Analytics:
Transforming Information into Insight

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Data and Higher Education

- Higher education has been collecting and reporting data for decades
  - Accreditation
  - State/Federal Reporting
  - Stakeholders
- Recent years have shown a surge of data and applications

Data on the Rise

- Measuring outcomes has become essential
  - Performance-Based Funding
  - Competition for Students and Resources
  - Curricular Assessment
  - Strategic Planning
- Measurement brings metrics and benchmarks

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With Metrics Comes Questions

- Or more accurately, an expectation of an explanation

  - Campus metric level is this…why are you different?

- Maybe this isn't the right question to ask

The Right Question

- If you do not know how to ask the right question, you discover nothing (W. Edward Deming)

- Ask better questions
  - What is our enrollment?
  - What has impacted our enrollment?
  - How much did _____ impact our enrollment?

- Asking the right question is the first step in moving from information to insight

The Path to Value
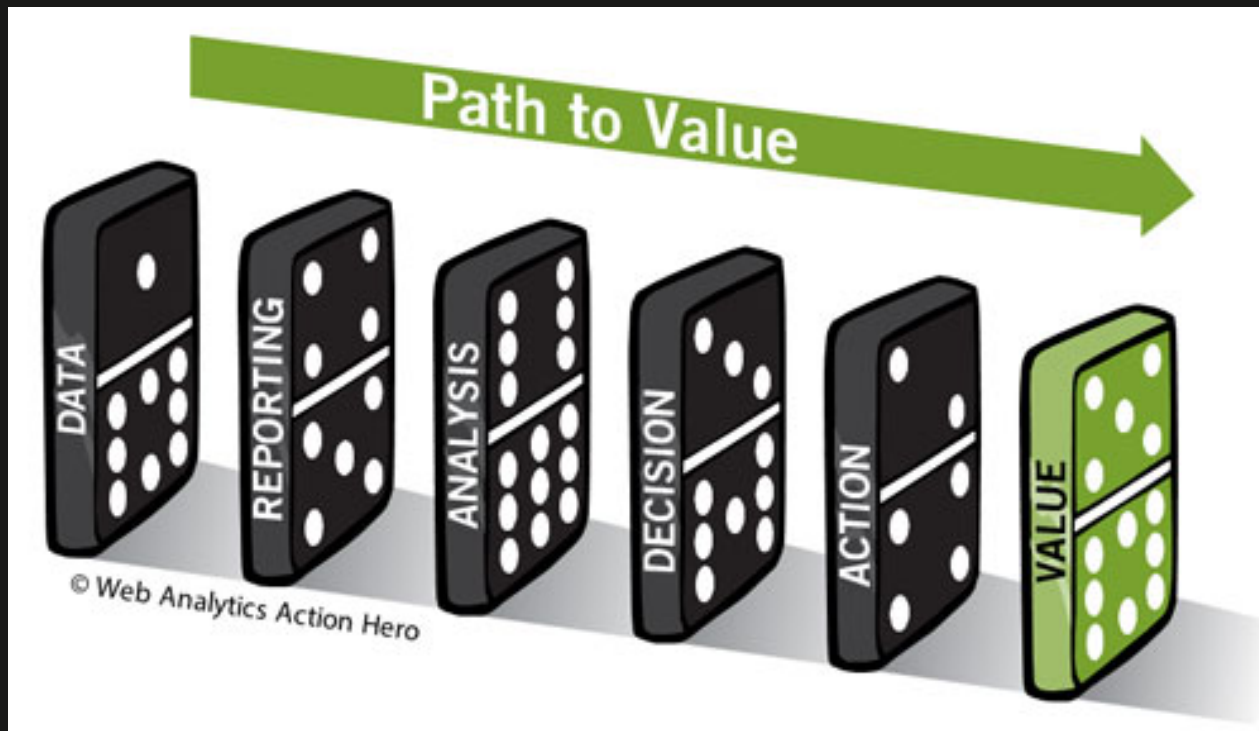
Data and Reporting

- All analyses start with the collection of data
  - Relevant; Reliable
- Reporting organizes and cleans data
  - Dashboards; Charts/Graphs

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When Data and Reporting are Enough?

