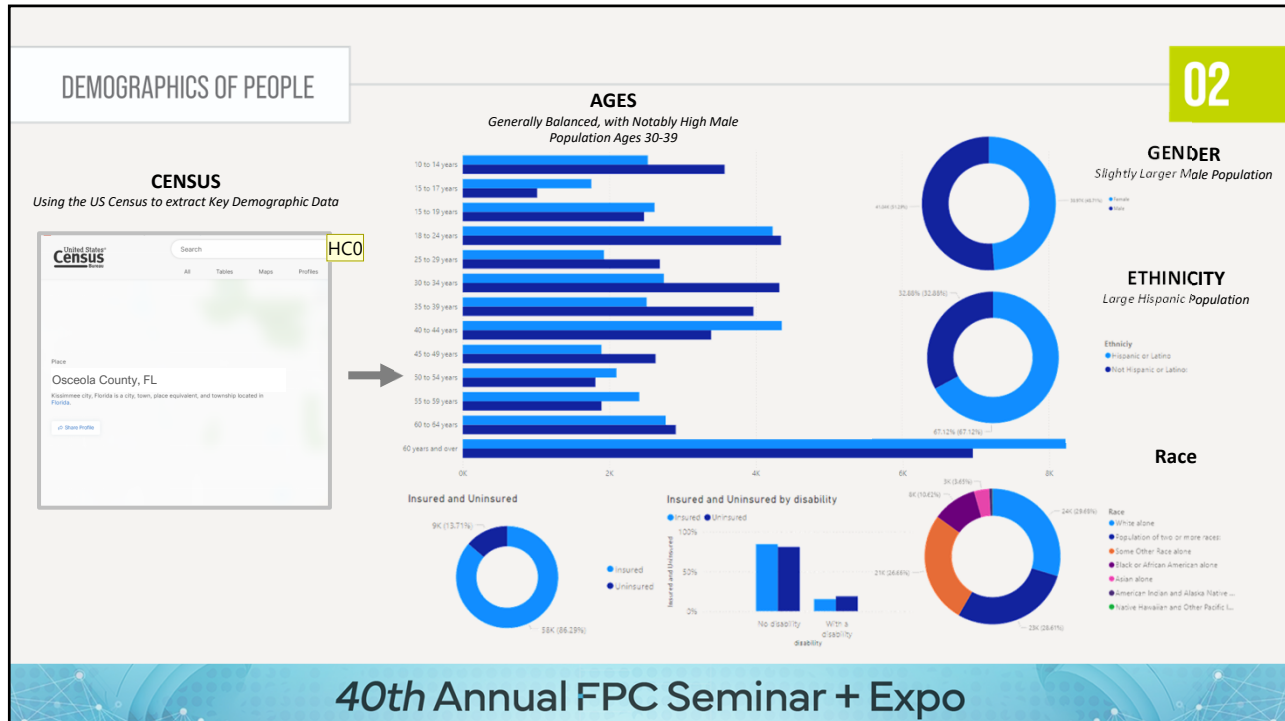
PROVIDER



STAFF

40th Annual FPC Seminar + Expo

38



39



40

HEALTH CONDITIONS BY PRACTICE

02

ORTHOPEDECS

- Osteoarthritis
- Fractures
- Sports Injuries
- Degenerative Disc Disease
- Carpal tunnel syndrome
- Bone tumors
- Joint Replacements
- Scoliosis

IMAGING

- Cancer
- Cardiovascular Disease
- Bone Fractures
- Musculoskeletal Injuries
- Neurological Conditions
- Pulmonary Conditions
- Abdominal and Pelvic Disorders

CARDIOLOGY

- Coronary Artery Disease
- Heart Failure
- Arrhythmias
- Hypertension
- Valvular Heart Disease
- Cardiomyopathy
- Congenital Heart Defects
- Peripheral Artery Disease

GEN. SURGERY

- Appendicitis
- Hernias

REHABILITATION

- Stroke Recovery
- Traumatic Brain Injury

UROLOGY

- Urinary Tract Infections
- Kidney Stones

NEUROSURGERY

- Brain Tumors
- Spinal Cord Tumors

40th Annual FPC Seminar + Expo

41

HEALTH CONDITIONS ACROSS REGION

02

TYPES | NATIONAL

High Cognitive & Mobility Disabilities

TYPES | LOCAL

Higher Vision & Independent Living Compared to National

BY GENDER

Direct Correlation to Population

BY RACE

Higher Percentage of Minority Groups

TYPES OF VISITATION

High Proportion of COPD Hospitalizations

PREVELANT CONDITIONS

COPD Highest, followed by Heart Disease & Cancer

BY AGE

Higher Percentage of Seniors

40th Annual FPC Seminar + Expo

42

SENTIMENT ANALYSIS 02

GuideWell Emergency Doctors
4.7 ★★★★★ (385)
Urgent care center · 📍

Overview · Reviews · About

BOOK ONLINE

2465 N Orange Blossom Trail, Kissimmee, FL 34744

Open · Closes 4 PM

guidewellemergency.com
(407) 917-5911

BH9W+4Q Kissimmee, Florida

Your Maps activity

Add a label

Suggest an edit

40th Annual FPC Seminar + Expo

43

SENTIMENT ANALYSIS 02

Comparison of Top 10 Positive vs. Negative Themes

Theme	Frequency	Sentiment
excellent	720	Positive
staff	650	Positive
great	620	Positive
care	600	Positive
thank	580	Positive
service	500	Positive
no key themes	480	Positive
good	450	Positive
staff	450	Positive
friendly	430	Positive
appointment	150	Negative
time	140	Negative
worst	130	Negative
walk	120	Negative
office	110	Negative
told	100	Negative
doctor	100	Negative
place	100	Negative
just	100	Negative
waiting	100	Negative

doctor great care

hour worst waiting

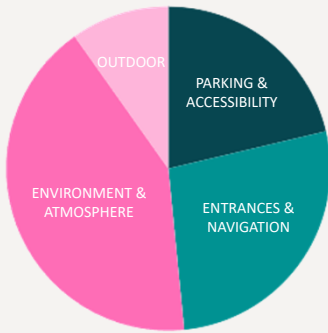
40th Annual FPC Seminar + Expo

44

SENTIMENT ANALYSIS

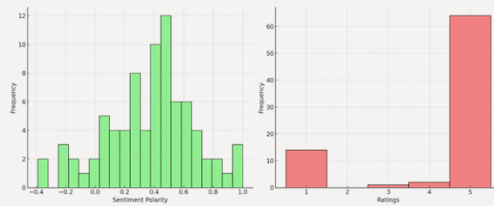
02

ARCHITECTURAL SENTIMENT
Identifying Architecturally-Specific Reviews & Sentiment



SENTIMENT VS RATING

Comparison of how the Sentiment of the Reviews Compared to the Ratings



SPATIAL

Word Cloud for Spatial Reviews & Sentiment



STAFF

Word Cloud for Staff-Related Reviews & Sentiment



40th Annual FPC Seminar + Expo

45

DATA IS GREAT...

**WHERE ARE THE
INSIGHTS?**

40th Annual FPC Seminar + Expo

46

GPTs

Discover and create custom versions of ChatGPT that combine instructions, extra knowledge, and any combination of skills.

