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Guided Pathways to Student Success

Perspectives from Indiana College Students & Advisors

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Executive Summary

Indiana's higher education attainment rates are lagging behind national averages at a time when postsecondary credentials are nothing short of necessary for success in our 21st-century economy. To support the Indiana Commission for Higher Education's (ICHE) efforts to address this problem, Public Agenda held 11 focus groups with current students, non-completing students, professional advisors and faculty advisors and also reviewed literature on pathways. We called on other work Public Agenda has conducted in Indiana (including a regional transfer study in partnership with Ivy Tech Community College and Indiana University)[1] and elsewhere around the country, as well as literature, to support some themes, promising practices and next steps.

The study had three goals: (1) understand perceptions of the obstacles to smooth degree pathways and timely college completion; (2) probe responses to a set of policy proposals being explored by ICHE; and, (3) review promising practices based on national literature. Given the qualitative and exploratory nature of this research, we suggest that the reactions summarized here be viewed as hypotheses and points of departure for further inquiry, rather than definitive findings.

Obstacles to smooth pathways and timely completion	
Poor initial selection of degree programs	Many students initially select programs for which they are not suited. As a result, they frequently take courses that will not count towards their eventual degree, fail or drop courses they do take, and sometimes stop-out of education altogether. Advisors complain that their caseloads are too large to be able to help students make better initial program choices.
Poor student selection of courses once in a degree program	Once they are in their programs, students often select courses that will not count toward completion, or fail to select courses that must be taken as prerequisites, further slowing their progress. Sometimes students are unable to take the courses they need because of conflicts with the demands of work and family; often they make poor selections because they self-advise, based on inadequate information.
Advisors who lack adequate information	Advisors report that they lack adequate information, citing frequent and rapid curriculum changes (which are often not communicated in a timely fashion) and poor communication between professional advisors and academic departments.
Problems with transfer courses	Transfer students have particularly daunting challenges. Communication between two and four year institutions is fragmented. Students (and advisors) complain that it is difficult to determine which courses will successfully transfer. Courses that do transfer are often counted only as electives, further slowing progress.

[1] Report available on the Public Agenda website: www.publicagenda.org/pages/indiana-regional-transfer-study.

Executive Summary

Summary of Promising Practices for Guided Pathways

State- and institution-level practices for guided pathways fall into two broad categories: 1) strategies for accelerating completion and 2) strategies for preventing wasted credits.

Strategies for accelerating completion	Strategies for preventing wasted credits
• Encourage students to take more credits, especially in their first year of college. • Make the long-term consequences of course withdrawal apparent to students and alert them to courses that are high risk for failure or withdrawal. • Alert students to relevant transfer and articulation information.	• Supplement advising capacity with structured degree maps. • Use degree milestone systems to ensure completion of courses that all students must take to progress in a major or program of study. • Build the infrastructure for students to change course without having to backtrack or get off track entirely.

Summary of Reactions from Indiana Students & Advisors

Proactive Advising and Informed Choice	Shows promise if the technology is carefully implemented. Advising resources should supplement rather than replace in-person advising and ideally should also provide information about transfer articulation.
Degree Maps and Guaranteed Courses	Draws support from those who recognize the need for students to complete degrees efficiently and cost-effectively but met with hesitation by those who prioritize open exploration through the college experience. Guaranteeing courses may be a challenge for smaller programs. Two-year programs may not be long enough to permit a process of exploration.
Block Schedules and Structured Cohorts	Controversial. While advisors express concerns that students with complex lives need more flexibility, students and non-completers express enthusiastic support because predictability of schedules are viewed as helpful to managing complex life obligations. Implementation concerns center around the feasibility of offering required courses for multiple cohorts.

Moving Forward: The Importance of Authentic Stakeholder Engagement

Successfully implementing guided pathways requires engaging Indiana colleges as true partners:

- Communicate consistently and clearly about the goals and the relationship between structured pathways efforts and other initiatives or state priorities.
- Create meaningful opportunities for institutional stakeholders to discuss concerns about policy proposals and implementation obstacles, and respond to those deliberations.
- Treat institutional stakeholders as vital partners in the work by including them early, often and authentically in the planning, design and implementation process.

Introduction

Indiana's rate of higher education attainment continues to lag behind the national average, with roughly 33 percent of the working-age adult population holding a two-year or four-year degree, compared to the nearly 40 percent of adults holding such degrees nationally. Moreover, nearly 22 percent of the adult population in Indiana has attended college without earning either a two-year or four-year degree.[2] While attainment rates lag, the demand for an educated workforce grows: more than half of the nearly one million jobs coming down the pike in Indiana over the next five years will require postsecondary credentials, and as opportunities grow, so must educational attainment.[3] The imperative is clear: **Indiana must do more to boost attainment rates and help more students earn a degree or credential in a timely manner.** As stated by the Commissioner of the Indiana Commission for Higher Education, Teresa Lubbers,

> *The changing demands of Hoosier students require new approaches to the delivery of higher education, embracing flexibility and expanding options that support student learning at the time, place and pace that best fit an individual's unique needs and circumstances.*[4]

Indiana is not alone in its struggle. Nationally, more than half of all students at four-year institutions take longer than four years to complete, while nearly 30 percent take longer than six years. And for students who transfer between institutions, almost 90 percent take longer than six years to complete bachelor's degrees. For those seeking associate degrees, fewer than a quarter actually finish in two years.[5]

In making sense of the college completion puzzle in Indiana and nationally, it is crucial to look both at who the students are and the path they are navigating. As in other states, in Indiana the "traditional student" who pursues a full-time four-year education at just one institution immediately after high school has become a minority in the college population. Today, a majority of students—now commonly referred to as "new traditional students"—are older, working full- or part-time, often have family responsibilities, often attend school part-time and often take courses from multiple institutions. Many of these students are the first in their family to attend college, arrive underprepared, lack goal clarity and are unconfident learners.

Just as the concept of the traditional student has changed, so too has the concept of the traditional college experience. Instead of representing the wealth of intellectual possibilities and opportunity for self-exploration that colleges once did, research suggests that the vast array of choices in programs of study, courses, majors and

[2] Lumina Foundation, "A Stronger Indiana Through Higher Education" (2013), http://www.luminafoundation.org/stronger_nation_2013/downloads/pdfs/indiana-brief-2013.pdf.

[3] Anthony P. Carnevale, Nicole Smith and Jeff Strohl, "Help Wanted: Projections of Jobs and Education Requirements through 2018" (Washington, DC: Georgetown University Center on Education and Workforce, 2010).

[4] Teresa Lubbers, Indiana Commissioner for Higher Education, Submission for the Record of the: Subcommittee on Higher Education and Workforce Training, July 18, 2012.

[5] Nate Johnson, "Three Policies to Reduce Time to Degree" (Washington, DC: Complete College America, 2011).

minors may in fact be hurting students' chances for success. An extensive literature review conducted by Melinda Karp at the Community College Research Center documents a mounting body of evidence that **"offering students multiple courses and degree options, major choices, and course delivery models . . . may overwhelm students, create barriers to their success, and contribute to their ultimate failure."**[6] And this effect is only exacerbated for the new traditional student.

Higher education policymakers, leaders and researchers are looking at ways to ensure on-time progress toward degrees in order to boost completion rates, reduce student debt, accelerate entry into the workforce and ease the resource burden faced by colleges and universities. Policies and institutional practices have focused on reforming developmental education to improve student achievement, restructuring financial aid systems to reduce perverse incentives, increasing quality online learning programs to make higher education more convenient and accessible, proliferating early college programs to get students started on their degrees while in high school, controlling the trend toward increasing credit requirements for graduation and creating statewide transfer cores to improve course articulation and student movement between institutions.[7]

Along with these policy approaches, many institutions and systems are now making a concerted effort to understand student progression overall and to focus on the creation of definitive academic plans, or "structured student pathways"—clear-cut road maps and guidance for students to help them better navigate the college experience and complete their educational goals in a timely fashion. An established and growing evidence base from a range of fields including behavioral psychology, economics and neuroscience suggests that human beings have difficulty making good decisions when faced with a vast array of choices and incomplete information. The research also suggests that information alone is not enough to ensure good decision making, and that arbitrary and sometimes irrational decision-making processes often prevail when people are given a wide-open field of options and asked to make decisions.[8] As researchers have begun to apply these lessons in making sense of the landscape of higher education, **a picture is emerging in which students are overwhelmed—and thus undermined—by the complexity of navigating the college experience.** Those students who arrive without goal clarity, with inadequate preparation or as unconfident learners are even more vulnerable to being derailed.

