In the following report, Hanover Research reviews the use of early alert systems in higher education to identify at-risk students, provide support, and improve retention and graduation rates. The report includes an examination of institutional practices, focusing on regional, comprehensive universities.
# Table of Contents

Executive Summary and Key Findings .................................................................................................................. 3  
   Introduction .................................................................................................................................................. 3  
   Key Findings ................................................................................................................................................ 3  

Section I: Importance of Early Alert Systems ............................................................................................... 5  
   Prevalence of Early Alert Systems ............................................................................................................. 5  
   Effectiveness of Early Alert Systems ......................................................................................................... 7  

Section II: Implementation of Early Alert Systems ......................................................................................... 9  
   Target Populations for Early Alert Systems ............................................................................................... 9  
   Organization of Early Alert Systems ......................................................................................................... 12  
      Staffing .................................................................................................................................................. 12  
      Indicators ............................................................................................................................................. 15  
      Timing .................................................................................................................................................. 17  
      Interventions ......................................................................................................................................... 18

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EXECUTIVE SUMMARY AND KEY FINDINGS

INTRODUCTION

Early alert programs, sometimes known by other names such as “early warning systems,” are a recognized tool for improving student retention in higher education.\(^1\) Important issues to consider when implementing an early alert system include:

- **Organization**: Early alert systems draw upon various stakeholders within the university, but institutions must decide which unit or division serves best to take “ownership” of the program.\(^2\)
- **Participation**: An early alert system requires both “referrers” and “responders.” These parties may be drawn from among the faculty or from support staff such as academic advisors or student affairs professionals.\(^3\)
- **Interventions**: Early alert systems, by definition, serve to identify at-risk students, but may vary in the subsequent interventions they provide for, which can range from a simple notification to the student to “intrusive advising” approaches.\(^4\)

This report examines these and other aspects of early alert systems, based on research literature and institutional practices, with an emphasis on regional, comprehensive universities.

KEY FINDINGS

- **Early alert systems form a necessary but not sufficient component of a successful retention strategy.** The use of early alert systems in higher education in a systematic fashion is relatively recent, but they have become widespread, if not universal, across academia. However, early alert systems in and of themselves are perceived to be only moderately effective. Institutions must ensure that support systems, such as tutoring or advising, are in place to follow through with any students identified through an early alert program.

- **Early alert systems may be most effective when targeting specific student populations, such as athletes or at-risk students.** Although many institutions allow any student to be flagged in the early alert system, the populations most likely to be targeted for early alert monitoring include first-year students, student-athletes, and students with demonstrated academic difficulties. Some evidence suggests that

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early alert interventions may be more effective within designated programs or small sub-populations, as these provide students with a way to connect to the institution.

- **Early alert systems are commonly managed by the academic support unit, the office of the registrar, or both.** While the registrar’s office may be able to manage the information systems required for an early alert program, academic support units are well-positioned to provide or refer students to services such as tutoring or mentoring once they have been flagged with an early alert.

- **An early alert system should draw upon the broadest pool of referrers possible.** Faculty are almost always involved in early alert systems, but on some campuses, the program invites referrals from the broader campus community, including academic support staff, residence life staff, or other concerned parties, and, where possible, this practice is generally recommended. However, in practice, larger institutions (>10,000 students) are more likely rely on faculty alone to make referrals.

- **Research suggests that classroom absences are one of the most important indicators for early alert systems to track.** Early alert systems commonly track academic indicators, such as grades or classroom behavior. Of these, the most commonly used indicator is attendance, which research suggests is correlated with grade performance. Undue absences can thus provide a true early warning before students begin to accrue bad marks on assignments and exams. Some institutions also allow referrals for personal or social issues, although this appears less common at larger institutions (>10,000 students).

- **Early alert systems must include an effective intervention strategy to achieve results.** Although early alert systems are becoming increasingly sophisticated technologically, they will have little effect on retention or graduation rates if they do not lead students to obtain assistance. At some institutions, fewer than 50 percent of students flagged through such systems actually respond to an alert. It is relatively uncommon for institutions to require students to take action after receiving an alert, but an “intrusive” posture of this sort may be necessary to facilitate full effectiveness.
SECTION I: IMPORTANCE OF EARLY ALERT SYSTEMS

PREVALENCE OF EARLY ALERT SYSTEMS

Early alert systems have been defined as “formal communication systems institutions put into place to help with the timely identification and intervention of students who display attrition risk factors.” In essence, an early alert system can include any arrangement that provides feedback on a student’s situation – academic, social, or otherwise – that allows faculty and staff to intervene before more serious consequences occur, such as course failure or withdrawal from the institution. In this sense, early alert systems have been around “for years . . . in the form of grades and midterm reports.”

