CASE MANAGEMENT AND EARLY ALERT TECHNOLOGY EVALUATION RESOURCE

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The Ada Center

A Guide for College Leaders

Case management and early alert tools enable faculty, student services staff, and advisors to monitor student progress and coordinate interactions with students. Of all the student success technologies available today, this category of software is most developed. Several dozen vendors offer case management and early alert tools, each with variances in capabilities, user-interface, and workflow.

The most robust case management and early alert tools are designed to manage and coordinate all student interactions across the college. The tools incrementally build profiles of each enrolled student and log students' interactions with staff, participation in campus activities, and performance in the classroom. More sophisticated tools create automatic notifications for staff when a student is deemed 'at risk' of dropping out. Many of these tools also include built-in communications mechanisms that enable staff to send targeted communications to students who could benefit from outreach.

Technically, case management and early alert tools are the easiest student success software category to implement. Practically, they are some of the hardest for colleges to make the most of—these systems are only as good as the information being put into them and the organizational framework surrounding them. Early alert capabilities, in particular, require the college to develop a framework for categorizing and responding to students' needs and obstacles as they arise.

While no guide can determine if, when, and what type of case management and early alert software is right for your college, this resource will provide an overview of **institutional readiness considerations** and **vendor selection considerations** for colleges that are evaluating case management and early alert software. If you are looking for additional guidance, please reach out to Sarah Zauner at sarah@theadacenter.org and Mei-Yen Ireland at mireland@achievingthedream.org.

Institutional Readiness Considerations

- College Practices and Structures
- Existing Data
- Human Resource Needs

Vendor Selection Considerations

- Desired Functionality
- Pricing
- Integration

Institutional Readiness Considerations

College Practices and Structures

Case management software not only requires that faculty and staff log interactions with students, it also requires the college to determine when and how to respond to student behaviors and attributes associated with dropout risk. While software vendors may suggest what constitutes an 'at-risk' student, ultimate responsibility lies with the college to prioritize a set of risk factors and associated responses. These collective decisions about managing student support are often called a 'case management framework'. Before moving forward with an early alert and case management software, it's important to address these structural questions about how your college will configure and manage this new software tool.

- Do we have a sense of the student attributes and behaviors that are correlated with success and attrition at our institution? If we have to prioritize, which are top priorities for our college to address?

* - Do we have capacity to assign faculty and staff members to the sorting, responding, and tracking of alerts raised about students?

- Who will be responsible for managing each type of alert raised about a student?

- What will the follow-up step be for each type of alert? If that follow-up doesn't work, what happens next?

- How much information about individual students do we want each staff and faculty member to be able to access?

- As we build out our case management framework, how can we ensure that our system is configured to minimize inequities in the student experience?

Existing Data

Case management and early alert tools can be implemented with minimal existing data. In some cases, the system needs only basic access to your college Student Information System. More robust early alert and case management software has the ability to integrate with other sources of student data, such as a Learner Management System or a predictive analytics model (discussed in the next evaluation guide).

- Which data is most important for determining if a student is in need of an intervention? Where is each piece of data going to come from?

- How can we minimize the number of unique technologies that faculty and staff must access on a regular basis, while avoiding costly integration across technologies? (Note: By requiring that all critical student data be stored in the student information system, your college can minimize the complexity and cost of integration with other technology systems).

Human Resource Needs

For a case management and early alert software to succeed, the desired end users (e.g., student services staff, advisors, faculty) must commit to embedding the software in their routines. Advisors will need to log all interactions with students in the software, and faculty will need to regularly input information about the students in their courses. Further, the college will need to appoint a set of individuals to manage and respond to information collected about students. Most colleges that successfully implement comprehensive case management and early alert systems find they must modify their advising model.

- Does college leadership have the capacity to help guide the necessary process and structural changes associated with adopting a case management and early alert tool?

- Is the college prepared to dedicate staff capacity to monitoring student 'alerts', triaging those alerts, and intervening with students who need extra support? (Note: Increasingly colleges are hiring or re-allocating at least .5 FTE of a senior advisor to triage all student alerts)

- Is the college prepared to launch a long-term communication and training campaign with faculty and staff on the new software?

Vendor Selection Considerations

Desired Functionality

Colleges interested in case management software will find no shortage of choice. Several dozen vendors offer software with case management and early alert capabilities. These products range from very limited student progress monitoring functionality designed for a specific department to a robust set of monitoring, analytical, and communication capabilities tailored for staff, faculty, and leadership throughout the college. The more robust the system, the higher the price tag. It's recommended that colleges gather feedback from frontline staff to help create a prioritized list of desired capabilities. More so than with other technologies, colleges should be very mindful of the software user-interface—this should be a tool that faculty and staff can use with minimal burden.