[6] Melinda Mechur Karp, "Entering a Program: Helping Students Make Academic and Career Decisions" (CCRC Working Paper 59, 2013), http://ccrc.tc.columbia.edu/media/k2/attachments/entering-a-program.pdf.

[7] Johnson, "Three Policies."

[8] Richard H. Thaler and Cass R. Sunstein, *Nudge: Improving Decisions About Health, Wealth, and Happiness* (New York: Penguin Books, 2009). See also the recent Ideas42 whitepaper, "Using Behavioral Economics for Postsecondary Success." http://www.ideas42.org/white-paper-postsecondary-success/.

Introduction

Evidence suggests that clearer pathways with a more sensible "choice architecture" may empower students to make better decisions, which can save time, reduce frustration and encourage persistence.[9] What this means, exactly, must be determined through the collaborative efforts of institutional practitioners at every level, but an improved choice architecture would most certainly balance a narrowing of the currently dizzying array of course selections with improved student supports, reduce the aimless wandering that characterizes the college experience for too many students today and increase opportunities for students to get into the right program of study and choose a good-fit major without accumulating excess credits, wasting time or losing money.[10]

In partnership with the state's colleges and universities, **Indiana Commission for Higher Education is exploring policies and practices that would support guided student pathways as a means to improve outcomes for students and their families**. The research summarized in this report was conducted by Public Agenda, a nonprofit organization that helps foster progress on complex and divisive issues, to bring the voices of professional college advisors, faculty advisors and Hoosier students into the conversation regarding the obstacles and opportunities around the creation of clear pathways for students.

Through 11 focus groups with students, non-completers, faculty advisors and professional advisors at public two- and four-year institutions across the state of Indiana, we have sought to explore the role of advising practices in the college completion puzzle. We also had the benefit of feeding into our analysis information from a related project on barriers to seamless transfer, for which we conducted more than 50 focus groups with students across Indiana at eight Ivy Tech Community College campuses and eight Indiana University campuses (indicated with footnotes within the report).

The main areas of inquiry included:

- Attitudes toward higher education attainment
- Beliefs about and the experience of determining a program of study
- Experiences of receiving and providing academic and career advising
- Perceptions of institutional supports for or barriers to completion
- Reactions to practice and policy proposals that would provide targeted advising and structured degree paths
- Recommendations for policies and practices that might help students persist and complete degrees or certificates in a timely fashion

[9] Ibid.

[10] Judith Scott-Clayton, "The Shapeless River: Does a Lack of Structure Inhibit Students' Progress at Community Colleges?" (CCRC Working Paper 25, 2011), http://ccrc.tc.columbia.edu/publications/lack-of-structure-students-progress.html; Davis Jenkins and Sung-Woo Cho, "Get With the Program: Accelerating Community College Students' Entry Into and Completion of Programs of Study" (CCRC Working Paper 32, 2012), http://ccrc.tc.columbia.edu/publications/get-with-the-program.html.

Introduction

The purpose of this qualitative research is to increase the evidence base for decision making around improving advising practices and in the development of programs, practices and policies that help more students succeed in a timely fashion. Through this research we sought to better understand the opportunities and barriers to implementing guided pathways at institutions in Indiana. In focusing on the perspectives of students and advisors, we hope to advance the state-level policy conversation and ensure that decision making at this level is informed by the experiences of institutional actors and students within institutions and across the system.

Overview

In **Part 1**, we summarize the findings from our conversations concerning how advisors, current students and non-completers view the obstacles to timely completion.

In **Part 2**, we explore advisors' and students' attitudes toward policy proposals aimed at creating clear pathways and supporting timely completion.

In **Part 3**, we review emerging promising practices in implementing guided pathways and present evidence of their success.

Finally, in **Part 4**, we urge institutional and state higher education leaders to consider opportunities to meaningfully engage students, faculty and advisors as partners in the hard work of change to give the planning and implementation of guided pathways the best chance of success.

About the Commission

The Indiana Commission for Higher Education is a 14-member public body created in 1971 to define the missions of Indiana's colleges and universities, plan and coordinate the state's postsecondary education system, and ensure that Indiana's higher education system is aligned to meet the needs of students and the state. Learn more about the Commission and its "Reaching Higher, Achieving More" strategic plan at www.che.in.gov.

About Public Agenda

Public Agenda is a nonprofit organization that helps diverse leaders and citizens navigate divisive, complex issues through nonpartisan research and engagement. Since 1975, Public Agenda has helped foster progress on K-12 and higher education reform, health care, federal and local budgets, energy and immigration. Find Public Agenda online at PublicAgenda.org, on Facebook at facebook.com/PublicAgenda and on Twitter at @PublicAgenda.

Part 1. Obstacles to Smooth Student Pathways and Timely Completion

In the first part of our conversations with advisors and students, we sought to explore their attitudes about why so many students fail to complete degrees and credentials. Four factors were mentioned most frequently by our respondents: mismatches between the students and the programs, poor course selection, advisors who lack up-to-date information and problems with transferring credits from one institution to another.

Themes in Brief	
Theme 1. **Students initially elect programs for which they are not suited, which causes them to change programs (or even drop out of school).**	• Lack of goal clarity, a wide field of choices to navigate and few resources to help students find a program of study that is a good fit conspire to put students on the wrong path. • Students sometimes make poor program choices because of inadequate initial advising and orientation, while many advisors are overwhelmed by the huge volume of students they are being asked to counsel.
Theme 2. **Students often make inappropriate course selections, which leads to frustration, slows progress and undermines persistence.**	• Students with complex life situations often have trouble scheduling the courses they need, while institutions struggle to provide the support to help these students persist. • Students who choose their courses without consulting an advisor are especially likely to make poor course selections.
Theme 3. **Advisors who lack up-to-date information have difficulty providing effective guidance.**	• Shifting requirements and poor channels of communication make it difficult for advisors to give accurate information. • Tensions between professional advisors and faculty advisors can cause mistakes in advising.
Theme 4. **Transfer students face particularly daunting challenges and have special difficulty getting the right information at the right time.**	• Communication between two- and four-year institutions and between regionals and flagships is fragmented, and transfer students have trouble finding reliable information. • Courses eligible for transfer frequently count only as electives, which leads to excess credits, lost time and wasted money.

Themes in Detail

Theme 1. Students initially elect programs for which they are not suited, which causes them to change programs (or even drop out of school).

Lack of goal clarity, a wide field of choices to navigate and few resources to help students find a program of study that is a good fit conspire to put students on the wrong path.

One of the biggest problems, which was described to us at every school we visited, is the fact that many students select programs that are inappropriate for them given their interests, skills, current life situation and preparation. Lack of goal clarity and difficulty navigating the many options leads many students to make poor decisions. In turn, these poor decisions lead to frustration and can undermine persistence.

When we talked to students who had stopped out, including those who had returned after stopping out, many of them said that the program they had initially chosen was really not right for them, and that often they had chosen those programs because they did not clearly understand them. By the time these students discover that the program is not a good fit for them, they have often either taken courses that won't transfer or failed to take courses that they need for their new program.

The following quotes are representative of what we heard from many students:

> *I was going for business but even at the time I didn't know what I wanted to do.*

> *I just thought that having a degree would open doors. I thought about being a social worker, but mostly about just having a degree.*

> *I chose business as my major because I want to own my own business someday, but I also chose it because I didn't really know what I was good at. It ended up being a bad choice for me.*

This issue was frequently mentioned by both departmental and professional advisors. One professional advisor described what he often hears in his conversations with entering students:

> *I ask them why they want to be in engineering and they say, "I liked math in high school." I cringe whenever I hear that because I'm thinking that's not the criteria you should be looking at. Some of the students that come to me are expressing a little pressure and they say, "I've got to get a job when I graduate, and I heard this is a good one."*

Advisors reported that many students are under pressure from their parents (and their peers) to sign up for programs that they believe will lead to employment, regardless of whether it is a good fit. Health care is a good example:

> *When we started struggling with the economy, everybody saw the safe haven as health care. They think, "Oh my God, health care is never going to go away, right?" They got into it but they may or may not be a person that belongs in health care.*

Students sometimes make poor program choices because of inadequate initial advising and orientation, while many advisors are overwhelmed by the huge volume of students they are being asked to counsel.