- In times of growth and plenty, data and reporting can be enough

- Higher education is not in this place
  - Competing for resources
  - Competing for students
  - Competing for workforce

- The data might identify areas of focus, but analysis will lead to the key insights for strategic decision making

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Analysis

- Reporting can be used to spot potential problems or opportunities
  - Does not initiate action
- Analysis will convert information into meaningful insights
  - Share key findings
  - Recommend options

Levels of Analytics Readiness

- Strong analytics usage doesn't just appear
- Stages of Readiness
  - Aspirational
  - Experienced
  - Transformed

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Aspirational Analytics User

- Uses analytics to justify actions
- Primary goal: cost efficiency
- Primary obstacle: culture doesn't encourage sharing information
- Approaches are not as rigorous

Experienced Analytics User

- Uses analytics to guide actions
- Primary goal: revenue generation
- Primary obstacle: ownership of data is unclear
- Approach: somewhat rigorous

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Transformed Analytics User

- Uses analytics to prescribe actions
- Primary goal: Revenue growth and profitability
- Primary Obstacles: Accessibility and workload
- Approach: most rigorous

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- Currently in the Experienced User stage
- Initial phases
  - Develop a team
  - Establish baselines
  - Set priorities
- Transparency

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Develop a Team

- Team needs to be interdisciplinary
  - Methodologist
  - Student Affairs
  - Academic Affairs
  - Data Specialist

- Requires regular communication

Establish Baselines

- Pilot Study
- Need to affirm the status quo
  - Baselines not only for the College but also for the Departments and Programs
- Identifies strengths and areas of attention
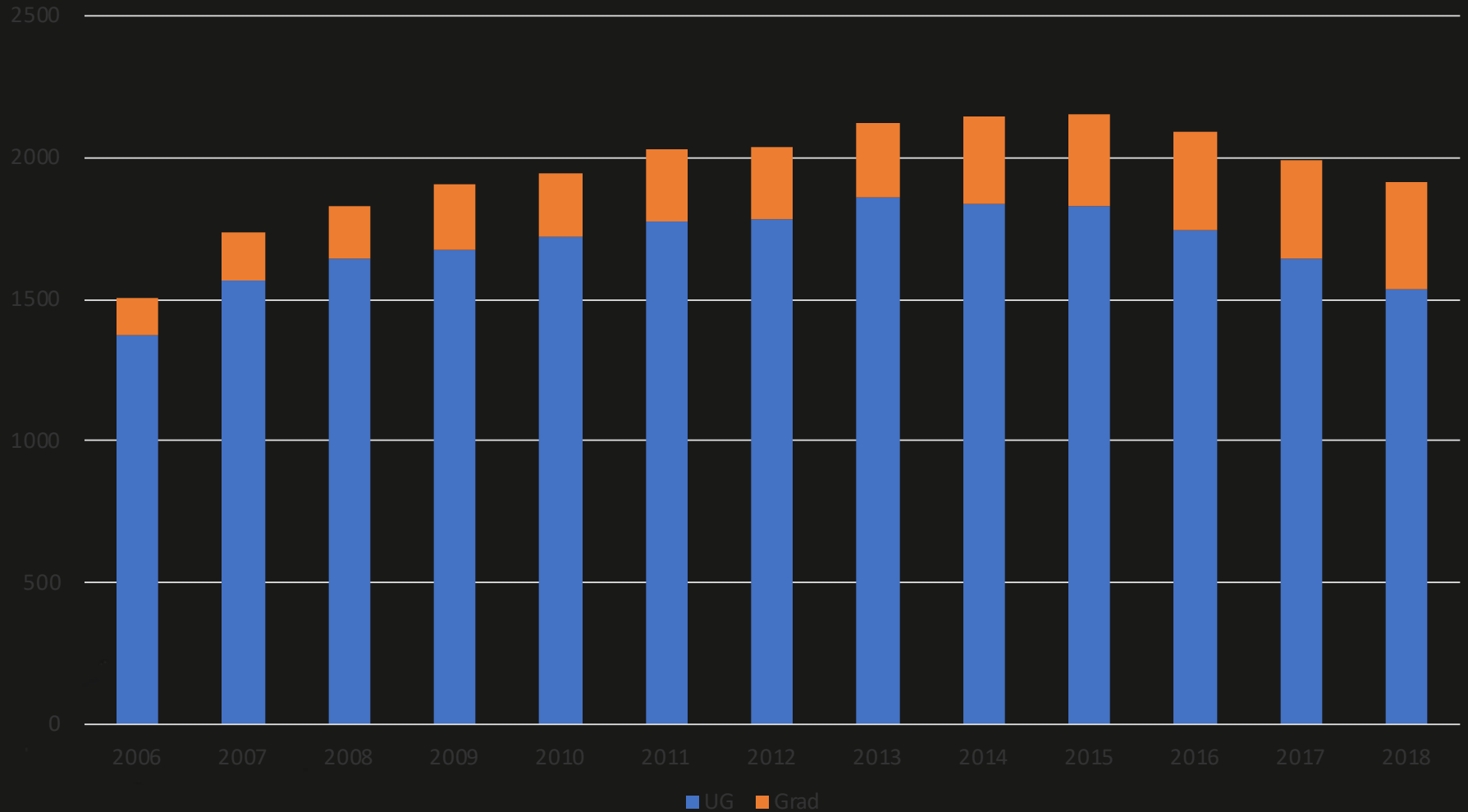
Set Priorities