- Do we have a prioritized list of 'must-have' and 'nice-to-have' feature requirements?

- Does the current iteration of the software tool meet all of our must-have feature needs? (Note: Most vendors show demos with planned capabilities as well as current capabilities)

- How closely does the software workflow map to our ideal processes?

- Are frontline staff generally excited by the new resource? Do they find the user experience intuitive?

- Have we met with at least three vendors and ranked their products according to cost, capabilities, user-interface, and implementation support?

Pricing

Early alert and case management software pricing typically includes a minimal one-time implementation fee and a recurring annual fee. Pricing is determined based on breadth and depth of software functionality, college size, and maturity of the product. You can expect vendor pricing to range from $25,000 to $80,000 annually. Most case management systems priced at the low end of the spectrum are designed for a specific department (e.g., tutoring) rather than as a holistic system for the college. Case management tools may also be sold as part of a larger software package.

- Have we received demos and quotes from at least three software vendors?

- Do we want to partner with a new vendor as an alpha or beta partner (for a discounted price), or do we want to partner with a more established vendor with a proven track record?

- Can we estimate the anticipated 'return-on-investment' for the tool in terms of student success?

- Have we calculated the comprehensive cost of the tool (beyond the vendor quote), including the cost of staff bandwidth to implement the tool?
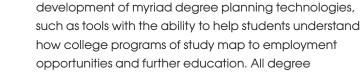
Integration

Unlike other student success software categories, case management and early alert systems can be implemented effectively with relatively minimal integration requirements. Some case management systems only require integration with the Student Information System. Other case management and early alert tools will offer integration with the LMS, predictive analytics tools, and department-specific case management tools (e.g., tutoring, athletics). The primary data for these case management and early alert tools comes from recorded interactions with faculty and staff.

- Do we have a data specifications chart that details:

  a) The data the software will need to access?

  b) The direction/s of the data flow?

  c) How frequently these data systems will need to be accessed?

- Does our CIO feel confident that the integration plan outlined with the vendor is feasible?

- Does the vendor have a proven integration track record? Have we discussed contingencies with the vendor should we run into integration challenges?

- If we are purchasing a tool with overlapping capabilities with software we already own, which system will be the system of record for those capabilities? When will this transition occur? (Note: Most colleges have unique case management systems and/or manual processes across departments. To increase coordination across departments, it's beneficial to gradually move as many departments as possible onto a single case management software).

DEGREE PLANNING TECHNOLOGY EVALUATION RESOURCE

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Degree planning tools enable students and their advisors to plan for and track student progress toward fulfilling graduation and transfer requirements. While degree audit software—an administrative technology that stores program requirements and performs student 'graduation checks'—is used by nearly all institutions, degree planning tools are a relatively new addition to the field.

Guided Pathways[36] reform efforts drove the development of myriad degree planning technologies, such as tools with the ability to help students understand how college programs of study map to employment opportunities and further education. All degree planning tools enable the college to build semester-by-semester recommended course maps for students, monitor student progression on that course map, and notify staff when students veer off the course map. Increasingly, degree planning tools also help educate students about post-graduate outcomes associated with a program of study, and enable students to more easily register for a desired class schedule.

Even at colleges that have developed recommended course maps, degree planning tools require a significant undertaking to successfully implement. Compared to other student success technologies, the change management, integration, and data vetting needs are extensive. Colleges that have implemented degree planning tools often cite the implementation as a catalyst for reviewing their course offerings and student advising structures.

While no guide can determine if, when, and what type of degree planning software is right for your college, this resource will provide an overview of **institutional readiness considerations** and **vendor selection considerations** for colleges that are evaluating degree planning software. If you are looking for additional guidance, please reach out to Sarah Zauner at sarah@theadacenter.org and Mei-Yen Ireland at mireland@achievingthedream.org.

Institutional Readiness Considerations

- College Practices and Structures
- Existing Data
- Human Resource Needs

Vendor Selection Considerations

- Desired Functionality
- Pricing
- Integration

Institutional Readiness Considerations

College Practices and Structures

Implementing a degree planning software requires the college to create and regularly maintain recommended course sequences for each program of study. The college will also need to develop policies that account for a variety of 'what if' scenarios with those course sequences, such as student scheduling conflicts, lack of course availability, and differing student goals.

- Has your college created recommended course sequences or maps for each program of study?