In a more organized form, early alert systems have been present in higher education for at least a decade. In this sense, an early alert system entails a “systematic program” that comprises at least “two key components”:

- **Alerts:** This entails a “formal, proactive feedback system” that sends “red flags” or similar alerts about troubling student behavior to “student-support agents” who can take action to intervene.
- **Intervention:** The next step in an early alert system, intervention can include any “strategic method of outreach” to address the problems identified through the alert system, including “intrusive and individualized interventions to students in need.”

In whatever form, early alert systems have become fairly common among four-year institutions. A 2009 survey of higher education administrators, for instance, found that “an effective early alert system is among the very highest priorities of those charged with improving student retention at virtually all types of colleges,” and the most recent data available indicate that over 90 percent of both public and private four-year institutions use an early alert system.

Similarly, a 2012 report from the John N. Gardner Institute for Excellence in Higher Education found consistently high use of early alert systems, in one form or another, among

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9 Ibid., p. 4.
the nation’s four-year colleges and universities. Among over 400 institutions surveyed, 93.3 percent reported using an early alert system; among mid-sized institutions (enrollment of 10,000 to 20,000), 88.2 percent reported using such a system.\(^{11}\)

The Gardner Institute survey also found that private four-year institutions were somewhat more likely to report using an early alert system, as shown below. This led the Institute to suggest that institutional control “directly correlate[s]” with an institution’s likelihood of using an early alert system.\(^{12}\) However, a more recent survey by Noel-Levitz found that public institutions were slightly more likely to report using an early alert system, also shown below.\(^{13}\) Overall, there appear to be no substantial differences between public and private institutions in the use of early alert systems, which are almost universal at four-year institutions of both kinds.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure1.1}
\caption{Use of Early Alert Systems, by Institutional Control}
\end{figure}

\textbf{Figure 1.1: Use of Early Alert Systems, by Institutional Control}

Source: John N. Gardner Institute for Excellence in Higher Education; Noel-Levitz

\begin{flushleft}
\begin{itemize}
\item \textbf{2012 (Gardner Institute)}
  \begin{itemize}
  \item Private: 97.6%
  \item Public: 86.3%
  \end{itemize}
\item \textbf{2013 (Noel-Levitz)}
  \begin{itemize}
  \item Private: 90.5%
  \item Public: 92.3%
  \end{itemize}
\end{itemize}
\end{flushleft}


\(^{12}\) Ibid., pp. 25-26.

EFFECTIVENESS OF EARLY ALERT SYSTEMS

Overwhelmingly, most institutions use early alert systems in order to improve retention and graduation rates. In the Gardner Institute survey, the most commonly cited goal for an early alert system was “improving retention/graduation rates,” at 89 percent of respondents. Other commonly cited goals serve similar ends, such as keeping students out of academic difficulty or increasing the number who are using academic support services.14

Evidence for the effectiveness of these systems in improving retention or graduation rates, however, is somewhat mixed. The research literature has produced “very little empirical evidence to validate the use of these programs,” and what evidence it has produced is “inconsistent and inconclusive.”15 However, this may owe to the relatively recent emergence of early alert systems in organized form and the corresponding lack of a research base.16

Figure 1.2: Perceived Effectiveness of Early Alert Programs, by Institutional Control

Surveys of institutional practitioners present an equally mixed picture. Among respondents to the Gardner Institute survey, only 40 percent reported that “improved retention/graduation rates” actually resulted from the use of an early warning system.17 Similarly, most respondents to the latest Noel-Levitz survey of retention practices perceive

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16 Ibid., pp. 4, 49.
early alert programs to be “somewhat effective”; at public four-year institutions, nearly a third believe them to be “minimally effective” (Figure 1.2).18

These responses align with those of a 2010 ACT survey, in which some institutions rated early alert systems as only a moderately effective retention tool. Among public four-year institutions, only 10 percent of respondents ranked an early alert system among the top three practices “that made the greatest contribution to retention on their campus,” placing these systems behind eight other more highly rated practices, such as freshman seminars, supplemental instruction, and tutoring. On the other hand, the early alert system was ahead of around 80 other specified practices, which were placed in the top three practices by few or no responding institutions. These included peer mentoring, summer bridge programs, and increasing the number of academic advisors.19

Collectively, these data suggest that early alert systems have an important role to play in retention and graduation strategies, but are not necessarily a panacea for these problems. The following section examines how early alert systems work and how they integrate with other campus systems to provide students with the support that can improve academic outcomes.