Presumably, better initial advising could help reduce mismatches. The professional advisors, who typically deal with incoming students, told us how frustrated they are that they are not able to spend more time helping students pick an appropriate course of study. They said that because they have so many advisees, they are often unable to give individual students more than a few minutes of initial advising. One advisor at a community college campus said:

> *The ratio of student to advisor could be as high as 1100 to one. We try to give 30-minute appointments, but when it gets busy it could be 10 minutes.*

With such limited time with students, there is little opportunity to probe deeply into student motivations, interests and preparation. Advisors reported that instead they spend the majority of their time with students scheduling rather than truly advising. As one advisor said:

> *I think we're in the mode of let's get them out the door as quick as we can. The conversations go like this: "Here is what you need to take. You want this program? OK, boom, boom, boom. Now, is that going to interfere with your life? Oh, don't worry. It's okay."*

Exactly the same sentiment was expressed by a student at one of the state's regional college campuses:

> *I think one of our biggest problems with advisors, though, is that they are swamped with students. They have so many students to get through.*

Other students complained that it was particularly difficult to get advising in the first semesters, before getting into a specialized field. One person described her experience at a community college this way:

> *You did not have legitimate resources until you were in your actual program. Once you're in a nursing program or mortuary, you would have that department head, you would have their assistant, you would have those things that you traditionally associate with college, but until you got to that point, you just had the basic people and it was catch as catch can. Go to this office, take a number, and get a random person, whoever was there that day at that time.*

Some advisors bemoaned the lack of in-person orientation programs, in which students can be given a clear sense of what they should expect from college and what college can expect from them. One advisor said:

> *I was so hopeful when they started saying every new student has to go through orientation. It would be a live body talking one-on-one with those new students and saying, "Here is what college is like," beyond just saying, "Here is how you log in." For example, telling them to expect the homework in everything. Well, they did that one semester but then they said the students can just do the orientation online. Half of our students don't know how to get online and receive information via technology.*

One of the biggest concerns that advisors expressed relates to the students who apply and are admitted at the last minute, just before the semester starts. In both the regional comprehensive and, even more so, at the community college campuses, advisors said that they feel pressured to increase enrollment. They said that as a result their institutions tend to shortcut the admission and advising process for students who apply at the last minute. One advisor called it "the August train wreck." Others said:

> *We have GPA requirements here, but come the middle of summer, they just drop all that and we take anyone. I believe 2.20 is what our minimum GPA is here, but we're seeing kids with 1.67.*

> *It was really like Burger King in August. We are supposed to tell them they need to have their transcript in here before we can schedule anything and they can put holds on their accounts so that they cannot register until we get that information. In August, all bets are off. They throw the rules out of the door. Then they say, "Just register them. We need those numbers. Get them in here, get them in here, get them in here." We're just registering, doing exactly what we were told.*

Unfortunately, the students who apply at the last minute are more likely to be at-risk students who need more advising and are more likely to end up in inappropriate courses or programs that will slow their progress.

Theme 2. Students often make inappropriate course selections, which leads to frustration, slows progress and undermines persistence.

A second obstacle to clear pathways is the tendency of students to select courses that they are not adequately prepared for or that are unnecessary for their program. One stopped-out student described her freshman experience this way:

> *I'm not a math person, but somehow I ended up in a calculus course. It was way over my head and I failed it.*

It is equally problematic if a student fails to select the appropriate courses at the appropriate time. Consider, for example, the following situation: A student does not enroll in a prerequisite course for his or her major. The course is only offered every other semester, so the student must wait until the next time it is offered. In the meantime, the student fills his or her schedule with courses that are not required for the major. There are several reasons for this common situation, and we heard many of these stories.

Students with complex life situations often have trouble scheduling the courses they need, while institutions struggle to provide the support to help these students persist.

At the two-year and regional campuses, one of the most common reasons for inappropriate course selection is the life situation of many of the students, who may be working full- or part-time, or may have children or relatives to care for. The

situation is further compounded by the fact that many of the departments in these institutions are too small to offer required courses at multiple times or even every semester. Sometimes a required course will be offered only every other spring semester. As a result, if a student fails to take a class or does not pass the course, it will be impossible for him or her to progress to the next set of courses.

> *Financially they're doing more part-time jobs. They're paying for their car. This happens all the time: I say, "You're not doing well in this class, you need to spend a little more time on it." They say, "I can't, I've got to work 35 hours next week." They end up dropping the class and then that, of course, moves those credits back to the next year or the following year.*

The complex life demands of the students put more pressure on them and the institutions to accommodate their academic needs. Especially at the community college campuses, advisors say that the schools are not able to offer the auxiliary services that would help students with complicated lives to be successful and to move smoothly through their programs:

> *It is insane. I mean—they're dropping like flies, and it is like we don't have anything on campus to anchor them. We don't have people who are trained counselors, whose job is to help them through these things. They're trying to juggle 18 balls in the air, and they're trying to take 18 credit hours. They're trying to work full-time, like, four jobs. They're just stringing together tragedies and it's difficult.*

We heard a great deal from students, especially from the regional and community college campuses, about how the complexity of their lives interferes with their scheduling. We review some of these comments in more detail when we discuss block scheduling.

Students who choose their courses without consulting an advisor are especially likely to make poor course selections.

Many students told us that they choose their courses without consulting with an advisor, and we heard the same concern from advisors. A student who had stopped out of community college echoed remarks we heard many times:

> *I got most of my information from word of mouth from other students. The student body was my most utilized resource. It always geared better than the instructors.*

> *I didn't know what I wanted to do, so I just took a bunch of random classes. I had no idea what I was doing, and then when some personal stuff happened it was like, "Well, I guess I'll just put this down for a while." I mean, I didn't know what I was doing anyway, so it was just a big waste of time.*

In some cases, however, students who register themselves base their decisions on inadequate information. The following comment is typical of what we heard from advisors:

> *One of the big obstacles [that] happens is that we have too many students who self-advise. They have the ability to then go onto the system and enroll themselves online, and then when they get in trouble they have to come see me. Then I'm trying to straighten out this mess they've gone through for four or five years.*

Advisors in the regionals reported similar experiences:

> *I have suggested every year for the last 11 years that we go to mandatory advising. Some people have not liked the idea. I've had a few cases where students have self-advised out of old catalogs that they had lying around the house, things that they thought would work, or else taking courses that are okay if you're going to be a social studies major but not if you're going to be a science major.*

Theme 3. Advisors who lack up-to-date information have difficulty providing effective guidance.

Shifting requirements and poor channels of communication make it difficult for advisors to give accurate information.

While advisors and students reported students making bad decisions because of self-advising, we also heard many reports from students of advisors providing misinformation. No doubt, some of these student complaints may be based on misunderstanding, but ultimately both students and advisors are pointing to a similar concern: What we heard over and over again is that many of the higher education institutions in Indiana are in the middle of dramatic changes in curricula and requirements. As a result, advisors themselves are often confused about the requirements and sometimes learn about the changes from the students. A community college advisor described it this way:

> *Systems have changed so quickly around here that when we learn it one day, the next day it might be different again. We're moving at the speed of sound and they're leaving us behind, and so then what happens is our students get left behind.*

The advisors often complained that no one informs them of the changes and they have to hear about them from students. One two-year advisor said:

> *In the midsemester, when a curriculum changes, we find out online. So we are advising a student and we say, "Let's look at your curriculum for the year 2013–2014." And then we see, "Whoa, that's different from last year."*

An advisor at one four-year voiced the same concern, saying that the information is coming so quickly that they are unable to get it to the students in a timely fashion. The following quote is typical of how students experience this problem:

> *If someone had told me that I wasn't taking the right classes, I could have done things differently. Why give me the advisor if that person can't give me the information or guidance I need?*

Tensions between program advisors and professional advisors can cause mistakes in advising.

In some schools both faculty advisors and professional advisors told us that students are misadvised because of communication problems between the academic departments and the professional advisors. In some schools the two groups seem to have difficulty working smoothly together. In part this may be because of a different professional orientation. One professional advisor at a community college campus described it this way:

> *I think we come from two different worlds. We do a case management approach. We look at all aspects of that student. Faculty, I think, is just looking at academia.*

But for whatever reason, the two groups complain about each other and blame some of the problems with student pathways on the breakdown. Professional advisors sometimes complain that the faculty are uncommunicative. One professional advisor said:

> *The lack of communication is so frustrating. The business department people, they're so pigheaded about what they want over there and then you've got the business advisors saying, "Why are we being left out of e-mails?" Why would they do that? So we can misinform the kids? This is their money; come on!*

For their part, faculty advisors complain that professional advisors are not really academics and don't understand the curriculum. One faculty advisor complained about the lack of professionalism among the professional advisors:

> *One of the advisors used to be my administrative assistant. She came from the secretarial department and now she's an advisor.*

Another complained that the professional advisors are more concerned "about students' feelings" than about making sure they take the right courses. In other words, faculty advisors complain that professional advisors don't know the curriculum, while professional advisors complain that departments don't keep them informed. But whatever the reason, students tend to fall between the cracks.