Search GPTs

Top Picks DALL·E Writing Productivity Research & Analysis Programming Education Lifestyle

Shared with Me

- 1 Proposal Generator**
This GPT can be used to create simple proposals or additional services for projects to Save Time
By Nicholas Ault · 9
- 2 Cover Letter Generator**
utilizes Little's approach to personalized cover letters and to help in their generation
By Nicholas Ault · 12
- 3 Proposal Generator**
Automate the creation of proposals, asking key questions one by one.
By Garrett Herbst · 6
- 4 Meeting Minutes Generator**
Generates structured meeting minutes from transcripts.
By Garrett Herbst · 1
- 5 Email Assistant**
Refines and rewrites emails for professional tone and clarity.
By Garrett Herbst · 3
- 6 Little Employee Handbook**
Answers questions about the Little employee handbook.
By Garrett Herbst · 5

See more

40th Annual FPC Seminar + Expo

47

Age Distribution:

- 0-18 years (28.06%)**
Behavioral Attributes: This age group is likely to be more active and energetic, with a tendency towards social interaction and exploration.
Psychological Tendencies: High levels of curiosity, learning, and development of social skills. The need for education and recreational facilities is critical.
Stress Levels: Generally lower stress levels but can increase due to educational pressures or family dynamics.
Mobility: High mobility, with minimal physical restrictions.
Sensory Sensitivity: Potentially higher sensitivity to noise and bright lights.
- 20-30 years (28.01%)**
Behavioral Attributes: This age group is often in the workforce, exhibiting higher levels of independence and responsibility.
Psychological Tendencies: Focused on career growth, family building, and social relationships. Increased potential for stress related to work-life balance.
Stress Levels: Higher stress levels due to career and family pressures.
Mobility: Generally good mobility, but with some variance depending on lifestyle.
Sensory Sensitivity: Moderate, depending on occupation and lifestyle.
- 40-59 years (26.82%)**
Behavioral Attributes: Stability and routine become more prominent, with a focus on maintaining health and preparing for retirement.
Psychological Tendencies: This group might face mid-life crises, leading to potential anxiety and depression.
Stress Levels: High, often due to career peaks, health issues, and family responsibilities.
Mobility: Some decline in mobility, with increased risk of joint pain and chronic conditions.
Sensory Sensitivity: May start to experience sensitivity to light, sound, and other stimuli.
- 60+ years (18.02%)**
Behavioral Attributes: Retired or semi-retired individuals may focus on leisure, health management, and socializing.
Psychological Tendencies: Concerns about health, independence, and end-of-life planning can lead to anxiety or depression.
Stress Levels: Can vary widely; some may experience lower stress due to retirement, while others may have increased stress due to health concerns.
Mobility: Reduced mobility is common, often requiring assistance or accommodations.
Sensory Sensitivity: Increased sensitivity to light, sound, and temperature changes.

Disabilities:

- 1. Vision Disability (8.80%)**
Behavioral Attributes: May require adaptive behaviors such as the use of assistive devices.
Psychological Tendencies: Potential for increased anxiety or frustration due to limitations in visual tasks.
Stress Levels: Can be moderate to high depending on the level of adaptation and support available.
Mobility: May require guidance systems or support for navigation.
Sensory Sensitivity: Likely more sensitive to light conditions.
- 2. Self-care Disability (4.10%)**
Behavioral Attributes: Requires assistance with daily tasks, leading to dependency on others.
Psychological Tendencies: Higher risk of depression or anxiety due to loss of independence.
Stress Levels: High, particularly if adequate support systems are not in place.
Mobility: Limited, often requiring personal or mechanical assistance.
Sensory Sensitivity: No specific increase, but could be heightened due to dependency.
- 3. Mobility Disability (14.70%)**
Behavioral Attributes: Restricted physical activity, leading to potential social isolation.
Psychological Tendencies: Increased risk of depression and frustration.
Stress Levels: High, especially if the environment is not accommodating.
Mobility: Severely impacted, requiring the use of mobility aids.
Sensory Sensitivity: May develop sensitivity to physical discomfort.
- 4. Independent Living Disability (7.80%)**
Behavioral Attributes: Dependence on others for daily living activities.
Psychological Tendencies: Increased anxiety and depression due to lack of independence.
Stress Levels: High, particularly if living arrangements are unstable.
Mobility: Often requires assistance or modified living conditions.
Sensory Sensitivity: May be heightened due to reliance on others.
- 5. Hearing Disability (7.80%)**
Behavioral Attributes: May involve withdrawal from social interactions or reliance on visual communication.
Psychological Tendencies: Increased risk of social isolation and depression.
Stress Levels: Moderate to high, depending on communication barriers.
Mobility: Generally unaffected, though environmental navigation might be impacted.
Sensory Sensitivity: Likely heightened to visual stimuli.
- 6. Cognitive Disability (13.00%)**
Behavioral Attributes: Potential challenges in memory, decision-making, and social interactions.
Psychological Tendencies: Increased risk of confusion, anxiety, and depression.
Stress Levels: High, due to difficulties in processing information and performing tasks.
Mobility: May be indirectly affected if cognitive issues hinder navigation.
Sensory Sensitivity: Possibly increased sensitivity to confusing or overwhelming environments.

Health Conditions:

- 1. Asthma (8.40%)**
Behavioral Attributes: May lead to avoidance of physical exertion or outdoor activities.
Psychological Tendencies: Anxiety related to breathing difficulties, particularly in stressful situations.
Stress Levels: High during asthma attacks or in environments with triggers.
Mobility: Generally unaffected, except during severe attacks.
Sensory Sensitivity: Heightened to allergens, smoke, and other respiratory triggers.
- 2. Heart Disease (4.60%)**
Behavioral Attributes: Reduced physical activity to avoid strain.
Psychological Tendencies: Anxiety about health and physical limitations.
Stress Levels: High, particularly due to concerns about potential cardiac events.
Mobility: Limited by physical stamina and risk factors.
Sensory Sensitivity: Increased sensitivity to physical exertion and environmental stressors.
- 3. Depression (15.40%)**
Behavioral Attributes: Withdrawn, with decreased motivation and activity.
Psychological Tendencies: Negative outlook, low self-esteem, and a tendency towards anxiety.
Stress Levels: High, often exacerbated by external stressors.
Mobility: Can be reduced due to lack of energy or motivation.
Sensory Sensitivity: Increased sensitivity to noise, light, and stress-inducing environments.
- 4. Overweight (37%)**
Behavioral Attributes: May lead to lower physical activity and potential social withdrawal.
Psychological Tendencies: Potential for body image issues, anxiety, and depression.
Stress Levels: Moderate to high, depending on self-perception and societal pressures.
Mobility: Somewhat limited, depending on severity and associated conditions.
Sensory Sensitivity: Generally unaffected.
- 5. Obesity (20%)**
Behavioral Attributes: Reduced physical activity, potential social withdrawal.
Psychological Tendencies: Higher risk of depression, anxiety, and body image issues.
Stress Levels: High, particularly due to health concerns and societal pressures.
Mobility: More significantly impacted, with potential for joint pain and fatigue.
Sensory Sensitivity: Generally unaffected, though discomfort in certain settings may occur.
- 6. Arthritis (23.00%)**
Behavioral Attributes: Limited physical activity due to joint pain.
Psychological Tendencies: Risk of depression or anxiety due to chronic pain.
Stress Levels: High, particularly during flare-ups.
Mobility: Significantly impacted, requiring assistance or modifications.
Sensory Sensitivity: Increased sensitivity to physical discomfort.

40th Annual FPC Seminar + Expo

48

Age Distribution:

- 0-10 years (20.06%)**
Behavioral Attributes: This age group is likely to be more active and energetic, with a tendency towards social interaction and exploration.
Psychological Tendencies: High levels of curiosity, learning, and development of social skills. The need for education and recreational facilities is critical.
Stress Levels: Generally lower stress levels but can increase due to educational pressures or family dynamics.
Mobility: High mobility, with minimal physical restrictions.
Sensory Sensitivity: Potentially higher sensitivity to noise and bright lights.
- 20-30 years (20.01%)**
Behavioral Attributes: This age group is in the early stages of career and life establishment, showing independence and responsibility.
Psychological Tendencies: Focused on personal growth, career advancement, and social status. Increased potential for stress related to financial and professional pressures.
Stress Levels: Higher stress levels due to career and financial pressures.
Mobility: Generally good mobility, but may experience some limitations due to sedentary lifestyles.
Sensory Sensitivity: Moderate, depending on occupation and lifestyle.
- 40-59 years (20.82%)**
Behavioral Attributes: Stability and routine become more prominent. Focus on maintaining health and preparing for retirement.
Psychological Tendencies: This group might face mid-life crises leading to potential depression.
Stress Levels: High, often due to career peaks, health issues, and family responsibilities.
Mobility: Some decline in mobility, with increased risk of joint-related stressors.
Sensory Sensitivity: May start to experience sensitivity to light, sound, and temperature changes.
- 60+ years (10.50%)**
Behavioral Attributes: Retired or semi-retired individuals may focus on leisure, health management, and socializing.
Psychological Tendencies: Concerns about health, independence, and end-of-life planning can lead to anxiety or depression.
Stress Levels: Can vary widely; some may experience lower stress due to retirement, while others may have increased stress due to health concerns.
Mobility: Reduced mobility is common, often requiring assistance or accommodations.
Sensory Sensitivity: Increased sensitivity to light, sound, and temperature changes.