- Is there a structure in place to regularly review and update these course sequences?

- Is there a good awareness of the post-graduate outcomes—including employment, transfer patterns, and transfer requirements—associated with each program of study?

- Do advisors have the necessary information to tailor course maps to meet student needs?

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36 A framework for a more cohesive student experience that includes (1) clarifying the path to student end goals; (2) helping student choose and enter a pathway; (3) helping students stay on the path; and (4) ensuring that students are learning

- Is the college moving toward a student-centered scheduling approach, adjusting course availability based on projected student need and demand?

Existing Data

Degree planning software requires access to college degree rules, typically stored in a degree audit, and access to the college course schedule and catalogue, typically stored in the student information system. For more extensive capabilities, degree planning tools require access to current transfer requirements and the linking of labor market data to programs of study. Ensuring that the above data sources are accessible and accurate is a prerequisite to a successful implementation.

- Has your college recently conducted an audit of your degree audit, removing duplicative entries, clearly coding courses, and ensuring the overall accuracy of content?

- Is the data within your degree audit and transfer requirement database accessible to your preferred vendor? (Note: Always inquire about data acquisition options with your preferred vendor. Occasionally you will need to allocate a portion of your IT/data systems staff capacity to help a vendor translate information).

Human Resource Needs

Implementing and maintaining a degree planning tool requires extensive coordination within and across departments. Colleges that historically have had more decentralized decision-making processes find they must migrate toward more centralized processes upon adoption of a degree planning tool. Advising, academic department chairs, career services, the registrar (and college scheduler), IT, and institutional research will all find significant changes to their workflow.

- Is the college prepared to long-term commit faculty and advisor capacity to regularly updating course sequences and ensuring the post-graduate information associated with a program of study is accurate?

- Does the college have the infrastructure to monitor student progression along course sequences, intervening with students who need extra support?

- Is the college prepared for the initial data vetting and not insignificant IT lift required to implement a degree planning tool?

- Does college leadership have the capacity to help guide the necessary process and structural changes associated with adopting a degree planning tool?

Vendor Selection Considerations

Desired Functionality

Given the relative new-ness and complexity of degree planning tools, as of 2017 there are only half a dozen degree planning software offerings on the market. Most of these tools offer a similar set of capabilities: colleges can pre-populate recommended course sequences for students, students can learn about the post-graduation outcomes associated with a program of study and customize a course sequence, and staff can monitor student progression on that sequence. Despite these superficial similarities in vendor capabilities, there are substantive differences in user interface, workflow, data sourcing, implementation processes, and integration strategies across vendors. In addition, some vendors offer more intensive career planning resources for students, wrap-around student services nudges in addition to academic guidance, and the ability for students to create a schedule and register directly within the tool. It's recommended that colleges view product demos for at least three degree planning tools before moving forward with a preferred vendor.

- Do we have a prioritized list of 'must-have' and 'nice-to-have' feature requirements?

- Does the current iteration of the software tool meet all of our must-have feature needs? (note: most vendors show demos with planned capabilities as well as current capabilities)

- How closely does the software workflow map to our ideal processes?

- Are frontline staff generally excited by the new resource? Do they find the user experience intuitive? (note: some colleges have found it helpful to include a student voice in decisions about student degree planning tools)

Pricing

Degree planning software pricing typically includes both a one-time implementation fee and a recurring annual fee. Pricing is determined based on breadth and depth of software functionality, college size, and maturity of the product. You can expect vendor pricing to range from $60,000 to $120,000 annually, however, degree planning tools are often part of a much broader software bundle such as a module within a comprehensive student information system or case management system.

- Have we received demos and quotes from at least three software vendors?

- Do we want to partner with a new vendor as an alpha or beta partner (for a discounted price), or do we want to partner with a more established vendor with a proven track record?

- Can we estimate the anticipated 'return-on-investment' for the tool in terms of student success?

- Have we calculated the comprehensive cost of the tool (beyond the vendor quote), including the cost of staff bandwidth to implement the tool, possible transcribing fees, or supplemental integration costs?

Integration

More so than for other software offerings, degree planning tools require extensive integration with other data systems, most importantly your student information system and degree audit. For these systems to function smoothly, there will need to be two-way communication with your degree planning tool and your student information system. This is called bi-directional integration. Further, some degree planning capabilities require that information exchange or transfer occur in real-time. For example, if students register for a course within a degree planning tool, that information needs to immediately be reflected in your registration system of record to ensure the course doesn't become overbooked. Other information can be transmitted at night, or in less regular intervals. Before finalizing a vendor contract, ensure you clearly understand the vendor's integration plan with your data systems, and what will be required of you and the vendor to ensure that integration can happen. It is important that this information is articulated in layman's terms as well as technical terms.