The main problem, however, seems to be a structural one, rather than a difference of outlook or poor communication. In some institutions individual advisors have a close relationship with specific departments; some even have offices in the department area or participate in departmental meetings. But where there is no close structural relationship between departments and advisors, we were more likely to hear complaints about miscommunication and lack of understanding.

One faculty advisor at a community college campus described the problem this way:

> *For their first fifteen credits the students are placed with their advisors initially alphabetically based on the student last name. If the advisors were trained directly to advise for actual programs the advising would be appropriate for some particular pathway. I would rather have one advisor assigned to my program than three advisors who have all of these different students based on their last names and they know very little about the programs.*

Indeed, several institutions said that they had recently restructured their advising and the miscommunication had been reduced.

Theme 4. Transfer students face particularly daunting challenges and have special difficulty getting the right information at the right time.[11]

One of the most pervasive problems in looking at student pathways has to do with transfer credits. We asked students in several institutions if they had accumulated extra credits that were not needed for graduation. The most common reason given was that they had taken courses at another institution that either did not transfer at all or, more commonly, only transferred as unneeded electives.

> *As a transfer student, you don't even know who your advisor is. Trying to find your advisor is like trying to find Waldo.*

> *Only 11 of the 25 courses I took transferred. And of the classes that transferred, not all of them transferred for my degree. I lost so much time and money.*

> *I thought I did my homework on what would transfer and then I get over [to the four-year] and I'm sitting with the department chair and she's looking over the sheet that Ivy Tech gave me, pointing and saying, "You didn't need to take that class or that class, and this class isn't going to transfer."*

This problem is equally frustrating for the advisors, especially those at community college campuses, because many students are there precisely because they hope to transfer their credits to a four-year school. As it was explained to us, the schools used to have regional articulation agreements in a system that worked well. Indiana is now moving toward a statewide policy governing transfer credits, but in the transition period things are not, according to our respondents, working very smoothly. The advisors said that they often tell the students to contact the four-year institutions themselves to find out what will transfer. One community college advisor said it this way:

[11] Data gathered through the regional transfer study was used in the analysis and reporting of this theme in conjunction with information gathered through the ICHE student pathways study.

> *In the past there were articulation agreements. Each individual school had an articulation agreement with different four-year universities around it. Right now that's all up in the air. Now we are always asking, "What do you think they will take? We don't know." It puts us in a very difficult position to know because we don't want to waste our students' time, but we're being told only some parts of this degree if not all parts will transfer over, although in the past everything transferred. Now it's basically like they're playing hardball.*

We heard very similar concerns from faculty in four-year institutions. Some complained that the students transferring from two-year schools did not have the right courses, but we heard just as many complaints about the difficulty of transferring from one regional school to another (or to one of the flagships):

> *We advertise to our students to start your degree here and then transfer to [a four-year college]. But transferability options are minimal at this point because so many of the degrees are different. They have an engineering degree. Halfway through the year they decided they would no longer take our credits. Up until that point they always had, so I had a 3.9 student transfer there and get denied because he didn't have what they need.*

All of this confusion adds up to classes that end up being unnecessary because they cannot transfer.

Part 2. Reactions to Policy and Practice Proposals

Participants were presented with three policy or practice proposals that are intended to address several of the key obstacles to following smooth pathways. These proposals fell into three categories:

1) Proactive Advising and Informed Choice
2) Degree Maps and Guaranteed Courses
3) Block Scheduling and Structured Cohorts

These proposals are especially focused on addressing mismatches between students and the programs they select, the tendency of some students to make inappropriate course selections and shortcomings or lack of capacity of current advising systems.

In what follows here we summarize each proposal and then provide an overview of respondent reactions, which varied by respondent type and institution type.[12] Note that respondents from Purdue West Lafayette were most likely to diverge in their opinions from others; therefore we have created a separate section on the flagship context (Appendix 2).

[12] In several of the regional transfer study focus groups, students were asked these policy and practice questions and their responses were used in the analysis and reporting in this section (Part 2) in conjunction with information gathered in this ICHE student pathways study.

Part 2. Reactions to Policy and Practice Proposals

Summary of Obstacles	
• Students elect programs for which they are not suited • Students make inappropriate course selections	• Advisors lack up-to-date information • Transfer students face particularly daunting challenges

Summary of Reactions to Guided Pathway Proposals	
Proactive Advising and Informed Choice	• Shows promise if the technology is carefully implemented and properly resourced. • Support from both advisors and students based on low capacity of advising and frustration with current registration systems. • Should supplement rather than replace in-person advising systems. • Could be made even more desirable and effective by adding functionality to send alerts about transfer articulation.
Degree Maps and Guaranteed Courses	• Draws support from those who recognize the need for students to complete degrees efficiently and cost-effectively. • Met with hesitation by those who prioritize open exploration through the college experience. • Guaranteeing course availability will be a challenge for faculty, departments and their administrations, especially in smaller majors and programs. • Two-year programs may not be long enough to permit a process of exploration that narrows down to specific interests. • Major Areas of Interest sound similar to the current structure at four-year programs where students first enter into a school or field.
Block Schedules and Structured Cohorts	• Enthusiastic support from students and non-completers who prioritize predictability of schedules to help manage other life obligations. • Hesitation from advisors who believe students with complex lives are better served by greater flexibility. • Implementation concerns center around the feasibility of offering required courses for multiple cohorts. • Concerns from advisors that block scheduling undercuts students learning to manage their own lives.

Practice 1. Proactive Advising and Informed Choice

Proactive advising focuses on helping students make better course selections by developing stronger systems—online and in-person—that will aid in making better course selections and send alerts when a student is potentially going off track. The goals of proactive advising practices are to bolster advising capacity where advisors currently have limited time to spend with each student, build resources for students and advisors to track individual progress, and provide immediate and personalized information on program requirements. Conceivably, proactive advising systems could also be developed to help with the problem of transfer courses.

We asked…
What if there were a computer system that monitored the classes students were taking, the sequence they were taking them in and the grades they were getting? If for some reason they didn't take a course that they were supposed to take to stay on track with their major, or if they weren't performing well, the system would alert their advisor so he or she would automatically know the student needed help.

Respondents from only one of the seven participating institutions had experience with a comparable system, and even that one did not have alerting capacity. Virtually everyone we spoke with, at all levels, was enthusiastic about an innovative proactive advising system.

Student Responses

Students at two- and four-year institutions believe proactive advising holds great promise as a means to bolster advising capacity. They said that such systems would help to "support the advisors" because individual advisors can't always remember a single student, and this system would keep a record (similar to a medical record). Students want to see a proactive advising platform that could collect notes between and comments from advisors and as a way to share information when they could not meet in person. Further, students are attracted to the idea of a system that could make course recommendations based on their own and alumni's course-taking experiences. Such a resource would be especially useful when they've exhausted the options for classes in their programs.

Students' only hesitation with automated proactive advising has to do with the accuracy and reliability of online systems. For instance, some said they aren't ready to "trust [their futures] in a computer system," and that other programs that make recommendations based on previous behavior don't always get it right: "Netflix doesn't always make good movie recommendations," one student said. These students see online systems as a good option for tracking and making course recommendations, but not as a replacement for in-person advising experiences.

Advisor Responses

Of the advisors, those at community college campuses expressed the most enthusiasm, especially given the high number of at-risk students at community college campuses and the limited advising resources available to them. This approach promises a system

that would help advisors focus more attention on the students who are most in need. Most of the respondents are enthusiastic about improved tracking and registration systems, and see great benefit to well-designed systems that make smart use of technology to support advisors in their efforts to better support students. One faculty advisor explained:

> *This would be wonderful. What is described here would be amazing. We can do some of this now but not in an automatic way. But right now we do that by pulling out their folder and going through every semester.*

Interestingly, some of the community college faculty suggested a further development of this approach that they described as almost "too good to be possible." What they want is an advising system that is also coordinated with the transfer articulation rules. One advisor said:

> *What if we could actually take this to the next level? If the articulation agreements were in place, that would be even more awesome. Suppose you could get an alert saying, "[An Indiana University campus] does not accept this course for transfer credit"? Wow! That would be great. It is too much of a fantasy to even think about.*

Advisors at four-year institutions are more tempered in their enthusiasm, upholding the belief that, at the end of the day, students must assume responsibility for getting and staying on track. For these respondents, preparing students for the workplace means encouraging them to assume more responsibility.