Disabilities:

- Vision Disability (8.80%)**
Behavioral Attributes: May require adaptive behaviors such as the use of assistive devices.
Psychological Tendencies: Potential for increased anxiety or frustration due to limitations in visual tasks.
Stress Levels: Can be moderate to high depending on the level of adaptation and support available.
Mobility: May require guidance systems or support for navigation.
Sensory Sensitivity: Likely more sensitive to light conditions.
- Self-care Disability (4.10%)**
Behavioral Attributes: Requires assistance with daily tasks, leading to dependency on others.
Psychological Tendencies: Higher risk of depression or anxiety due to loss of independence.
Stress Levels: High, particularly if the environment is not accommodating.
Mobility: Severely impacted, requiring the use of mobility aids.
Sensory Sensitivity: May develop sensitivity to physical discomfort.
- Speech Disability (1.50%)**
Behavioral Attributes: May experience social isolation or communication challenges.
Psychological Tendencies: Potential for depression or anxiety due to communication barriers.
Stress Levels: Moderate to high, depending on communication barriers.
Mobility: Generally unaffected, though environmental navigation might be impacted.
Sensory Sensitivity: Likely heightened to visual stimuli.
- Independent Living Disability (7.60%)**
Behavioral Attributes: May involve withdrawal from social interactions or reliance on visual communication.
Psychological Tendencies: Increased risk of social isolation and depression.
Stress Levels: Moderate to high, depending on communication barriers.
Mobility: Generally unaffected, though environmental navigation might be impacted.
Sensory Sensitivity: Likely heightened to visual stimuli.
- Hearing Disability (7.80%)**
Behavioral Attributes: May involve withdrawal from social interactions or reliance on visual communication.
Psychological Tendencies: Increased risk of social isolation and depression.
Stress Levels: Moderate to high, depending on communication barriers.
Mobility: Generally unaffected, though environmental navigation might be impacted.
Sensory Sensitivity: Likely heightened to visual stimuli.
- Cognitive Disability (13.50%)**
Behavioral Attributes: Potential challenges in memory, decision-making, and social interactions.
Psychological Tendencies: Increased risk of confusion, anxiety, and depression.
Stress Levels: High, due to difficulties in processing information and performing tasks.
Mobility: May be indirectly affected if cognitive issues hinder navigation.
Sensory Sensitivity: Possibly increased sensitivity to confusing or overwhelming environments.

Health Conditions:

- Asthma (8.40%)**
Behavioral Attributes: May lead to avoidance of physical exertion or outdoor activities.
Psychological Tendencies: Anxiety related to breathing difficulties, particularly in stressful situations.
Stress Levels: High during asthma attacks or in environments with triggers.
Mobility: Generally unaffected, except during severe attacks.
Sensory Sensitivity: Heightened to allergens, smoke, and other respiratory triggers.
- Heart Disease (4.50%)**
Behavioral Attributes: Reduced physical activity to avoid strain.
Psychological Tendencies: Anxiety about health and physical limitations.
Stress Levels: High, often exacerbated by external stressors.
Mobility: Can be reduced due to lack of energy or motivation.
Sensory Sensitivity: Increased sensitivity to noise, light, and stress-inducing environments.
- Depression (16.50%)**
Behavioral Attributes: May lead to lower physical activity and potential social withdrawal.
Psychological Tendencies: Potential for body image issues, anxiety, and depression.
Stress Levels: High, particularly due to health concerns and societal pressures.
Mobility: May be significantly impacted, depending on self-perception and societal pressures.
Sensory Sensitivity: Generally unaffected.
- Overweight (27%)**
Behavioral Attributes: May lead to lower physical activity and potential social withdrawal.
Psychological Tendencies: Potential for body image issues, anxiety, and depression.
Stress Levels: High, particularly due to health concerns and societal pressures.
Mobility: May be significantly impacted, depending on self-perception and societal pressures.
Sensory Sensitivity: Generally unaffected.
- Obesity (30%)**
Behavioral Attributes: Reduced physical activity, potential social withdrawal.
Psychological Tendencies: Higher risk of depression, anxiety, and body image issues.
Stress Levels: High, particularly due to health concerns and societal pressures.
Mobility: More significantly impacted, with potential for joint pain and fatigue.
Sensory Sensitivity: Generally unaffected, though discomfort in certain settings may occur.
- Arthritis (23.60%)**
Behavioral Attributes: Limited physical activity due to joint pain.
Psychological Tendencies: Risk of depression or anxiety due to chronic pain.
Stress Levels: High, particularly during flare-ups.
Mobility: Significantly impacted, requiring assistance or modifications.
Sensory Sensitivity: Increased sensitivity to physical discomfort.

40th Annual FPC Seminar + Expo

Population-Wide Demographics Analysis

- Behavioral Attributes**
 - General Trends:** The population is fairly evenly distributed across different age groups, with a significant portion of the population (54.83%) in the 20-59 age range. This suggests a mix of both active working individuals and those potentially facing mid-life challenges.
 - Health Impact:** The high prevalence of overweight (37%) and obesity (30%), coupled with significant rates of arthritis (23.60%), suggests that many individuals may exhibit reduced physical activity and a preference for more sedentary lifestyles.
- Psychological Tendencies**
 - General Trends:** With 15.40% of the population experiencing depression and a notable portion dealing with disabilities, there is a heightened risk of anxiety, social withdrawal, and negative outlooks. The presence of cognitive disabilities in 13.50% of the population further indicates potential challenges in mental health and cognitive processing.
 - Health Impact:** Chronic conditions like heart disease (4.50%), asthma (8.40%), and arthritis are likely to contribute to a higher prevalence of psychological stress, possibly exacerbating depression and anxiety. This population might require more mental health resources and community support systems.
- Stress Levels**
 - General Trends:** Stress levels across the population are likely to be moderate to high. The middle-aged group (40-59 years) and those with chronic conditions or disabilities may experience higher stress, particularly due to health concerns and physical limitations.
 - Health Impact:** Conditions such as heart disease and depression can lead to increased stress, particularly when compounded by physical limitations from disabilities. The environmental stressors, like allergens or poor air quality, could also trigger higher stress levels in those with asthma.
- Mobility**
 - General Trends:** Mobility is a significant concern for this population. With 14.70% experiencing mobility disabilities and a large percentage affected by obesity and arthritis, a considerable portion of the population likely faces daily challenges related to movement.
 - Health Impact:** The high prevalence of arthritis and obesity compounds mobility issues, suggesting a need for environments that are accessible and supportive of individuals with limited mobility. This might include wider hallways, ramps, and accessible transportation options.
- Sensory Sensitivity**
 - General Trends:** Sensory sensitivity is likely to be heightened in certain subgroups. For instance, individuals with vision (8.80%) or hearing disabilities (7.80%) may have increased sensitivity to light and sound, respectively.
 - Health Impact:** The presence of cognitive disabilities and depression also indicates potential sensitivity to stressful or overstimulating environments. Careful consideration of lighting, noise levels, and overall ambiance would be important in designing spaces that cater to these sensitivities.

40th Annual FPC Seminar + Expo

FPC Department Pattern Stacker

By Grant Saso

Begin Analysis

Message FPC Department Pattern Stacker

Snipping Tool: Diversified Architectural Consulting workspace chats aren't used to train our models. ChatGPT can make mistakes.

40th Annual FPC Seminar + Expo

51

GH0 Cardiology:

1. Behavioral Attributes

Health Anxiety About 60-70% of cardiology patients may exhibit health anxiety, particularly concerning their heart condition. They might be hyper-aware of symptoms like chest pain or palpitations, often fearing serious outcomes.

Adherence to Treatment Approximately 70% of cardiology patients are likely to be highly adherent to their treatment plans, given the life-threatening nature of their conditions. However, about 20% might struggle with adherence due to the complexity of managing lifestyle changes or medication routines.

Cautious Behavior A significant portion, around 80%, of patients might exhibit cautious behavior, avoiding physical exertion or stressful situations to prevent exacerbation of their condition.