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SECTION II: IMPLEMENTATION OF EARLY ALERT SYSTEMS

In implementing an early alert system, a number of basic issues must be addressed. These include:20

- **Target Population**: Which students will be covered by the system?
- **Staffing**: Who will manage the system, and who will be able to send early alerts?
- **Indicators**: What measures or indicators will be used to trigger an early alert?
- **Timing**: When will alerts and interventions take place?
- **Intervention**: What steps will be taken to address the early alert?

This section examines some of the issues related to each factor in more detail.

TARGET POPULATIONS FOR EARLY ALERT SYSTEMS

Many institutions use early alert systems selectively, rather than for the entire student population. In particular, freshmen have “historically” been “the most targeted population” in early alert programs,21 a pattern that appears to be holding steady, as shown in the chart below, which is based on responses to the Gardner Institute survey by mid-sized institutions. As can be seen, almost all of the responding institutions monitor “some” or “all” of the freshman class with an early alert system, but the proportion declines progressively for each subsequent class year.22

Some evidence suggests that early alert programs may be more effective when “designed for specific student populations,” possibly because students within a specific program or sub-population feel more connected to the smaller group, which in turn makes them more likely to respond to outreach and intervention.23

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The Gardner Institute survey found that, among institutions that use early alert systems for some, rather than all, students, the most commonly targeted student populations include student-athletes and those with demonstrated academic difficulties. Other populations, such as international students or those participating in educational opportunity programs such as TRIO, are somewhat less likely to be covered by early alert programs. The charts below show the frequency with which responding institutions track different student populations in each class year.24

Figure 2.1: Use of Early Alert Systems, by Class Year*

Figure 2.2: Types of Student Monitored in the Freshman Year*

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Student-athletes are targeted by early alert programs at around two-thirds of institutions, across all class years, making this one of the most commonly targeted student populations. However, even larger majorities of institutions track students on academic probation, again across all class years. In the freshman year, when students have yet to establish a record warranting academic probation, institutions are likely to target populations based on academic risk indicators such as enrollment in remedial or developmental courses, provisional or conditional admission to the institution, or enrollment in “gateway” courses which prepare students to move on to higher-level work. Overall, these student populations are targeted with consistent frequency across class years, suggesting that, so long as institutions maintain early alert coverage for upperclassmen, they are likely to focus on the same types of students.

**Figure 2.3: Types of Student Monitored, by Class Year**

Source: John N. Gardner Institute for Excellence in Higher Education

*Respondents could choose more than one response for each year.

Some institutions use more sophisticated metrics to identify students who should be targeted for early alert monitoring. Indiana University, for instance, examines “academic risk” through both pre-enrollment and post-enrollment factors, including:

- **Pre-enrollment factors**: These include SAT/ACT scores, high school grades, quality of high school courses, SAT/ACT survey data.
- **Post-enrollment factors**: These include faculty course-specific attendance and performance data, annual student survey data.

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The University data-mines these risk factors to see which are correlated with students’ failure to graduate within six years and to “identify attributes that could be used to select current students for target intervention programs.”

One review of best practices suggests that institutional data such as these can be used to identify student populations in particular need of early alert monitoring by asking questions such as those shown below.

- Is there a specific population graduating or succeeding at a lower rate?
- Are there specific demographic populations that follow the national trend for graduation rates?
- Is there a highly competitive department unable to serve all its applicants?
- What courses are most students taking? What courses have the highest registration and DWF (drop, fail, withdraw) rates?

**Organization of Early Alert Systems**

In its “most common” form, an early alert system consists of a series of simple steps, such as those outlined below. This basic model can be configured in slightly different ways, depending on the staff involved, the indicators used to trigger an alert, the types of interventions pursued, or various other factors, which are considered here in turn.