Practice 2. Degree Maps and Guaranteed Courses

This approach is designed to assist students in selecting a program of study and to help them move through that program all the way to graduation. The general idea proposed to respondents is to invite students to first choose a broad area of study and then sequence courses in ways that help them progressively narrow down to a more specialized field. This approach is designed to create a sensible choice architecture so that students may explore and even change majors without accumulating excess credits or extending the time to completion, all while helping increase the chance that they will end up in a major that is a good fit.

We asked…

What if when students first entered college, they were required to pick a "broad major" (for example, 6 to 8 choices like STEM, health care, business, education or teaching, liberal arts, social sciences, etc.), and by picking that major the entire degree pathway would be planned, semester by semester, all the way to graduation? As students progressed in the broad major, they would gradually narrow down into a more specific major. They would still have the opportunity to sample classes outside their broad major, but all of their elective choices would be guaranteed to count toward their chosen degree. Their college would guarantee that every course needed to complete their chosen major would be guaranteed to be available to students during the semester they need them. They could still change their major, but they would be required to first meet with an academic advisor.

Student Responses

Especially at the four-year regional campuses, this proposal led students to wrestle with competing notions of the purpose of college and what the experience, especially in the beginning, is "supposed" to be like. On the one hand, they want the ability to explore many options and not be confined to one Major Area of Interest too quickly, and to switch majors with ease if they decide to. Students believe that a system of Major Areas of Interest would force people into majors before they're ready, get them stuck in an area they do not like or for which they are not suited and then cause them to lose credits and time down the line. Students do not like the language of "permission" or the idea of mandatory check-ins; they find this demeaning, especially the nontraditional students, and believe that once in college, students can and should take responsibility for their course selection. One four-year regional student put it this way:

> *Nobody wants to go ask somebody permission to do something like that. [At one institution they] found out that it's kind of telling them that you have to do it this way, and then later on you get to decide; grown people don't want to hear that.*

On the other hand, students see the benefit of beginning with a ballpark idea of a Major Area of Interest that they would gradually narrow as a means to save time and money. Several students said that nowadays it's "just too expensive to explore," and they were attracted to the idea of accelerating the exploration process. For example, institutions could have a Program of Study Fair or a Rush for Majors, in which early on in their time in college students get a sampling of what it means to major in different fields. Alternatively, students could be exposed to several options through an orientation or in an entry-level course before having to make a choice.

Students believe that too often their peers choose majors without being fully informed of the path—the courses that are required and the careers that it will lead to. Overall, they like the idea of grouping majors into major areas of interest to help organize their thinking about potential paths. One student who was positive about the idea explained:

> *I think if they did something like take every degree there is and put them under, like, six fields, like a big umbrella. Then you can pick out which individual degree, if you know what you want. Then have something like a 101 class for each particular degree just to see, so students can test the waters to see if they even like it, and that would be their very first semester. That way they're not wasting time.*

Students believe that to have the greatest positive impact, institutions would have to make important investments. For one, such a system would require adequate advising to help students narrow down from the broad major to one that is a good fit. It would require greater investment in career counseling and development. Further, departments would have to be more cautious about curriculum changes, as some students worry that such changes, which are common, would complicate the ability to switch majors even within a broad major.

Many of the two- and four-year degree non-completers we spoke to cited picking a major or picking the wrong major as critical challenges to their success in college. To these students, the idea of selecting from Major Areas of Interest shows promise, as evidenced in the following comment:

> *Picking a major before you really understand what that major entails and the career prospects that go with it isn't a good idea. I think at least for your first year, you should just explore the majors. I felt forced to pick something when I first met with my advisor. She was like, "What do you want to do? What do you want to be put into so I can shift you to another advisor?" I feel like it would've been a lot better to just explore for a while instead of declaring something and then going into it and realizing I really don't want to do this. I just wasted time and money.*

Advisor Responses

We found some support for Major Areas of Interest among community college faculty and professional advisors, but several also addressed a concern that in a two-year program, there is not much of a window for students to explore and then narrow down to a selected major. In other words, a Major Area of Interest may actually be too broad in the two-year setting. One community college advisor described the limitation this way:

> *This would work fine for the first semester because everybody needs English, everybody needs math. Once you get past that first semester—or longer if they need refresher courses—this will be problematic. Having a specific major in their first semester is not a big deal. When I meet with those students who need all the professional courses and they don't know which direction they want to go in, that is the perfect semester for them to figure it out. I give them assignments to learn more about possible majors. But I also tell them, "When we meet again to get your next semester going, you need to have a better idea of at least what direction you may want to go in."*

Advisors in four-year institutions are generally comfortable with the idea of a system that allows students to zero in on a specific major after choosing a Major Area of Interest. Indeed, several pointed out that this approach sounds similar to what is in place now. At one regional campus, an advisor explained:

> *In a sense we already do that because of our school setup. We have five schools, which are: Nursing, Natural Sciences, STEM, Social Science, and Arts and Letters. Once they're within there, for the student to switch degrees it's actually easy. Our gen ed core is very flexible. I really think that anybody could take a year of classes here and it would count to every single degree here. It's 30 credits of gen ed.*

Faculty advisors at four-year regionals are more skeptical about guaranteeing that "every course needed to complete their chosen majors would be guaranteed to be available to students during the semester they need them." With the small size of most regional campuses, faculty members would be stretched too thin to cover required courses at convenient times. One

departmental advisor characterized the idea of guaranteed courses as "a fantasy":

> *We have daytime students who come at different times of the day and evening students. You would have to triple the size of the faculty to offer all forty hours of a particular major every semester.*

Practice 3. Block Scheduling and Structured Cohorts

Block scheduling is an even more structured solution, in which students select a block of time to take all their courses, with the same schedule each semester. The goal is to make sure students select the correct courses, that the courses are available when students need them, and that more students can attend college full-time. Giving students more predictability may also help them coordinate their work and family responsibilities with their academic programs, further reducing the problem of students not being able to take critical courses at the right time. This in turn can reduce some of the distortions caused by financial aid, at least eliminating the problem of students taking unnecessary courses because the ones they need are not available, yet they still need to take 12 credits in order to maximize their assistance.

This proposal was more controversial than the others. Of course, most people acknowledged that something like this is already in place in many of the more selective and highly specialized programs. Nursing students, for example, typically move in a cohort, in which everyone has similar class schedules and similar days for their clinical placements. But the idea of extending the approach more universally provoked quite a bit of controversy, with people expressing strong feelings and significant disagreement. Better understanding the nature of this controversy is certainly an important next step, and the attitudes expressed here might be considered a point of departure.

We asked…
What if students' schedules were organized into blocks? So, for instance, students choose a "pathway" or "broad major" and then they pick a time block in the day when they take all their classes, five days a week—all their classes would be from 8 a.m. to 12 p.m. or from 1 to 5 p.m., for example. This would be their schedule semester after semester, all the way to graduation day. With their schedules more predictable, students could more easily balance school with jobs.

Student Responses

Among students who favor the idea of block schedules, the predictability in scheduling and the promised availability of classes are quite attractive, as evidenced in these comments:

> *That would be amazing. Because so many times you've gotten where classes are only offered during a certain semester or a certain time because of the teacher. I work. I don't have a lot of time to play around with that kind of thing; I need to have the class available.*

> *That would be fabulous—if you knew you could schedule your courses every semester at the same time, wouldn't that be a dream come true?*

Non-completer students were the most likely to have a positive reaction to the block scheduling proposal, for the same reason: the offer of long-term predictability of scheduling that helps to manage other life responsibilities. Several non-completers also welcomed a cohort structure, in which they could form relationships with their peers. These comments from non-completers reflect their positive positions:

> *I don't have kids, but people that have kids and jobs need to find a sitter and I think it's a good idea instead of having it so sporadic and all over the place, you know where you're going to be. I think it's a better idea.*
>
> *I'm a server in a restaurant, and a lot of people serve while they go to school, and it's, like, an ideal schedule for a server.*
>
> *I actually like that approach because I've had the days where I go to class for an hour, and then I have two hours off. Well, I really don't want to drive home just to drive all the way back. Yes, it might suck to be in class for four hours straight, but I could go into a job and say, "I go Monday through Friday from eight to noon but I can come in at one thirty or two o'clock and work with you guys." I think jobs would appreciate that more, because I've actually missed out on a couple of jobs because of my school schedule.*

Unlike two-year students and non-completers, students at the four-year comprehensive campuses are concerned about limits on their flexibility, and they're skeptical about this type of system working at their institutions. One woman, who was taking 18 hours and juggling it with child care, did not see the approach as helping to manage school and life; instead, she put it bluntly: "If you went to this system I'd be out of here. I just couldn't do it." Others, particularly those at the flagship, stressed how important it is to them to be able to have some choice in creating their own schedule. The students we spoke to do not feel that structured cohorts are appropriate for all students, and think that the concept might run counter to one of the benefits of college. One student explained:

> *You get stuck with the same peers; part of what's great about college is meeting new people and getting exposure to new people—networking. You don't get that with the blocks.*

Several students said they could not foresee smooth implementation of a block scheduling and structured cohort system, and they posed several questions about how it might work. For instance:

- If the instructors change, how feasible is it for the college to do the same block from year to year?
- What if there are not enough students to fill a course? It seems like this would be a problem for higher-level courses.
- What would this mean for people who really must do college part-time?
- If you have a change in your life and the block doesn't work anymore, then what happens?
- What if the time blocks you have to choose from don't actually match up with your schedule?