2. Psychological Tendencies

Depression Cardiovascular issues are closely linked with psychological conditions, with around 30-40% of patients likely experiencing some level of depression, particularly if their condition is chronic or has significantly impacted their quality of life.

Fear of Mortality Given the nature of heart-related issues, around 50% of patients might have an underlying fear of mortality, which could drive both health anxiety and depression.

Need for Reassurance Many patients, about 65%, may have a high need for reassurance from healthcare providers, frequently seeking confirmation that their condition is stable or improving.

3. Stress Levels

Moderate to High Stress Stress levels are likely to be moderate to high in about 70% of patients, as they navigate the fear of potential heart attacks, the burden of chronic illness, and the necessity of significant lifestyle changes.

Varied Based on Condition Stress can vary widely; those in for routine check-ups might experience low to moderate stress (30%), whereas those with recent diagnoses or acute symptoms might experience high stress (40%).

4. Mobility

Restricted Mobility Around 40-50% of cardiology patients may have restricted mobility, either due to physical limitations from their heart condition or due to doctor's orders to limit exertion.

Need for Mobility Aids Some patients, about 15-20%, may require mobility aids, such as wheelchairs or walkers, especially if they also have coexisting conditions like heart failure or peripheral artery disease.

5. Sensory Sensitivity

Sound Sensitivity Roughly 25% of patients might be sensitive to noise, particularly those who are anxious or stressed, as loud environments could exacerbate their symptoms or stress.

Light Sensitivity Light sensitivity may affect around 15% of patients, particularly those with migraines or who are in recovery after surgery or procedures.

Smell Sensitivity Sensitivity to smells might be an issue for about 10-15% of patients, particularly those on certain medications that affect their gastrointestinal system.

Imaging:

1. Behavioral Attributes

Anticipation and Restlessness About 50-60% of patients might exhibit anticipation or restlessness due to uncertainty about the results, especially when the imaging is related to diagnosing serious conditions.

Compliance Nearly 80-85% of patients are likely to be compliant with instructions, as imaging requires them to follow specific guidelines (e.g., holding breath, staying still).

Patience Levels Given the nature of imaging appointments, which often involve waiting, around 40% of patients might show signs of impatience or frustration, particularly if there are delays.

2. Psychological Tendencies

Claustrophobia A significant portion, around 20-25%, of patients may experience claustrophobia, particularly during MRI scans where they must remain inside a confined space for an extended period.

Health Anxiety Similar to cardiology, approximately 40-50% of patients might experience health anxiety, particularly if the imaging is to diagnose or monitor a serious condition.

Fear of Results Around 30-40% of patients might exhibit fear or anxiety about the results of their imaging, especially if it's for conditions like cancer or neurological disorders.

3. Stress Levels

Moderate Stress Stress levels are likely to be moderate in about 50% of patients, primarily due to the anticipation of results and the discomfort or unfamiliarity of the imaging process.

High Stress For those undergoing imaging for serious health concerns or who experience claustrophobia, about 20-30% may experience high stress levels during the procedure.

4. Mobility

Mobility Restrictions About 20-30% of patients may have mobility restrictions, making it challenging to position themselves on imaging tables or remain still for extended periods. This is especially true for elderly patients or those with physical disabilities.

Assistance Required A smaller portion, around 10-15%, may require assistance to move into the correct position for imaging, such as help from staff or use of specialized equipment.

5. Sensory Sensitivity

Sound Sensitivity Sound sensitivity is particularly relevant here, around 40-50% of patients might be sensitive to the loud noises produced by MRI machines, which can cause discomfort or anxiety.

Note A majority, around 60-70%, might not have specific sensory sensitivities beyond what's induced by the imaging equipment itself, as these procedures generally do not involve strong smells or additional lighting beyond what is necessary.

Orthopedics:

1. Behavioral Attributes

Caution in Movement Approximately 70-80% of patients might exhibit caution in their movements to avoid pain or further injury, particularly those recovering from surgery or dealing with chronic joint issues.

High Adherence to Physical Therapy Around 60% of patients are likely to be diligent about following physical therapy routines, especially if they understand its importance in their recovery. However, 20-30% might struggle with adherence due to pain or frustration with slow progress.

Dependence on Assistance A significant portion, about 40-50%, might show dependence on assistance from others, whether it's using mobility aids or needing help from family members.

2. Psychological Tendencies

Frustration and Impatience Due to the often slow recovery process, around 40-50% of patients may experience frustration or impatience, particularly if they feel their mobility or independence is compromised.

Chronic Pain Anxiety Approximately 30-40% of patients might have anxiety related to chronic pain or the fear of worsening symptoms, which can impact their mental well-being.

Resilience On the positive side, about 30% of patients might exhibit resilience and a proactive mindset, driven by the desire to regain full function and mobility.

3. Stress Levels

Moderate Stress Stress levels are likely moderate in about 50-60% of patients, as they manage ongoing pain, the challenges of physical therapy, and concerns about long-term mobility.

High Stress Around 20-25% of patients, particularly those with severe injuries or facing surgery, may experience high stress levels due to the uncertainty of their recovery and the potential for long-term disability.

4. Mobility

Limited Mobility A large proportion, about 60-70%, of orthopedic patients have limited mobility, whether temporary (post-surgery) or permanent (due to degenerative conditions). This often necessitates the use of crutches, walkers, wheelchairs, or other aids.

Assistance in Movement About 40% might require assistance with movement, either from healthcare providers or family members, especially in the immediate post-surgical phase or in cases of severe disability.

5. Sensory Sensitivity

Pain Sensitivity Pain sensitivity is high among orthopedic patients; approximately 50-60% might be highly sensitive to pain due to ongoing injury, inflammation, or post-surgical recovery.

Light Sensitivity Light sensitivity could be a factor for about 10-15% of patients, particularly those recovering from surgeries where they might be more sensitive to bright environments.

Sound Sensitivity A smaller portion, around 15-20%, may have sound sensitivity, particularly in loud or busy clinical environments that might exacerbate their stress or discomfort.

40th Annual FPC Seminar + Expo

52

Cardiology:

- Behavioral Attributes**
 - Health Anxiety:** About 60-70% of cardiology patients may exhibit health anxiety, particularly concerning their heart condition. They might be hyper-aware of symptoms like chest pain or palpitations, often fearing serious outcomes.
 - Adherence to Treatment:** Approximately 75% of cardiology patients are likely to be highly adherent to their treatment plans, given the life-threatening nature of their conditions. However, about 20% might struggle with adherence due to the complexity of managing lifestyle changes or medication routines.
 - Cautious Behavior:** A significant portion, around 80%, of patients might exhibit cautious behavior, avoiding physical exertion or stressful situations to prevent exacerbation of their condition.
- Psychological Tendencies**
 - Depression:** Cardiovascular issues are strongly linked to psychological distress. About 40-50% of patients likely experiencing some level of depression, which can significantly impact their quality of life.
 - Fear of Mortality:** Given the nature of heart conditions, a profound fear of mortality is common, leading to increased anxiety and sometimes avoidance of necessary medical care.
 - Need for Reassurance:** Many patients, especially those with chronic conditions, have a high need for reassurance from healthcare providers, frequently seeking validation and updates on their condition to reduce uncertainty.
- Stress Levels**
 - Moderate to High Stress:** Stress levels are likely to be moderate to high in about 70% of patients, as they navigate the fear of potential heart attacks, the burden of chronic illness, and the necessity of significant lifestyle changes.
 - Varied Based on Condition:** Stress can vary widely; those in the early stages of diagnosis might experience low to moderate stress (30%), whereas those with recent heart failure or acute coronary syndrome experience high stress (40%).
- Mobility**
 - Restricted Mobility:** Around 40-50% of cardiology patients may experience some degree of mobility restriction, either due to physical limitations from their heart condition or due to doctor's orders for rest.
 - Need for Mobility Aids:** Some patients, about 15-20%, may require mobility aids, such as wheelchairs or walkers, especially if they also have coexisting conditions like heart failure or peripheral artery disease.
- Sensory Sensitivity**
 - Sound Sensitivity:** Roughly 25% of patients might be sensitive to noise, particularly those who are anxious or stressed, as loud environments could exacerbate their symptoms or stress.
 - Light Sensitivity:** Light sensitivity may affect around 10% of patients, particularly those with migraines or who are in recovery after surgery or procedures.
 - Small Sensitivity:** Sensitivity to smells might be an issue for about 10-15% of patients, particularly those on certain medications that affect their gastrointestinal system.