![Figure 2.4: Basic Process for Early Alert Systems](image-url)

**Staffing**

Findings from the Gardner Institute survey, shown below, indicate that academic advisors and faculty are the most likely to be involved with an early alert system, although it is not

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26 Ibid.
28 Ibid., p. 2.
uncommon for institutions to involve staff from outside the academic sphere, such as counselors or residence hall staff.

![Figure 2.5: Staff Involved in the Early Alert System*](image)

Source: John N. Gardner Institute for Excellence in Higher Education
* Respondents could choose more than one response.

Organizational oversight of the early alert system typically falls to academic affairs or student affairs. Simons’s recent study found that, among a sample of 500 four-year institutions with early alert systems, one or the other of these units was responsible for the system at over 95 percent of responding institutions. Hanover’s review of institutional practices corroborates this finding and suggests that, more specifically, academic support units often manage the early alert system, as at the University of North Florida or William Paterson University.

At a number of institutions, however, the office of the registrar is responsible for the system, as at the University of Montana or Western Illinois University. At Youngstown State University, both the Office of the Registrar and the Center for Student Progress, the University’s academic support unit, participate in administering the program; according to an administrator familiar with the system, the Registrar’s participation was vital to ensuring that the early alert system would be “viewed as a University initiative . . . so faculty

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30 Ibid., p. 43.
31 Ibid., pp. 50-51.
32 “Academic Center for Excellence – Faculty Resources.” University of North Florida. http://www.unf.edu/ace/
34 “Early Alert Program.” University of Montana. http://www.umt.edu/registrar/FacultyStaff/earlyalertgrading.php
wouldn’t think that this was just a Center for Student Progress Initiative.” The registrar was also perceived to be a “natural fit” because the unit holds the student information used in the system.\textsuperscript{36}

Although most institutions designate a centralized unit or individual to oversee the early alert system,\textsuperscript{37} they must also “rely heavily on campus referrals to help identify which students are at-risk for attrition.”\textsuperscript{38} However, campuses vary in whom they allow to make referrals. In Simons’s survey of 500 early alert programs, “smaller schools were more likely to accept referrals from the campus community-at-large than larger schools, which typically restricted referrals to faculty members,” as shown in the chart below.\textsuperscript{39}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure26.png}
\caption{Early Alert Referral Origination, by Institutional Size}
\end{figure}

However, one best practices review suggests that “populations both in and out of the classroom should be easily able to identify students of concern.” In other words, institutions should enlist a broad range of individuals who can raise concerns about students, which might include “resident assistants, academic support staff, parents . . . and even students


\textsuperscript{38} Ibid., p. 60.

\textsuperscript{39} Ibid., pp. 60-61.
themselves.” To accomplish this, “it is important to offer proactive, user-friendly, and straightforward methods of referral” for these populations.40

**INDICATORS**

As noted earlier, early alert systems can be understood to include longstanding practices such as the reporting of midterm grades. However, some scholars have suggested that midterm grades do not provide “an effective early alert,” not least because they are often “not purposed to be reviewed and systematically acted upon by anyone other than the student,” who may lack the awareness to seek assistance on his or her own.41 And though most institutions use grades as part of their early alert systems, the most frequently used indicator for early alerts among institutions responding to the Gardner Institute survey was “frequent absences,” as shown below.42

![Figure 2.7: Indicators Used in Early Alert Systems*](image)

Source: John N. Gardner Institute for Excellence in Higher Education

* Respondents could choose more than one response.

In fact, this represents a sensible practice, as multiple studies of student success factors have found “significant . . . correlation between students’ classroom attendance and their grade performance.” Absences represent one of the “tangible examples of behaviors” that

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can point to underlying factors that contribute to student success, including “academic preparation and goal development, academic skills, and acculturation to the institution.”