- Many areas to reflect the health of the college
  - Enrollment (college and program)
  - Student credit hours/Tuition/Budget
  - Research
  - Online education
  - Workforce

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College Enrollment
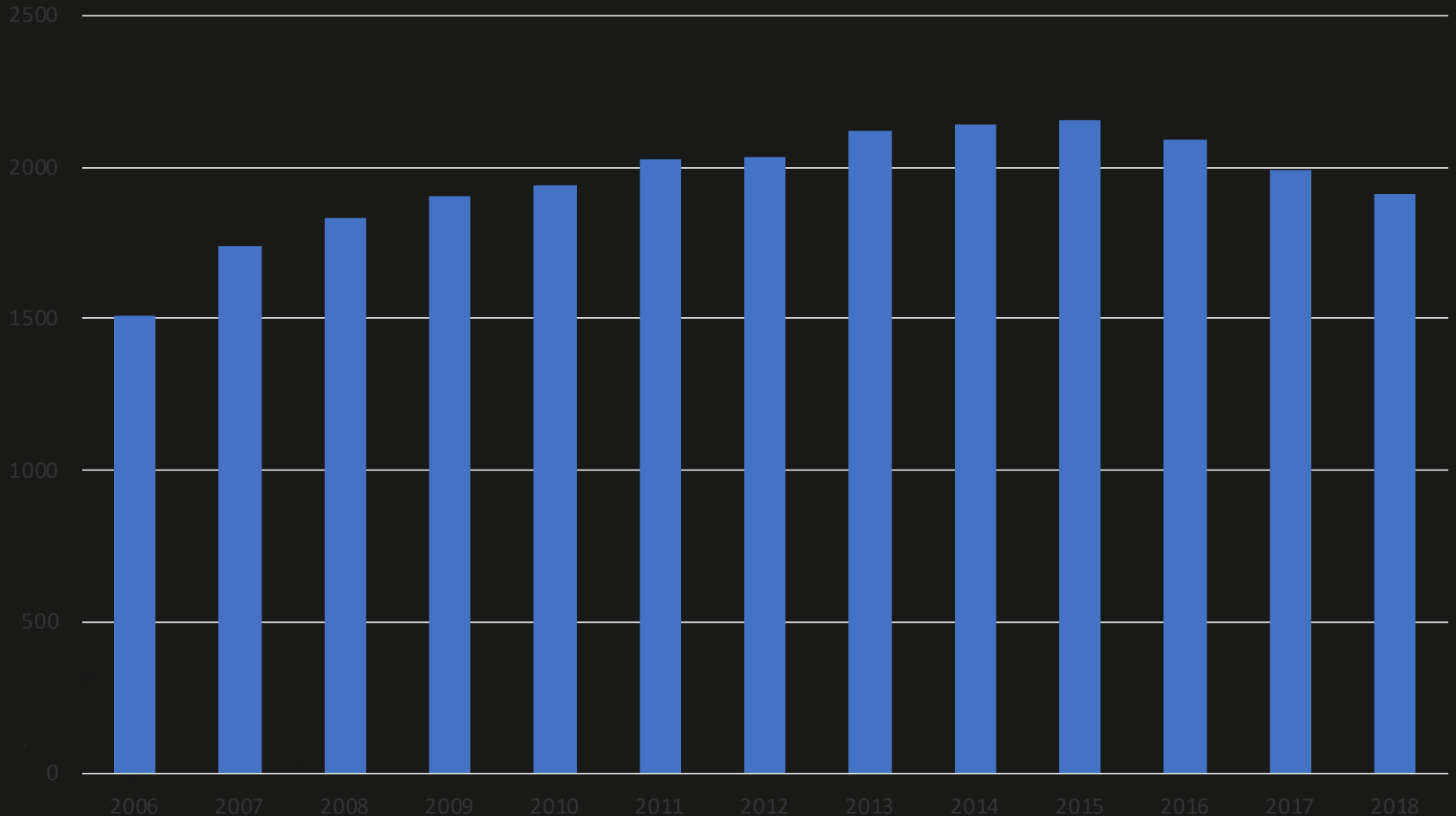
Enrollment – Closer Inspection