INFORMATION OVERLOAD!

Imaging:

- Behavioral Attributes**
 - Anticipation and Restlessness:** About 50-60% of patients might exhibit anticipation or restlessness due to uncertainty about the results, especially when the imaging is related to diagnosing serious conditions.
 - Compliance:** Nearly 80-85% of patients are likely to be compliant with instructions, as imaging requires them to follow specific guidelines (e.g., holding breath, staying still).
 - Patience Levels:** Given the nature of imaging appointments, which often involve waiting, around 40% of patients might show signs of impatience or frustration, particularly if there are delays.
- Psychological Tendencies**
 - Claustrophobia:** A significant portion, around 20-25%, of patients may experience claustrophobia, particularly during MRI scans where they must remain in a confined space for an extended period.
 - Health Anxiety:** About 40% of patients might have health anxiety, leading to increased nervousness or panic during imaging procedures, which can affect the quality of the scan.
 - Stress Levels:** Stress levels are likely to be moderate in about 50% of patients, primarily due to the anticipation of results and the discomfort or unfamiliarity of the imaging process.
 - High Stress:** For those undergoing imaging for serious health concerns or who experience claustrophobia, about 20-30% may experience high stress levels during the procedure.
 - Mobility Restrictions:** About 20-30% of patients may have mobility challenges, such as difficulty walking or standing for extended periods. This is especially true for older patients or those with chronic conditions.
 - Assistance Needs:** A smaller portion, around 10-15%, might require assistance with movement, either from healthcare providers or family members, especially in the immediate post-surgical phase or in cases of severe disability.
- Sensory Sensitivity**
 - Sound Sensitivity:** Sound sensitivity is particularly relevant here; around 40-50% of patients might be sensitive to the loud noises produced by MRI machines, which can cause discomfort or anxiety.
 - Light Sensitivity:** Light sensitivity might affect about 10-15% of patients, particularly during procedures like X-rays or CT scans where they are exposed to bright lights.
 - None:** A majority, around 60-70%, might not have specific sensory sensitivities beyond what's induced by the imaging equipment itself, as these procedures generally do not involve strong smells or additional lighting beyond what is necessary.

Orthopedics:

- Behavioral Attributes**
 - Caution in Movement:** Approximately 70-80% of patients might exhibit caution in their movements to avoid pain or further injury, particularly those recovering from surgery or dealing with chronic joint issues.
 - High Adherence to Physical Therapy:** Around 60% of patients are likely to be diligent about following physical therapy routines, especially if they understand its importance in their recovery. However, 20-30% might struggle with adherence due to pain or frustration with slow progress.
 - Dependence on Assistance:** A significant portion, about 40-50%, might show dependence on assistance from others, whether it's using mobility aids or needing help from family members.
- Psychological Tendencies**
 - Depression:** The long and often painful recovery process, around 40-50% of patients may experience some level of depression, particularly if they feel their mobility or independence is compromised.
 - Chronic Pain Anxiety:** For patients with chronic pain, the possibility of surgery or permanent disability can lead to significant anxiety, affecting their mental well-being.
 - Need for Reassurance:** About 30% of patients might exhibit resilience and a proactive mindset, but a significant portion may struggle with the uncertainty of their recovery and the potential for long-term mobility issues.
- Stress Levels**
 - Moderate Stress:** Stress levels are likely moderate in about 50-60% of patients, as they manage ongoing pain, the challenges of physical therapy, and concerns about long-term mobility.
 - High Stress:** Around 20-30% of patients, particularly those with severe injuries or facing surgery, may experience high stress levels due to the uncertainty of their recovery and the potential for long-term mobility issues.
- Mobility**
 - Restricted Mobility:** A significant proportion, about 60-70%, of orthopedic patients have limited mobility, either due to post-surgical recovery, injury, or permanent (due to degenerative conditions). This often necessitates the use of crutches, walkers, wheelchairs, or other aids.
 - Assistance in Movement:** About 40% might require assistance with movement, either from healthcare providers or family members, especially in the immediate post-surgical phase or in cases of severe disability.
- Sensory Sensitivity**
 - Pain Sensitivity:** Pain sensitivity is high among orthopedic patients; approximately 50-60% might be highly sensitive to pain due to ongoing injury, inflammation, or post-surgical recovery.
 - Light Sensitivity:** Light sensitivity could be a factor for about 10-15% of patients, particularly those recovering from surgeries where they might be more sensitive to bright environments.
 - Sound Sensitivity:** A smaller portion, around 15-20%, may have sound sensitivity, particularly in loud or busy clinical environments that might exacerbate their stress or discomfort.

40th Annual FPC Seminar + Expo

53

Population-Wide Department Analysis

- Behavioral Attributes**
 - Health-Related Anxiety and Caution:** Across all three departments, a common behavioral trait is a heightened awareness of health and caution in physical activities. This is especially pronounced in Cardiology and Orthopedics, where patients are often concerned about exacerbating their conditions. Overall, approximately 65-70% of the combined patient population might display health-related anxiety and a cautious approach to their daily activities.
 - Adherence to Medical Guidance:** Given the critical nature of treatments in Cardiology and Orthopedics, around 70-75% of patients are likely to adhere closely to medical advice, though compliance may vary in the Imaging department, where some patients may experience impatience. On average, about 20-30% of the population might struggle with adherence due to anxiety, fear, or discomfort.
- Psychological Tendencies**
 - Anxiety and Fear:** Anxiety, particularly related to health outcomes, is a prevalent psychological tendency across the board. This includes fear of test results in Imaging, fear of mortality in Cardiology, and fear of long-term disability in Orthopedics. Overall, around 50-60% of the patient population might experience significant anxiety.
 - Frustration and Impatience:** Particularly in Orthopedics and Imaging, frustration and impatience due to slow recovery or delays in procedures are common. Approximately 40-50% of the overall patient population might show signs of these psychological tendencies, often linked to their physical condition or the healthcare process itself.
 - Need for Reassurance:** Across all departments, about 60-65% of patients likely have a high need for reassurance from healthcare providers, whether it's about the stability of their heart condition, clarity on imaging results, or the progress of their physical recovery.
- Stress Levels**
 - Moderate to High Stress:** Stress levels tend to be moderate to high across the departments, with around 65-70% of the overall population experiencing these levels due to their health concerns. Cardiology and Orthopedics patients might have consistently high stress due to the life-altering or chronic nature of their conditions, while Imaging patients might experience variable stress based on the purpose of their visit.
 - Situational Stress:** A smaller portion, about 20-25%, may experience stress that spikes during specific situations, such as waiting for results or undergoing a particularly challenging physical therapy session.

- Mobility**
 - Restricted Mobility:** **Limited mobility is a significant factor in both the Orthopedics and cardiology departments, especially for patients with severe heart conditions. Across all departments, about 50-55% of the patient population might experience mobility restrictions, necessitating the use of aids or assistance from others.**
- Assistance Needs:** About 25-30% of patients across these departments may require some form of physical assistance, whether it's in moving to and from procedures or during their daily activities.

- Sensory Sensitivity**
 - Sound Sensitivity:** Sound sensitivity is notable, especially in the Imaging department due to the loud equipment and in Cardiology due to heightened stress and anxiety levels. Across all departments, around 30-35% of the patient population might be sensitive to sound.
 - Light Sensitivity:** Light sensitivity is less prevalent but still affects about 10-15% of the overall population, especially in patients who are recovering from surgeries or undergoing certain imaging procedures.
 - Pain Sensitivity:** Pain sensitivity is particularly relevant in Orthopedics, but it also affects patients in Cardiology who might experience discomfort related to their heart condition. Around 40-45% of the combined patient population might be highly sensitive to pain.

40th Annual FPC Seminar + Expo

54

What does this all mean???

40th Annual FPC Seminar + Expo

55

INPUT

If I located the parking lot 150' from the entrance what percentage of the occupants would have trouble reaching the entrance from their cars?

MOBILITY INSIGHTS

Factoring in the overlap, **I estimate that around 40-50% of the facility's occupants could struggle with walking 150 feet** from the parking lot to the entrance without assistance or rest, given their mobility challenges, chronic conditions, or physical limitations. This percentage includes those with formal mobility disabilities, those suffering from obesity or arthritis, and patients from departments dealing with mobility-related conditions (Cardiology and Orthopedics).