To have the best chance of success, block scheduling would be offered as an option rather than a requirement for students, would allow students to make up a missed class in an alternate time block and would offer at least three different blocks from which to choose, with an evening block as a must.

Advisor Responses

Echoing the concerns of some students, community college and regional four-year advisors worry that the new traditional student will have trouble fitting block scheduling into his or her work and family life. Two comments explicate this finding:

> *Given the demographics of our students, if they have to put family or school first, they're going to put family first. When they need a job, they're going to take the job whenever they can get it, even if it means they have to drop out of a cohort or drop out of a class. I understand that, but on the other hand, we try to offer as many courses throughout the different times as we can. We even added Saturday classes to things, and if they don't make it, then we have to cancel them.*

> *A block schedule for a nontraditional student doesn't work. You work. You have a family. They're like, "I can't take this course because it's offered when I'm supposed to be working. If I don't work, I can't pay for school. If I can't pay for school, then I can't get a better job."*

Advisors in the regional comprehensives also see potential for difficulty in staffing blocks at different times. Faculty advisors who are also program directors—especially those from smaller departments—expressed reservations about the ability to offer enough sections to staff different discrete blocks. Having to run the same courses at three different times during the day (morning, afternoon and evening) would mean offering many more sections with lower enrollments in each, and institutional administrations, advisors said, would balk at departments offering many smaller sections.

Part 3. Promising Practices in Guided Pathways

The movement toward guided pathways has been a central component of some of the largest higher education reform and student success efforts at two- and four-year institutions across the country. As a growing number of institutions innovate and implement guided pathways policies and practices, the evidence base is building that demonstrates impacts on student outcomes and suggests promising strategies for making these efforts go farther.

State- and institution-level practices for guided pathways that reduce time to degree fall into two broad categories: 1) strategies for accelerating completion and 2) strategies for preventing wasted credits. The practices that comprise accelerating completion seek to increase students' momentum toward degrees starting in their first year and to limit the loss of credits due to withdrawal or course failure. The practices that comprise preventing wasted credits seek to limit the choices in order to keep students on track and prevent loss of credits due to changing majors.[13] The three strategies we proposed to participants in this study as well as additional ideas that emerged from the groups, span the two categories.[14]

Practices in Brief

Strategies for accelerating completion	Strategies for preventing wasted credits
• Encourage students to take more credits, especially in their first year of college. • Make the long-term consequences of course withdrawal apparent to students and alert them to courses that are high risk for failure or withdrawal. • Alert students to relevant transfer and articulation information.	• Supplement advising capacity with structured degree maps. • Use degree milestone systems to ensure completion of courses that all students must take to progress in a major or program of study. • Build the infrastructure for students to change course without having to backtrack or get off track entirely.

[13] Education Advisory Board, "Building Guided Pathways to Success" (2012), http://doingwhatmatters.cccco.edu/portals/6/docs/Building%20Guided%20Pathways%20to%20Success%20-%20EAB%20Report%20FINAL.pdf.

[14] In several of the regional transfer study focus groups, students were asked these policy and practice questions and their responses were used in the analysis and reporting in this section (Part 3) in conjunction with information gathered in this ICHE student pathways study.

Practices in Detail

Strategies for accelerating completion

Encourage students to take more credits, especially in their first year of college.

Data from the California Community Colleges System and the State University System of Florida show that students' chances of success improve dramatically when they take at least a full credit load (30 credits) in their first year.[15] To encourage this, some states and institutions are planning or implementing flat-rate tuition policies so that additional credits after the first 12 in a semester are essentially free for the student.

The University of Hawai'i System is an example of a successful flat rate tuition program that promotes a "15 to Finish" message. After finding a broad perception that 12 credits is the standard load for students, the system organized a robust public awareness campaign targeting students and families through television, newspapers, YouTube and radio; it also ran an internal messaging campaign, emphasizing consistent "15 to Finish" messaging from advisors beginning with orientation. The plan consisted of the following messages: Students will finish quicker, get a fifth course for free every semester, reduce their costs and debt (which gives them more job flexibility when they graduate) and have a greater likelihood of completing college.[16] As a result of the campaign, four-year colleges in the system saw a dramatic increase in full-time first-year students taking 15 credits. Effects were also detectable at the two-year level, with a decrease in community college students going part-time.[17]

In Indiana, students and non-completers reported that they often max out their financial aid benefits at 12 credits, and according to some advisors, it then costs the students more money to get up to the 15-credit load. At Purdue West Lafayette, where a semester fee is charged, students are more likely to take a 15-credit or higher load, but this can impact their performance in the courses they take and contribute to their feeling overwhelmed. Recent changes in the financial aid policies in the state could help students take a full 15-credit course load if they are adequately advised to do so. Targeted advising that helps students determine which courses to take simultaneously, how to sequence them and which courses might suit them based on their own past performance as well as that of other students similar to them might reduce the chances of students feeling overwhelmed.

Make the long-term consequences of course withdrawal apparent to students.

Advising students on which courses to drop, when to drop them and the consequences of doing so is a promising

[15] Jeremy Offenstein, Colleen Moore and Nancy Shulock, "Advancing by Degrees: A Framework for Increasing College Completion" (Institute for Higher Education Leadership and Policy; Education Trust, 2010).

[16] Education Advisory Board, "Building Guided Pathways."

[17] Ibid.

strategy to help students move more efficiently toward their degrees. Most advisors do not have enough time to help every student make informed choices. Instead, some higher education practitioners and researchers are promoting automated systems that walk students through a course withdrawal process online. At Penn State, for example, students are directed to the eLion online registration system to complete the withdrawal process. They complete an interactive, advisor-designed module that provides information on the consequences of a withdrawal decision, including how it will impact their path to degree completion. Data collected from the system shows that almost half of those students who begin the process do not complete it, suggesting that they have been deterred from withdrawing.[18]

At Indiana Wesleyan, nontraditional students all follow a block-scheduling model—they have the same schedule throughout their 20 months in college. Students begin their programs with a cohort and move along with that cohort all the way to graduation. If they want to withdraw from a course (in this program they take only one course at a time) or take a break for some reason, their advisors strongly urge them to reconsider, as they would have to join a new cohort. According to advisors, many students end up "finding a way to make it work" so that they can stay in school and continue with their cohort. In other words, the advisors spend time with the student to spell out the potential long-term consequences of dropping out, and that can be enough to keep the student on track.

Alert students to courses that are high risk for failure or withdrawal.

In order to help students navigate complex program requirements and reduce the chances of them choosing courses for which they are underprepared and therefore likely to drop or fail, higher education leaders are experimenting with online advising systems that would supplement the currently overwhelmed advising process. Particularly promising are those systems that can predict a student's academic performance using algorithms based on their own course-taking behavior and performance as well as that of previous students. The most well-known of these models is Austin Peay State University's Degree Compass, which makes course recommendations for students based on which courses they need to complete for their major, which courses apply to other majors and their predicted grade. Data from the Degree Compass shows that "95% of students who are predicted to get a C or better in a course go on to do so."[19]

Alert students to relevant transfer and articulation information.

When asked for their reactions to the development and implementation of proactive advising systems, some advisors in Indiana suggested that such a system could be improved by building in transfer and articulation policies. In other words, when students register for a course, not only would the system tell them whether the course would count for their program of study, but it would also tell them if and how the course would count at other

[18] Ibid.