Legend: ■ UG ■ Grad

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Priority #1 Enrollment

- Undergraduate Enrollment Funnels

- Degree Recipient Analysis

- New Freshman and New Transfer Retention

- Department Report Card

Enrollment Funnels

- Each program was assessed
- Five-year cross-sectional review of all intended and admitted majors
  - Early Indicators
  - Required coursework
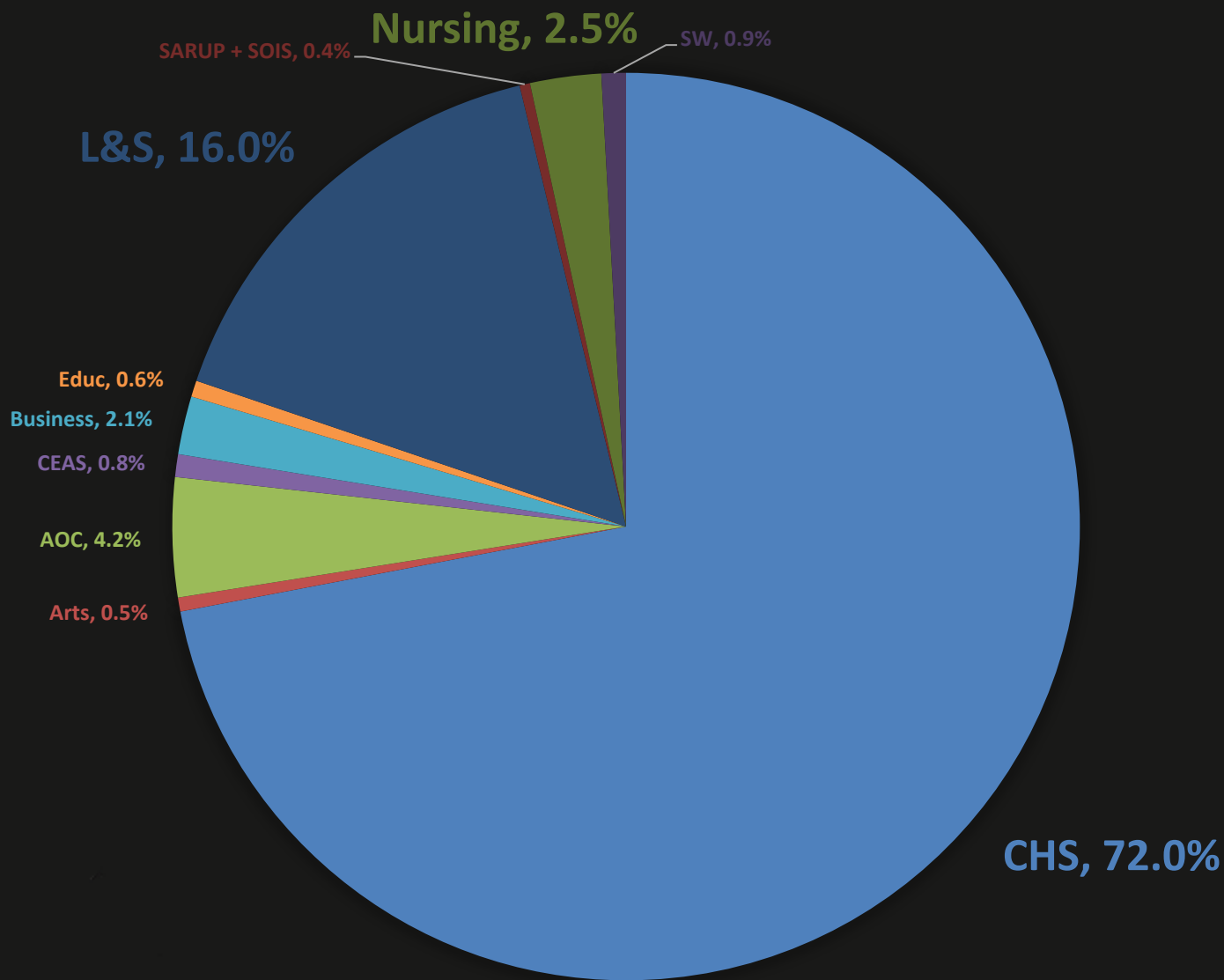 - Time in Program
  - Entry/Exit Status