40th Annual FPC Seminar + Expo

56

GSO

INPUT

Can you show me the math?

Step 1: Mobility Disabilities

14.70% of the general population has a mobility disability.

These individuals would likely have difficulty walking 150 feet.

Step 2: Obesity & Arthritis

30% of the population is obese, and 23.60% has arthritis.

To estimate, let's assume half of these individuals overlap with the mobility-disabled group, while the other half represent additional individuals with difficulty walking 150 feet.

Obesity:

50% of 30% = **15%** additional people struggling due to obesity.

Arthritis:

50% of 23.60% = **11.80%** additional people struggling due to arthritis.

Step 3: Departmental Data

Orthopedics Department: 60-70% of patients have restricted mobility.

Cardiology Department: 40-50% of patients have restricted mobility.

Since some of these patients might overlap with the groups already counted (especially those with obesity or arthritis), let's conservatively add a portion of these:

Assume 20% of the orthopedics and cardiology populations are not already included in the obesity, arthritis, or mobility disability categories, so we add **20%** for department-specific mobility issues.

40th Annual FPC Seminar + Expo

57

GSO

INPUT

Can you show me the math?

Step 4: Total Calculation

Now, let's add up all these percentages while accounting for some overlap:

14.70% with formal mobility disabilities.

26.80% additional from obesity and arthritis.

20% from department-specific mobility restrictions (Orthopedics and Cardiology).

Total:

14.70%+26.80%+20%=61.50%

Given potential overlap and the assumption that not all individuals with obesity, arthritis, or from the departments have unique mobility restrictions, a conservative estimate would be around **40-50% of the population having difficulty walking the 150 feet distance.**

This accounts for some double-counting and reduces the final estimate to a more realistic figure.

40th Annual FPC Seminar + Expo

58

INPUT

What if I shortened the walk to 50 feet?

REVISED MOBILITY INSIGHTS

Given the shorter distance and potential overlap, a more conservative estimate would suggest that about

25-30% of the population would still experience difficulties walking 50 feet to the entrance.

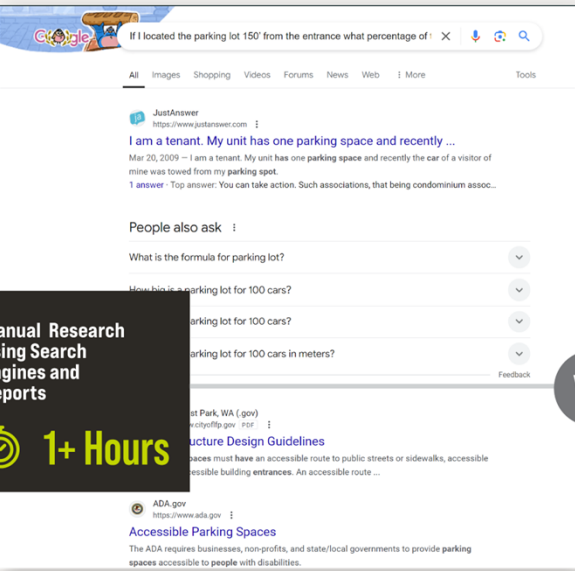
While the reduced distance improves accessibility, a significant portion of the population—especially those with mobility disabilities, severe obesity, or recovery from orthopedic conditions—would still need assistance or accommodations for a shorter walk.

Adjusted for shorter distance

- 14.70% with formal mobility disabilities.
- 13.40% additional from obesity and arthritis
- 10% from orthopedic patients
- 10% from cardiology patients
- Total: 14.70%+13.40%+10%+10%=48.10%

40th Annual FPC Seminar + Expo

59



Manual Research using Search Engines and Reports

🕒 **1+ Hours**

VS

If I located the parking lot 150' from the entrance, what percentage of the occupants would have trouble reaching the entrance from their cars?

Around 40-50% of occupants would have difficulty walking 150 feet to the entrance.

AI Assisted Data Collection and Research

🕒 **~5 Min.**

40th Annual FPC Seminar + Expo

60

GH0

WHAT DOES IT MEAN?

40th Annual FPC Seminar + Expo

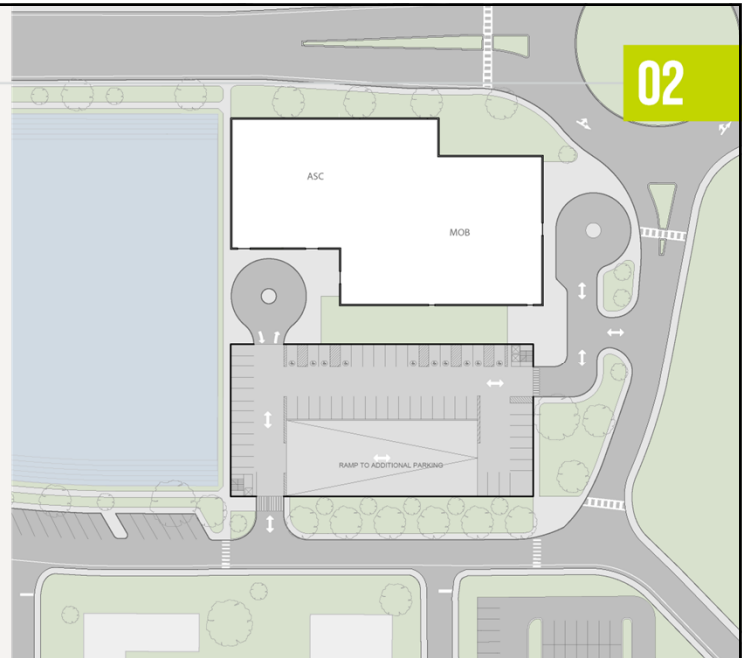
61

HC1

PROBLEMS TO SOLVE

Design Pressures

- Program & Planning Needs
- Circulation and Wayfinding
- Safety
- Microclimate



40th Annual FPC Seminar + Expo

62

HCO

INSIGHTS

From the Data

- Pedestrian Approach
- Vehicular Approach
- User Metrics
- User Needs

40th Annual FPC Seminar + Expo

63

HCO

DESIGN OPPORTUNITIES

Promote Wayfinding & Organize Intersections

- Visual Hierarchy
- Landmarks
- Path Visibility
- Intuitive Circulation Patterns
- Signage & Digital Tools

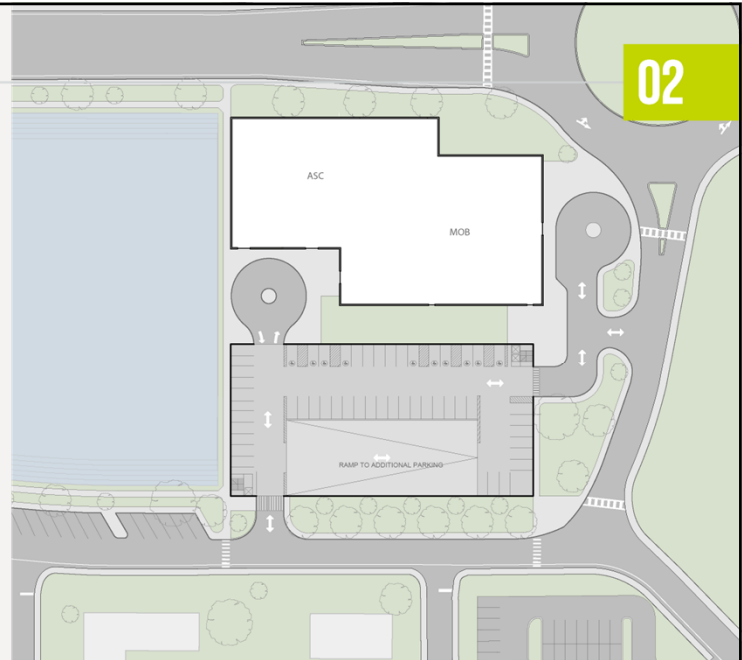
40th Annual FPC Seminar + Expo

64

HCO

DESIGN OPPORTUNITIES

- Elevate the Human Experience
- Health & Wellness Considerations
 - Design with Nature