Some institutions also solicit early alerts for “social/emotional” indicators that go beyond academic performance. The University of Rhode Island, for instance, solicits referrals for “social” problems as well as academic indicators such as grades or attendance. The former can include:

- Social interaction problems
- Drug use
- Alcohol use
- Personal/family difficulties
- Little/no involvement on campus
- Homesickness
- Roommate conflicts/concerns
- General unhappiness
- Unbalanced social/academic life
- Medical/mental health concern

However, this type of comprehensive attention to social/emotional indicators is relatively rare among the institutions reviewed for this report, most of which rely on grades, attendance, or, in some cases, classroom behavior to trigger an early alert. This may owe to the size of the institutions reviewed, most of which are mid-sized universities with between 10,000 and 20,000 students; as Simons found in her survey, “the larger the institution, the more likely the institution was to focus on academic matters and less likely to employ a mixed model,” i.e., one incorporating social/emotional indicators. This trend can be seen in Figure 2.8, on the following page.

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**Figure 2.8: Type of Early Alert Indicators Used, by Institutional Size**

![Bar chart showing type of early alert indicators used, by institutional size.](image)

Source: Simons, “A National Study of Student Early Alert Models.”

**Timing**

As noted above, midterm grades have often been used as a form of early alert monitoring, and a number of institutions reviewed for this report structure their early alert systems around the midterm period, such as the University of Minnesota Duluth or the University of South Dakota.46,47 However, some researchers suggest that “early intervention” should happen within the first six weeks of the term, particularly for first-year students.48 In practice, most institutions appear to accommodate this practice by allowing for early alerts to occur at any time during the semester, as shown by the charts below, which reproduce results from two different surveys of four-year institutions.49, 50

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46 “Mid-Term Alerts.” University of Minnesota Duluth. http://www.d.umn.edu/faculty/midterm_alert/
INTERVENTIONS

As noted above, early alert systems comprise both alert mechanisms and a systematic approach to following up with assistance for individual students. In fact, although the concept of early alert may be most closely associated with alert mechanisms, and particularly technological systems that provide sophisticated analytics and communications capabilities, perhaps the “most pressing” issue in the implementation of early alert systems is “their use on the front end, by advisers, faculty and students” [emphasis original]. As one commentator suggests, “sending up a red light [in an early alert system] isn’t likely to influence retention. But if that red light leads to advisers or tutors reaching out to students and providing targeted support, we might see bigger impacts on student outcomes.”

These interventions may take the form of “post-cards, phone calls, and/or emails from the early alert representative to the students referred” or may involve more substantive, face-to-face meetings with academic advisors, peer mentors, or other support staff.

Responses to the Gardner Institute survey, shown below, suggest that institutions are more likely to use remote communication (e.g., phone, email) to intervene with students than they are to use face-to-face meetings; however, a small majority of respondents did report using face-to-face meetings in these situations.

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Similarly, most institutions provide students with information about support services they can use; although fewer institutions reported requiring students to take action, this number still represented a significant minority of respondents, at 39 percent.\(^{54}\)

This may be one way to address a key challenge for early alert systems, which is the often low rate of student response. Students who are flagged in an early alert system may have already left campus, may have “mentally disconnected from the college,” or may be discouraged by what they perceive as negative feedback; thus, at one institution that collected response rate data, fewer than 50 percent of notified students “were successfully contacted and responded.”\(^{55}\) Similarly, Central Connecticut State University’s early alert system garnered a student response rate of around 46 percent in 2012-2013. Most of these responses came via phone or email, with student meetings occurring in only around 14 percent of cases.\(^{56}\)

When institutions do go beyond simply “alerting,” or contacting, the student, the most common form of intervention is to engage in some form of one-on-one support; Simons’s survey found that mentoring, advising, and tutoring, respectively, were the most common models of intervention among four-year institutions,\(^{57}\) as shown below.

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\(^{54}\) Ibid.


\(^{56}\) Percentages are based on students contacted by the University’s Learning Center. See “Early Academic Alert Report 2012-2013.” Central Connecticut State University. http://web.ccsu.edu/tlc/about/files/Early_Academic_Alar报_for_Fall_2012_and_Spring_2013.pdf

Figure 2.11: Types of Early Alert Intervention Used*

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assign mentoring</td>
<td>40%</td>
</tr>
<tr>
<td>Academic advising</td>
<td>35%</td>
</tr>
<tr>
<td>Tutoring</td>
<td>31%</td>
</tr>
<tr>
<td>Referral to campus service</td>
<td>18%</td>
</tr>
<tr>
<td>Counseling</td>
<td>14%</td>
</tr>
</tbody>
</table>

Source: Simons, “A National Study of Student Early Alert Models.”
* Respondents could choose more than one response.
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