Program Enrollment Funnels

- Identified places of opportunity
  - Imaging created freshman classes to prepare students for expectations of the profession
  - BMS Labs were sticky; had large 2nd degree student draw
  - CSD and HCA need to review their course repeat policies
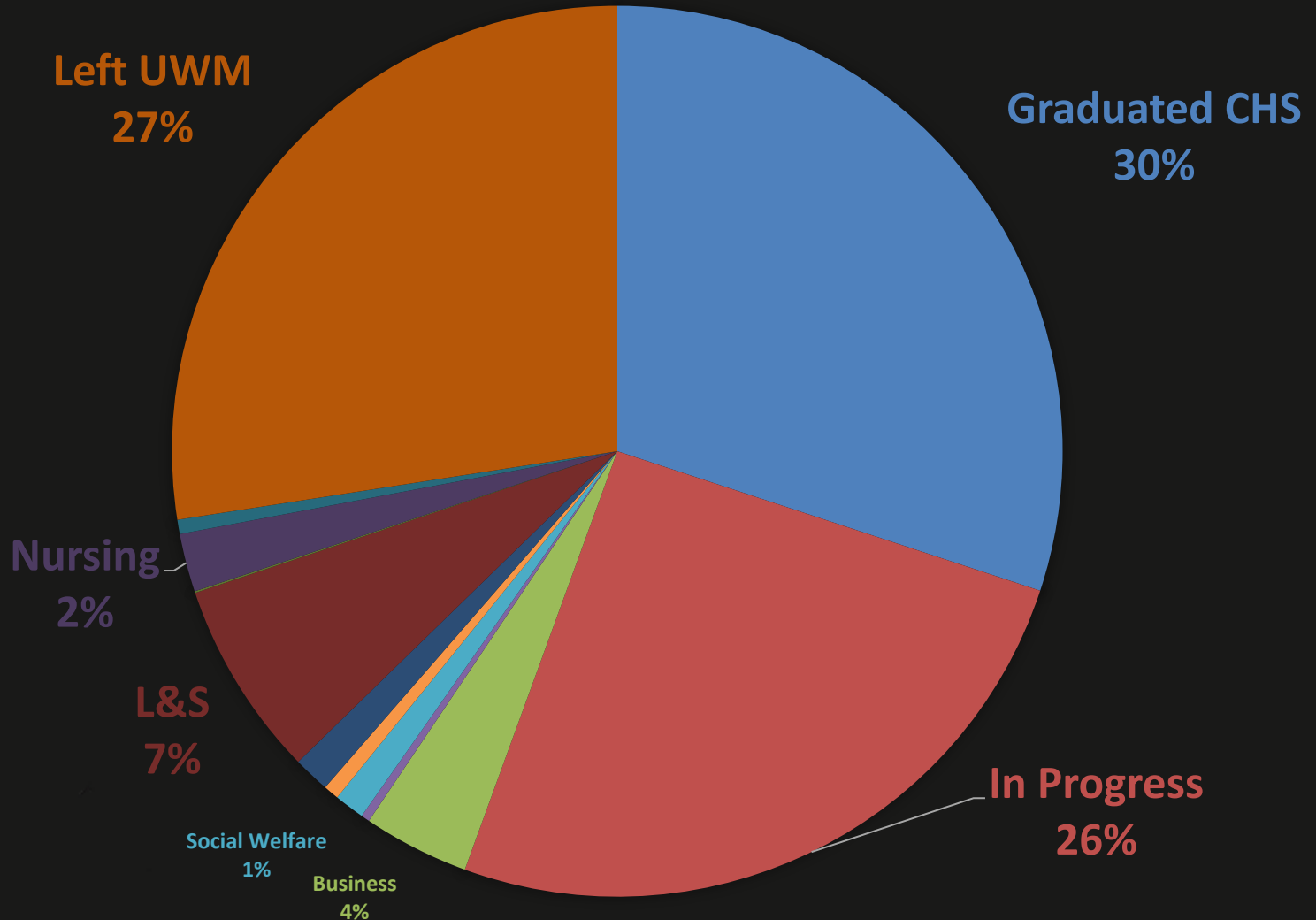 - Kinesiology enrollment myths debunked

College Enrollment Funnel

- Early Academic Indicators
  - High School GPA/Percentile Rank
  - ACT Scores
- Required Courses
  - Anatomy & Physiology I
  - Statistics
  - Physics
- Repeating Courses

ENTRY

CHS, 72.0%

L&S, 16.0%

Nursing, 2.5%

SARUP + SOIS, 0.4%

SW, 0.9%

Educ, 0.6%

Business, 2.1%

CEAS, 0.8%

AOC, 4.2%

Arts, 0.5%

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EXIT

- **Graduated CHS** 30%
- **In Progress** 26%
- **Left UWM** 27%
- **L&S** 7%
- **Nursing** 2%
- **Business** 4%
- **Social Welfare** 1%

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Degree Recipient

- Five-year review of all undergraduate degree recipients
- Of all the graduates
  - 25.8% started in CHS as new freshmen
  - 39.6% were transfer students
  - 36.9% started at UWM outside of CHS (MD time prior to CHS = .70 years)
- Of those who started outside CHS, mean time to degree was 5.95 years