40th Annual FPC Seminar + Expo

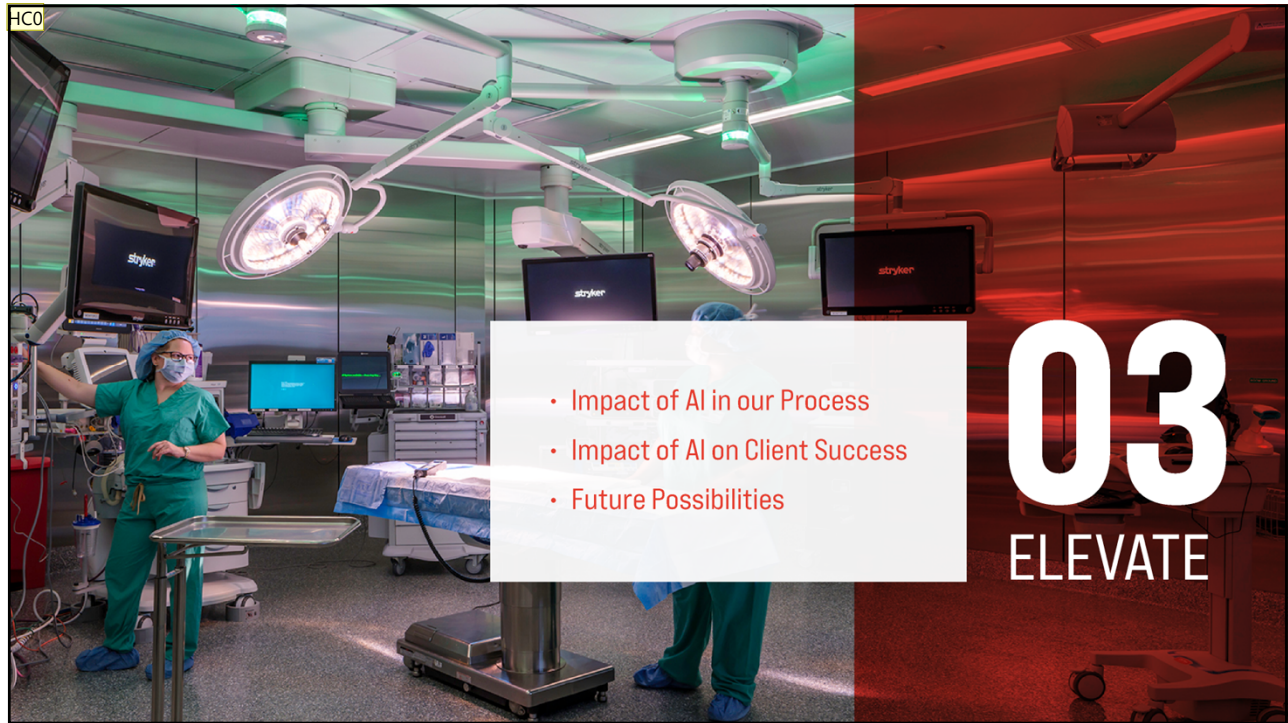
65

DESIGN VISUALIZATION



40th Annual FPC Seminar + Expo

66



67

IMPACT OF AI ON OUR PROCESSES

03

IMAGE GENERATION & EDITING

- Program & Planning Needs
- Circulation and Wayfinding
- Safety
- Site Amenities
- Microclimate

AUTOMATION

- Grasshopper/Dynamo Script Writing

BEYOND CONCEPTUAL DESIGN

- "Little" GPT Chatbots
- Document Analysis
- Email Tone Analysis
- Writing Tool
- Meeting Summaries
- Submittal | Spec Comparison

HOW-TO VIDEOS

TRAINING SEMINARS

ONE-PAGER GUIDES

40th Annual FPC Seminar + Expo

68

MIDJOURNEY **03**

IDEATION
Brainstorming & Prioritizing Potential Programs

Innovation and Collaboration Space

- Flexible Workspaces**
- Maker Workspaces
- Art and Performance Technology
- VR/AR Development Zones
- Collaborative Work Labs
- Maker Spaces with 3D Printing
- Virtual Reality (VR) Studios
- Augmented Reality (AR) Development Zones
- Open Office Spaces
- Design Thinking Workshops
- Prototyping and Rapid Response
- Community and Learning Spaces
- Networking Lounges
- Workshop and Labs
- Historical Exhibits with Interactive Tech**
- Interactive Learning Labs
- Maker Collaborative Venues
- Workshop Spaces with VR/AR Content
- Collaborative Workspaces
- Art and Technology Galleries**
- Digital Art Installations
- Maker and Social Engineering Labs
- Workshop and Open Design Studios
- Interactive Learning Labs
- Education and Seminar Rooms
- Interactive Learning Spaces
- Collaborative Workspaces
- Networking Lounges
- Workshop and Labs
- Brainstorming Rooms with Movable Walls**
- Private Meeting and Collaborative Spaces
- Workshops and Learning Labs
- Academic and Open Design Studios
- Open Office Spaces
- Collaborative Workspaces
- Design Thinking and Innovation Labs
- Open Office Spaces and Workspaces
- Health and Wellness Centers
- Collaborative Learning Spaces
- Digital Art and History Labs
- Open Office Spaces
- Workshop and Labs
- Health and Wellness Centers
- Urban Technology Experimentation Space**
- Open Office Spaces
- Workshop and Labs
- Health and Wellness Centers
- Collaborative Learning Spaces
- Digital Art and History Labs
- Open Office Spaces
- Workshop and Labs
- Health and Wellness Centers

PROMPTING
Generating Prompts based on Preferred Program

- 1 Flexible Workspaces**
A robotics arena with people testing out their robots. The space should be a lively and activated venue for both testing robots and for people to watch, but also bright and airy to showcase a design centered around technology
- 2 Robotics Testing Arena**
A space with several group work areas that foster innovation and collaboration. The space should be flexible with modular furniture and interactive features, but also bright and airy with vivid, modern colors to showcase a design centered around technology
- 3 Tech History and Archive Section**
A tech history and archive section within a larger area designed around the community. The space should be dynamic and energetic with interactive learning features, but also bright and airy to showcase a design centered around technology

VISUALIZATION
Generating Inspirational Imagery in Midjourney

40th Annual FPC Seminar + Expo

69

MIDJOURNEY **03**

PARTS TO A WHOLE
Generate Pieces of a Composition with Midjourney

<i>Black and white athlete running gradients full body</i>	<i>Athlete jumping greyscale white background</i>	<i>Black and white fencing athlete full body white background</i>	<i>Athlete jumping greyscale white background</i>	<i>Black and white football player running left or center</i>

<i>Commercial photography powerful explosion of blue powder around football player</i>	<i>Minimal abstract modern graphic of athletes playing basketball and other sports</i>	<i>Graphic design colorful murals showing athletes playing their sports from the side</i>	<i>Combine with abstract colorful graphic of athletes (in combination with reference photos)</i>	<i>Halftone graphic dot pattern black and white sports photograph of female runner</i>

PARTS TO A WHOLE
Generate Pieces of a Composition with Midjourney

40th Annual FPC Seminar + Expo

70

KREA

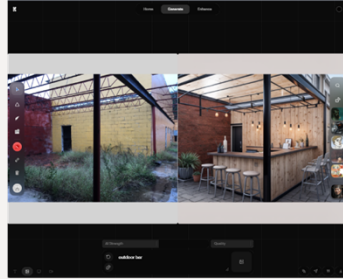
03

BASE IMAGE
Base Photo of Existing Space



KREA

Refine in KREA with Text Prompts & Editing Tools



ITERATIONS

Quickly Generate Numerous Possibilities



40th Annual FPC Seminar + Expo

71

SKETCHPRO

03

BASE IMAGE

Direct Enscape Export of Conceptual Design



SKETCHPRO

Text Prompts Combined with Material & Entourage Assets



ITERATIONS

Generate Numerous Styles & Quality Renderings



40th Annual FPC Seminar + Expo

72

STABLE DIFFUSION

03

40th Annual FPC Seminar + Expo

73

AUTOMATION

03

FGI WORKSHEET

Use to Identify all Required Program & Requirements

Code	Description	Req	Min	Max	Notes	Priority
02.02.01	Bed and/or patient room area: Patient rooms for inpatient care					
02.02.02	Operating room area: Operating rooms for inpatient care					
02.02.03	Operating room area: Operating rooms for ambulatory care					
02.02.04	Operating room area: Operating rooms for day surgery					
02.02.05	Operating room area: Operating rooms for ambulatory care					
02.02.06	Operating room area: Operating rooms for day surgery					
02.02.07	Operating room area: Operating rooms for ambulatory care					
02.02.08	Operating room area: Operating rooms for day surgery					
02.02.09	Operating room area: Operating rooms for ambulatory care					
02.02.10	Operating room area: Operating rooms for day surgery					
02.02.11	Operating room area: Operating rooms for ambulatory care					
02.02.12	Operating room area: Operating rooms for day surgery					
02.02.13	Operating room area: Operating rooms for ambulatory care					
02.02.14	Operating room area: Operating rooms for day surgery					
02.02.15	Operating room area: Operating rooms for ambulatory care					
02.02.16	Operating room area: Operating rooms for day surgery					
02.02.17	Operating room area: Operating rooms for ambulatory care					
02.02.18	Operating room area: Operating rooms for day surgery					
02.02.19	Operating room area: Operating rooms for ambulatory care					
02.02.20	Operating room area: Operating rooms for day surgery					