[19] Ibid., 20.

institutions. One advisor said this would be so great that she didn't even want to dream about it.

Strategies for preventing wasted credits

Supplement advising capacity with structured degree maps.

With course catalogs an overwhelming maze for most students to navigate, and program requirements being described as "logic puzzles,"[20] many institutions are finding great promise in the development of degree maps. Degree maps ensure that the courses students take are the ones they actually need, that students know which courses will count toward their program of study and which will be counted as general electives, and that students know when to take the courses so that they do not miss a class they will need to graduate on time.[21] When this information is spelled out for each program of study and provided in a readily accessible, clear and consistent format, students are less dependent on advisors, advisors have better information to guide students, advisors can make better use of limited time with their advisees, and academic leaders can plan courses and staffing.

Implementation strategies that integrate degree maps into online systems, restrict registration to those courses on the map and allow both advisors and students to track individual progress show the greatest promise. Research from the Education Advisory Board (2012) suggests that successful maps are those that are more structured in the first year, focus on completion of general requirements before major requirements and "backload" electives.

Some institutions have chosen to integrate degree maps into their course registration systems. CUNY Lehman, a pioneer in this work, has students choose from a set of predetermined first-semester schedules, all of which consist of 15 credits, include several general education requirements and encourage coordination of lectures among instructors. Once they choose one schedule, students are automatically registered in the courses. Some of the schedules are made especially for pre-professional students. Data from CUNY Lehman over two decades shows dramatic improvements in first-year student GPAs and retention rates. At Sinclair Community College, degree maps are individualized—students develop them in collaboration with their advisor in their first semester—and each semester students are automatically enrolled in the agreed-upon courses. If they choose to opt out of a course, an alert tells them that the choice could affect their progress and graduation time line.[22] Several other institutions, including Florida State University, Arizona State University, California State University–Northridge and Illinois Valley Community College, have also had success in implementing degree maps.[23]

[20] Johnson, "Three Policies."

[21] Ibid.

[22] Education Advisory Board, "Building Guided Pathways."

[23] Johnson, "Three Policies."

Use degree milestone systems to ensure completion of courses that all students must take to progress in a major or program of study.

Degree milestone systems are those in which faculty and advisors in a program have identified the critical foundational ("milestone") courses in a major, online tracking systems flag students who have not registered for or completed the milestone courses and advisors are alerted to those students who need targeted guidance. Such systems often require that a student meet with an advisor if a milestone has not been achieved. Milestone systems have led to higher first-year retention rates (Arizona State University), higher six-year graduation rates (University of Florida) and the accumulation of fewer excess credits (Florida State University).[24]

Build the infrastructure for students to change course without having to backtrack or get off track entirely.

Even when degree maps, alert systems and advising support to prevent loss of credits are in place, students will get off course for completing degrees on time. Both students and advisors wrestle with the concepts of making choices early versus leaving time to explore and make choices later. There is a strong sense that no matter what, there will always be students who change majors, and such change is not necessarily a bad thing. Indeed, the most promising practices for guided student pathways acknowledge the importance of flexibility and find ways to make changes in major as harmless to students' progress as possible.

For example, the Degree Compass at Austin Peay State University encourages students to take courses that fulfill requirements for multiple majors—"pivot courses"—so that should students change majors their credits will not all be considered general electives. While providing this guidance might be standard practice among advisors, building pivot courses into an online program like Degree Compass ensures that more students benefit from this knowledge.[25]

As we heard in Indiana, all too often students select majors for which they are underprepared or under-qualified (for instance, when they must meet certain GPA requirements for admission into the major. In these situations, students must either take extra courses to raise their GPAs in order to qualify or they must change their choice of major entirely, effectively converting their previous degree credits to general elective credits. In one case, students accumulate extra courses; in the other, they lose credits, but in both cases students spend additional time and money on their degrees. The Bachelor of Health Sciences program at the University of Missouri at Columbia was created to address this exact issue for students who were not qualifying for the pre-professional health programs (e.g. nursing). It was designed to "absorb students exiting competitive pre-health programs" and thereby minimize "backtracking" and graduation delays. Instead of being viewed as a subpar degree option, the BHS has

[24] Education Advisory Board, "Building Guided Pathways."

[25] Tristan Denley. Site visit conducted by Public Agenda, April 15–16, 2013.

become a popular program, not just absorbing exiting students but also attracting students who would not have declared a health major.[26] Leaders at Georgia State University addressed the problem by creating positions for two full-time advisors whose time is dedicated entirely to helping students exiting pre-professional programs find alternative majors and get on a path to completion.

[26] Ibid.

While our conversations with students and advisors suggest there is broad support for the ICHE's policy priorities associated with creating clear pathways for students, there is a great deal of knowledge and expertise to be leveraged from within institutions. There are also areas of legitimate concern and disagreement around which institutional and systems stakeholders should be engaged to ensure that policies pursued are informed by the experiences of students and frontline faculty and staff. In conclusion, we focus here on those recommendations aimed at ensuring that the pursuit of guided pathways in Indiana is sufficiently inclusive of and oriented by the knowledge, values and commitments of those who will be asked to implement policies and those who will be subject to these policies.

Communicate consistently and clearly about the goals and the relationship between structured pathways efforts and other initiatives and state priorities.

Many participants in our focus groups and interviews suggested that it is difficult to keep track of the various initiatives underway at the state, system and institutional levels. Institutional stakeholders suggested that clearer and more consistent communication about the goals and process of student pathway work would build confidence among those who will ultimately be asked to do the work of designing and implementing reforms. Strengthening channels of communication between ICHE and academic leadership at institutions would likely yield positive benefits down the line. By building durable channels of communication with institutional leadership, ICHE increases its chances of having its messages filter down to the institutions in a clear way that resonates with stakeholders. Creating multiple and iterative opportunities to connect the dots between state- and institutional-level activities and improving communication with institutional leaders will certainly increase the chances of successful implementation.

Create meaningful opportunities for institutional stakeholders to discuss concerns about policy proposals and implementation obstacles, and respond to those deliberations.

While there is broad support for stronger pathways, there is a host of concerns and open questions about the specific proposals that should not be ignored. Many of these concerns are legitimate, and regardless of their validity they need to be addressed head on through authentic engagement of institutional stakeholders. Failure to do so may significantly impede or prevent innovation at scale. Creating opportunities for professional and faculty advisors to grapple with these issues and engaging academic leadership around issues of block scheduling and program redesign are critical for successful design and implementation of structured pathways. Simply providing information and data will not be enough, nor will it be enough to create pro forma opportunities for input without also responding to the concerns raised by institutional actors. Faculty, staff and administrators will need meaningful opportunities to deliberate with their peers within and across institutions in order to become reliable partners in the difficult change process that implementation will entail. Careful issue framing, conversation design and facilitation as well as capacity-building efforts aimed at empowering

institutional actors to lead difficult dialogues with peers are highly recommended for long-term success.

Treat institutional stakeholders as vital partners in the work by including them in the planning and implementation process.

To the extent that institutional stakeholders are going to be asked to think about or do their jobs differently as a result of statewide efforts, these actors should be meaningfully included in the process from the beginning. Working through existing channels of communication and forging new channels where necessary, leaders should purposefully plan for the ongoing and authentic engagement of advisors and faculty in the creation of degree maps and milestones. Creating well-structured opportunities for institutional stakeholders to help shape plans and implementation strategies will be critical for long-term success of implementation, will likely reduce the risk of unintended consequences and will prevent the kind of pushback that comes when stakeholders feel they are being dismissed or disregarded. Heed the lessons from states where heavy-handed, top-down approaches by system and state have backfired and stalled progress, and attend to the human side of change as well as the technical dimensions.

Appendix 1. Research Sample and Methodology

The research that informed this report was drawn from 11 focus groups and eight phone interviews conducted in the spring and summer of 2013. Through these qualitative methods, we engaged 110 individuals from seven colleges and universities in Indiana as well as 21 individuals who at some point had attended college but did not complete their intended degrees ("non-completers"). These participants represented four types of higher education institutions: community college campuses (2), four-year comprehensive regional college campuses (3), four-year public flagships (1), and four-year private institutions (1). Current students ranged in age from 18 to 38 years old, while non-completers were between 20 and 34 years old. The greatest number of participants identified themselves as Caucasian, followed by African-American and Hispanic. Faculty advisors comprised one-third of the study population (38 individuals) and taught in a range of disciplines. General or professional advisors are typically those who are assigned to students when they first enter the college or before they select a major or program of study, though in some cases they are the sole providers of formal advising services; 35 professional advisors participated in this study.