- Do we have a data specifications chart that details:

  a) The data systems the degree planning tools will need to access?

  b) The direction/s of the data flow?

  c) How frequently these data systems will need to be accessed?

- Have we made customizations to our source data systems that could lead to data access and interpretation challenges?

- Does our CIO feel confident that the integration plan outlined with the vendor is feasible?

- Does the vendor have a proven integration track record? Have we discussed contingencies with the vendor should we run into integration challenges?

- If we are purchasing a tool with overlapping capabilities with software we already own, which system will be the system of record for those capabilities? When will this transition occur?

PREDICTIVE ANALYTICS TECHNOLOGY EVALUATION RESOURCE

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Across the last several years, predictive analytics has become one of the buzziest term in higher education. Many software products labeled as 'predictive analytics' are in fact a combination of three types of big data analytics:

1. **Descriptive analytics** summarizing what has happened at the college;

2. **Predictive analytics** suggesting what could happen in the future based on previous trends and patterns; and

3. **Prescriptive analytics** suggesting what a college should do in a specific scenario.

These three types of big data analytics are each valuable for informed decision-making across the college.

For the purposes of this guide, we'll specifically examine predictive analytics as it relates to Integrated Student Support Redesign. That is, we won't be covering predictive learner analytics that are the underpinning of many online learning technologies nor will we be examining predictive enrollment analytics used to target prospective students. Instead, we'll be focused on predictive analytics models that offer insight on how to tailor student supports and interventions.

Predictive success analytics can suggest which students are most likely to drop out or struggle, which interventions will be most impactful for different types of students, and which academic pathways will optimize a student's chance of graduation. Today's predictive analytics vendors deploy different methodologies for arriving at these suggestions, and it's important for your college to carefully probe on these methodologies.

Vendors who sell predictive analytics typically offer other software capabilities. Most commonly, predictive analytics vendors offer case management tools that embed their predictive model in an early alert framework. Before purchasing an analytics tool, your college should evaluate which of the three types of big data analytics would be most impactful to your college, and which types of analytics you'd like to keep in-house.

For more information on the use of predictive analytics, read Chapter 6 of Achieving the Dream's Data Discovery Guide at www.achievingthedream.org/data-discovery.

While no guide can determine if, when, and what type of predictive analytics tool is right for your college, this resource will provide an overview of **institutional readiness considerations** and **vendor selection considerations** for colleges that are evaluating a predictive analytics software. If you are looking for additional guidance, please reach out to please reach out to Sarah Zauner at sarah@theadacenter.org and Mei-Yen Ireland at mireland@achievingthedream.org.

Institutional Readiness Considerations

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Vendor Selection Considerations

- Desired Functionality
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Institutional Readiness Considerations
College Practices and Structures

Predictive analytics tools are most useful to colleges that have a clear list of questions they're hoping to help answer with a predictive model and how they plan to apply the insight. Most colleges that successfully deploy a predictive analytics tool marry insight from the model with other methods of understanding the student experience. For example, student focus groups, secret-shopping activities, and in-depth interviews with frontline staff and faculty.

- How will we compliment insight supplied by a predictive model with other sources of information on the student experience such as secret-shopping, focus groups, and process mapping activities?

* • Do we have a structure in place to ensure that information supplied by a predictive model is used to lessen rather than deepen inequities in the student experience?

• How will information supplied by a predictive model (and other sources) inform our case management framework?

• How will information supplied by a predictive model (and other sources) inform how we resource student success interventions?

Existing Data

Predictive analytics models offer a unique methodology for understanding the student experience. Data access needs vary based on the model, with some tools requiring access to upwards of ten unique data systems and others requiring access only to data in your student information and case management systems. Many vendors offer to 'clean' the data in your source systems as part of implementing a predictive model. It's worth noting that while the vendor may help organize your data and highlight errors, missing data fields ultimately need to be completed by college staff who know the information. Data coding unique to the college will also need to be decoded for the vendor.

• Has your college identified the source data believed to be most important for understanding student success patterns and trends?

• Has your college cleaned the source data in those systems (e.g., removing outdated data fields, completing missing information)?