New Freshman

- New Freshman numbers remain fairly steady
  - Predictive model using applications and yield rates
  - Determine date when model remains steady
  - Successful predictions (Perfect prediction in 2019)
- Four cohorts of new freshmen were reviewed
  - Overall Retention: 74.4%
  - CHS Retention: 58.7%

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New Freshmen – First Year Credits

- Campus initiative of 30 credits in the first year
  - Not a significant difference in 4-year graduation rate
  - Significant differences in retention between 24-29 credits and 30+
  - Regression equation was developed to predict the number of credits earned based on incoming credits, failing at least one class, taking remedial coursework, and taking classes over summer

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New Transfer Retention

- Questions rose from the degree recipient analysis
  - Where did they come from
  - What had they completed before coming here
  - Retention rates by program

Transfer Students

- Where did they come from?
  - 41.7% came from within the UW System
  - 30.4 came from another WI school
  - 56.5% came from 2-year institutions
- What had they completed?
  - At least 50% had completed English and Psychology Gen Ed requirements
  - At least 25% had completed A&P I, Math Gen Ed, Statistics, and Public Speaking

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Transfer Students

- Retention Rates
  - Overall: 76.5%
  - Programs Range 58.3 – 100%
- Within CHS Retention
  - Overall: 67.8
  - Programs Range 41.7 – 90.9%

Department Report Card

- Regularly updated data supplied to the Departments/Programs to aid in planning process
  - Enrollment
  - Student Credit Hours Generated
  - Degrees conferred
  - 2nd, 3rd, 4th year retention

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Department Report Card

Occupational Science & Technology							
Student Enrollment Diversity, Retention and Graduation		**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Undergraduate	New Freshmen	24	28	18	16	8	22
	New Transfer	20	16	21	15	11	8
	Total Enrollment	184	180	192	167	148	151
	Degrees Granted Total	28	31	50	37	43	
	New Freshmen One Year Retention Rate	82.8	66.7	95.2	76.5	90.9	
	New Freshmen Two Year Retention Rate	78.3	50	81	70.6		
	New Freshmen Three Year Retention Rate	69.6	53.3	81			
	4th Year Graduated Rate	26.1	33.3				
	6th Year Graduated Rate						
Graduate	Total Enrollment	54	79	90	100	92	101
	Masters Total	49	73	86	96	87	96
	Ph.D. Total	5	6	4	4	5	5
	Degrees Granted Masters Total	27	35	29	42	43	
	Degrees Granted Ph.D. Total	1	2	1	0	0	
SCH							
UG	101	4232	3335	3179	2962	2682	2511
	131/189	390	1455	1281	1012	1477	1429
	Total	4622	4790	4460	3974	4159	3940
Graduate	101	1490	2102	2374	2428	2203	2336
	131/189				3	6	3
	Total	1490	2102	2374	2431	2209	2339

Priority #2 Research

- UWM Administration requested each college submit a plan for increasing research
  - Select Metrics
  - Determine Baseline
  - What is possible?
- Currently moving toward what is possible
- Transparency

Upcoming projects

- Health Science Undecided and AOC students
- Develop CHS's own metrics database
- Research metrics
- eLearning student success
- Metamajors impact
- At-Risk Indicators

Obstacles

- Data is not the biggest obstacle for adopting analytics

- Biggest obstacles
  - Lack of understanding of how to use analytics
  - Lack of workload due to competing priorities (time!!)

- Requires a culture shift
  - Mythbusting
  - Ownership of data

More isn't necessarily better

- Campus started with about 25 metrics for each college to manage
  - Reduced to 6
  - Tied to campus initiatives
- Research metrics became very detailed
- Huge tables of numbers aren't helpful

Future of Performance Analytics

- Move from Experienced to Transformational Analytics User

- Develop a larger team

- Have departments and programs develop a greater understanding of how to apply the analytics results

- Expand the reach of analytics to our other Partners for Health Colleges

Thank you!