This report is based on analysis of the focus group research funded by the Indiana Commission for Higher Education through its Complete College America state grant. At times we incorporate data from the regional transfer research funded by the Lumina Foundation for Higher Education, conducted in partnership with Indiana University and Ivy Tech Community College. In addition to providing context information that supported the design of this study, we included data from the regional transfer study (in conjunction with data from this ICHE pathways research) for the following sections: transfer students (Theme 4) and Parts 2 and 3. Though we have complemented the focus group data with a review of extant literature, we rely heavily on comments from focus group participants to distill the main obstacles that they see as preventing students from following smooth pathways through higher education. Their remarks were thoughtful and articulate, and where possible, we have let them tell the story in their own words, in rare cases slightly editing their remarks to improve readability. While qualitative research is a powerful vehicle for generating a deeper understanding of a problem, the conclusions drawn from small-scale research of this kind should be viewed as suggestive rather than definitive.

We found a great deal of similarity between the attitudes of respondents at community college campuses and those of respondents at the regional comprehensive campuses, so for the most part we have reported these findings together. The context at Purdue University West Lafayette is rather unique, so we have created a separate section on what we learned there (Appendix 2).

Obstacles to Smooth Pathways and Timely Completion

As the one flagship institution in our sample, Purdue West Lafayette was something of an outlier in our conversations. Through the course of our discussions with one group of advisors and two groups of students, we learned that the attitudes of the flagships are somewhat different than those of their peers at community college and regional four-year campuses. With fewer underprepared students and more traditional student populations, flagships often do not have the same kinds of concerns as other institutions. Like their peers at the two-year and four-year comprehensive campuses, these participants also reported problems with student pathways; however, some of the problems manifested themselves differently at the flagship campus. Here we highlight the main findings from the flagship Purdue campus, referencing, where possible, similarities to the experience of students and advisors at four-year comprehensive and community college campuses.

Some characteristics of the student population and the institution itself help to buffer Purdue from challenges faced at the four-year regional and community college campuses. These characteristics include:

- **A predominance of traditional students**
  Many more of the undergraduates at West Lafayette are what used to be called "traditional students," who have come to Purdue after high school and are pursuing a full-time education, without the distractions of family life and full-time jobs elsewhere. Most told us that their parents have college or graduate degrees. As a result, the students are much more oriented to college life, and the problem of conflicts between outside commitments and academic schedule is obviously much less prevalent here.

- **Stronger advising resources**
  Another striking difference between this campus and the others is that Purdue has a policy of mandatory advising and the advising resources to support it. As one advisor described it:

  Students all the way through the senior year have to meet with an advisor in order to register for classes.

  In contrast to what we heard elsewhere, the professional advisors seem to have a much closer relationship with the departments. Several of the advisors in our focus groups are housed in the departments and attend faculty meetings. One advisor described the relationship this way:

  I have an excellent relationship with our department. They're very supportive. They actually come to us and ask us questions about what should happen with the curriculum, classes and so on.

- **Fewer financial aid distortions**
  From that we heard, at the West Lafayette campus financial aid rarely drives course selection as it does in the two-year and regional campuses. Students pay a semester fee and then may take as many credits as they wish, so there is little incentive to take either more or fewer courses than they need.

Mismatches between students and programs are still common at Purdue, and lead students to accumulate extra courses.

Despite these differences, many Purdue students, from what we heard, do not complete their program in four years, and they do accumulate a number of unnecessary credits. Part of the problem, as we have already noted, is for students who have transferred from other institutions. But in a somewhat different way, Purdue also faces the issue of mismatches between students and the programs they initially select, resulting in the students taking unnecessary courses.

Purdue has a remarkable number of highly specialized programs. For example, there is a specialized aviation program that is housed at the airport. Often students start in these programs during their freshman year and then learn that the program they have selected is not right for them for one reason or other. At this point they often need to apply to a different program and go through a separate admission process. Often the courses they have already taken will not count toward requirements in the new program. The Purdue expression for changing programs is CODO, meaning "change of degree objective." One advisor described the plight of these students this way:

> *A lot of students end up in CODO-land, which is this ambiguous place where students say, "I want to change my major, but I don't have the coursework. I can't get the coursework; I don't have the grade point average. I'm just in this limbo spot, and my advisor may not know a whole lot about that particular place I want to get to."*

This advisor had a tongue-in-cheek solution to the problem:

> *Maybe we should just all meet at Memorial Hall with all of the CODOed students from our programs and exchange prisoners.*

In theory Purdue has a general education common core, but even these core courses do not always transfer from one program to another.

In theory, Purdue's common core allows students to transfer from one program to another. According to our respondents, many of the common core courses have specialized for different departments or programs, so the courses don't fully transfer. One advisor said:

> *Purdue just went to a common core, first time ever. But we're not using it as a common core. What's happening is this: One college says, "For written communication there are five classes you can take, and a common core would mean any one of those classes should meet written communication." But if the student transfers to another college, that college says it has to be English 106. When a student transfers in and they have taken some other written communication course, it doesn't count."*

Reactions to Policy and Practice Proposals

Advisors welcome improvements in their online student registration and advising system but want to make sure that the responsibility for making correct choices falls upon the students, not the advisors.

Purdue has recently put in place an advising system, called MyPurduePlan, that has some of the capabilities of the proposed proactive advising systems. However, the students suggested that it is not yet fully functional, so we could not completely tell how effectively it works. The Purdue advisors welcome the idea of an advising system that would automatically send notifications of incorrect course selections. However, they suggested a modification to have the notifications sent to the students, rather than to the advisors:

> *I'd like a system that sent out a notification when an incorrect course selection was made, but I'd say two things. First, it should send the message to the student, not to the advisor. We are trying to get the students to take responsibility for their own choices, not to blame us when they make a bad decision. Also, it should probably be a text message, not an e-mail.*

Many programs at Purdue University at West Lafayette already function as Major Areas of Interest, but Purdue also has a different specialized program targeted especially at undecided students.

We asked both students and advisors at the Purdue flagship campus about the Major Areas of Interest approach. On the one hand, they do not see how it differs from what they already have in many programs. As we have noted, the West Lafayette campus has many highly specialized programs that students enter into as freshmen. Often these programs are Major Areas of Interest that allow students to narrow and specialize their interests as they progress in the program.

In addition, the Purdue community is somewhat less engaged by Major Areas of Interest because it has a highly successful alternative approach to helping undecided students pick an appropriate major. Both students and advisors spoke enthusiastically about Purdue's Undergraduate Studies Program. In contrast to other programs, in which undecided students typically are placed in liberal arts, this program truly stands outside of the all of the specialized programs and colleges, and it seeks to allow students to have a true exploratory experience before committing to any major or college. In other words, rather than declaring an interest in health care and then narrowing down to a health subdiscipline, a student in this program can be deciding between business and premed – two fields that would not typically fall within a single area of interest. In our conversations the

program got high marks from both advisors and students. We were told that most students in this program commit to a specialized program by the end of the first year and that the four-year graduation rate is as high as for Purdue students in general. But the success of this program and the existence of so many specialized areas make the idea of a major area of interest less attractive and interesting in the West Lafayette context.

The advisors and the students are opposed to expanding block scheduling, which they see as undercutting the students' ability to organize their own lives and to customize their academic programs.

In general, Purdue students do not have the same scheduling conflicts as the students in the community college and the regional campuses, so they do not see this approach as either helping or hindering their ability to integrate classes and external commitments. Instead, they tend to focus more on the value of having the freedom to create their own schedules and select their own teachers. A typical reaction:

> *That would get so monotonous, doing the same thing every day. Now it's nice because every semester is different. Some people don't like it because they're like, "I like my schedule how it is now," but changes can be good because then you get that it's a new semester, I get to start over, start strong—but this is just the same thing over and over again.*

Also, many Purdue students stressed that they are in double majors that cross typical disciplinary boundaries, and they think that block schedules would make it difficult for them to fit courses from other majors and programs into their schedules.

The advisors on Purdue's main campus have many of the same concerns. They stressed the importance of students learning to build their own programs and manage their own scheduling. They also agreed with the Purdue students that this would inhibit the ability of students to do creative, interdisciplinary double-major and minor combinations. Some comments from advisors:

> *People don't come just one way, so my students might want a political science minor. The block doesn't work if this one's going to have a political science minor, the other one's going to have a management minor, they want to take a free elective that's biology—people don't just come in a neat little block.*

The broader point is that this campus is so different from the regional and community college campuses that many policy proposals will need to be adapted and modified for this context.