Human Resource Needs

More so than for other tools, predictive analytics software requires significant engagement with institutional research (IR) and the staff that maintain your major data systems. To understand the time commitment required from these individuals, it's helpful to take stock of the data quality within the data systems the predictive model must access. Data systems with lots of customization, outdated data, and missing fields will require college staff to dedicate significant time to cleaning and explaining the data. Further, to leverage the data from the predictive model, the college leadership team will need to commit to reviewing and acting upon data from the model (and other sources of student experience data).

• Is the college prepared for the initial data vetting required to implement a predictive analytics model?

• Does college leadership have the capacity to review insight from the predictive model (and other sources) and determine how it should be used to improve the student experience?

• Does the college have the IR capacity to help train and provide ongoing support to staff, faculty, and administrators on how to use the data?

• Does IT have capacity to partner with the vendor and create an integration plan for the predictive analytics tool?

• Is the college prepared to commit staff to other methods of capturing the student experience to compliment the information supplied by a predictive model?

Vendor Selection Considerations

Desired Functionality

When evaluating predictive analytics capabilities, it's important to evaluate both the methodology of the model and how the model can be applied. Many predictive analytics vendors offer tools for applying the insight from their predictive model. Increasingly predictive analytics tools are sold alongside case management and early alert systems that embed the predictive analytics model, with the option to add-on degree planning capabilities as well. If a vendor sells software capabilities beyond their predictive analytics tool (e.g., case management), it is unlikely that they will support strong integration with other vendors who offer those same software capabilities (e.g., other case management vendors). As a result, selecting a predictive analytics vendor should not occur in isolation. Choosing a predictive analytics vendor has ramifications for current and future software capabilities.

• Do any of the vendors we currently work with offer a predictive tool that would negate the need for integration with our other tools? If not, does our SIS or LMS vendor have a partner agreement with any vendors offering a predictive analytics tool?

• Have we evaluated the vendor methodology, considering how it aligns with our internal hypotheses about the student experience, equity values, and student success vision?

- Do we understand and agree with how the vendor defines a successful student outcome for the purposes of its model? (Note: This is a very important question for community colleges to understand, as many predictive models were originally built for four-year institutions.)

- Does the current iteration of the software tool meet all of our must-have feature needs? (Note: Most vendors show demos with planned capabilities as well as current capabilities.)

- Are institutional research staff generally excited by the new resource?

- Are we comfortable with the vendor strategy for how we can apply the predictive analytics model, such as through case management or degree planning systems?

- Have we thoroughly examined the vendor's data security and ownership policies? Do non-technical staff at the college have a full understanding of what these policies mean, practically?

Pricing

Predictive analytics software pricing typically includes a significant one-time implementation fee and a recurring annual fee. You can expect vendor pricing to range from $30,000 to $100,000 annually, with a one-time implementation fee sometimes approaching $75,000. The least expensive analytics software offerings are typically not specific to higher education and requires a greater implementation effort from the college. More expensive predictive analytics offerings are specific to higher education and are often one piece of a greater set of technologies capabilities.

- Have we received demos and quotes from at least three software vendors?

- Have we examined the pricing difference of a standalone predictive analytics technology vs. a more comprehensive set of capabilities?

- Do we want to partner with a new vendor as an alpha or beta partner (for a discounted price), or do we want to partner with a more established vendor with a proven track record?

- Can we estimate the anticipated 'return-on-investment' for the tool in terms of student success?

- Have we calculated the comprehensive cost of the tool (beyond the vendor quote), including the cost of staff bandwidth to implement the tool and supplemental integration costs?

Integration

Data system integration needs and strategies vary significantly across predictive analytics technologies. For predictive models that include a more extensive set of data inputs from the college, integration will also be extensive. For models that include only a few inputs, integration will be minimal. Some vendors have an integration strategy that relies on the college first adopting their other software tools to generate data for the predictive model. This approach limits integration requirements, but means the predictive analytics insight takes time to generate. Other predictive models limit integration requirements by bringing in data insight from a wider network of colleges. Your institution should evaluate at least three different methodologies (each with different integration strategies) before choosing a vendor.

- Do we have a data specifications chart that details:

  a) The data systems the predictive analytics model will need to access to implement the tool?

  b) The data systems the predictive model would ideally access to implement the tool?

  c) How frequently these data systems will need to be accessed and how often the model is updated?

- Have we made customizations to our source data systems that could lead to data access and interpretation challenges?

- Does our CIO feel confident that the integration plan outlined with the vendor is feasible?

- Does the vendor have a proven integration track record? Have we discussed contingencies with the vendor should we run into integration challenges?

- If we are purchasing a tool with overlapping capabilities with software we already own, which system will be the system of record for those capabilities? When will this transition occur?