RESTRUCTURED DATA

Use ChatGPT to Reformat Data for Input in Dynamo

Room Type	Minimum Size (sq ft)	Recommended Size (sq ft)	Maximum Size (sq ft)	Compliance Standards (FGI, ADA, etc.)	Comments
Patient Room	120	150	200	FGI, ADA	Ensure access
Operating Room	400	600	800	FGI, NFPA	High sterility
Exam Room	80	100	150	FGI, ADA	Include handwash
Nurse Station	50	80	120	FGI	Centralized

DYNAMO

Utilize & Extract Data within Dynamo to use within Revit

40th Annual FPC Seminar + Expo

74

GHO

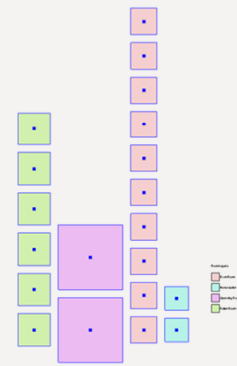
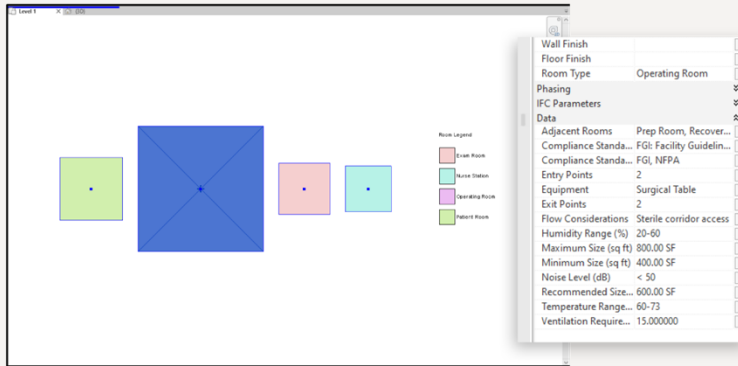
AUTOMATION

03

GENERATE ROOMS & PARAMETERS
Extract Data & Generate Rooms as well as Requirements as Parameters

QUANTITIES

Integrate Required Program Quantities for Conceptual Layout



40th Annual FPC Seminar + Expo

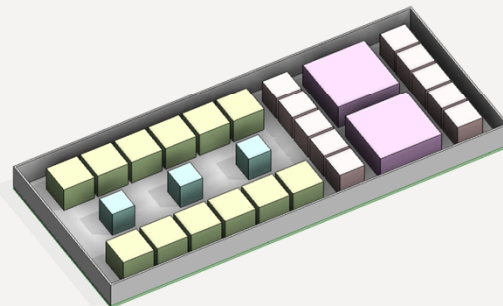
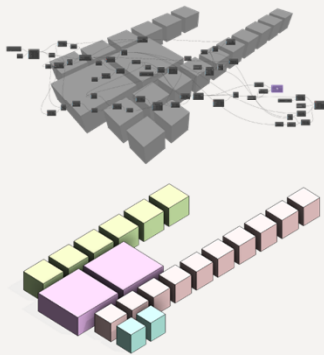
75

AUTOMATION

03

GENERATE MASSING
Create Massing for Preliminary Layouts

CREATE LAYOUTS
Utilize Massing for Initial Layout & Testing

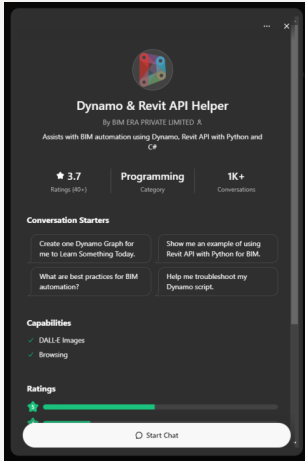


40th Annual FPC Seminar + Expo

76

AUTOMATION

03



How do I change the line type to room boundary lines

To change the line type to room boundary lines in Revit using Dynamo, you can set the line style of the model lines to the room boundary line type. Below are the steps to achieve this:

Step-by-Step Guide

- Create a Rectangle Geometry:**
 - Use the "Rectangle.ByWidthxLength" node to create a rectangle.
- Convert Geometry to PolyCurve:**
 - Use the "PolyCurve.ByJoinedCurves" node to convert the rectangle edges into a single polycurve.
- Explode PolyCurve:**
 - Use the "Curve.Explode" node to get individual curves from the polycurve.
- Get Room Boundary Line Type:**
 - Use the "Document.Current" node to get the current Revit document.
 - Use the "ElementTypes.RoomSeparatLineLines" node to get the room boundary line type.
- Place Room Boundary Lines in Revit:**
 - Use the "CurveElement.ByCurve" node to place these curves in Revit as model lines with the room boundary line type.

DYNAMO & GRASSHOPPER GPTS

Public ChatGPT Models that are Tuned to Help Troubleshoot & Building Custom Scripts

40th Annual FPC Seminar + Expo

77

AUTOMATION

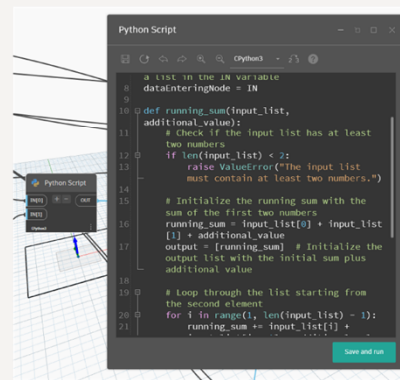
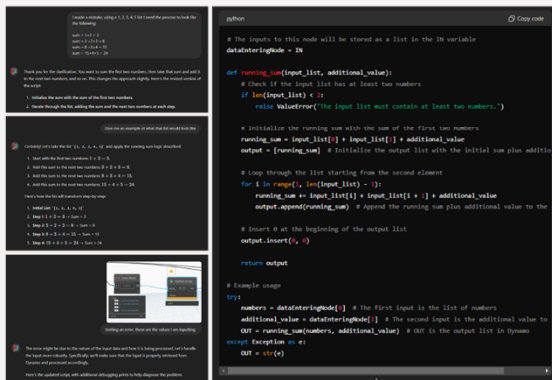
03

PROGRAMMING LANGUAGES

Public ChatGPT Models that are Tuned with and Generate Traditional Code such as Python

CUSTOM NODES

Can use ChatGPT to help write Custom Python Nodes for Unique Functions



40th Annual FPC Seminar + Expo

78

GHO

WHAT DOES THIS MEAN FOR OUR CLIENTS?

**THEY MAXIMIZE
RESOURCES**

40th Annual FPC Seminar + Expo

79

WHAT'S NEXT?

THIS PROJECT

40th Annual FPC Seminar + Expo

80

WHAT'S NEXT?

THE INDUSTRY

40th Annual FPC Seminar + Expo

81

WHAT'S NEXT?

NOBODY KNOWS!

40th Annual FPC Seminar + Expo

82



40th Annual FPC Seminar + Expo

83



40th Annual FPC Seminar + Expo

84



85

Thank you for your attention!

ATA
CONTINUING EDUCATION

86