

The Swedish Higher Education Authority's Pandemic Assignment

Interim Report 2



The Swedish Higher Education Authority's Pandemic Assignment

Interim Report 2

Report 2021:36

Published by the Swedish Higher Education Authority 2021

Author: Johan Gribbe

Translation: Accent språkservice

Registration number: 51-00435-20

Swedish Higher Education Authority • Hammarbybacken 31 • Box 6024, 121 06 Johanneshov, Sweden

Tel. 08-563 085 00 • Email registrator@uka.se • www.uka.se

Contents

Summary	4
Introduction	9
Our approach	10
The interim report.....	11
The inflow of students to higher education	12
Continued large inflow of students to higher education.....	12
Increased social imbalance in recruitment	13
More appeals to admission decisions	14
The return of students to campus.....	15
HEIs differ in their return to campus.....	15
Activity on campuses rebounding – but far from pre-pandemic levels	15
Higher Education during the coronavirus pandemic	17
Same amount of teacher-led instruction – but teaching takes other forms.....	17
Clinical training within medical care has largely been provided.....	18
Questionnaire surveys of bachelor and master’s students and of doctoral students.....	20
The Student Mirror	20
Postgraduate Student Mirror	21
Mobility and internationalisation	23
Incoming students back at pre-pandemic levels.....	23
Interviews supplement the picture of student mobility during the pandemic.....	23
The outflow of students from higher education	25
Continued increase in number of graduates.....	25
Consequences for higher education research	26
Infrastructures have been able to continue their work during the pandemic.....	26
Data collection is a problem within research	27
Small impact on international recruitment	28
Annex – ongoing and planned studies	29

Summary

The coronavirus pandemic has had a major impact on Swedish higher education institutions (HEIs) over a long period. In early summer 2021, the Government presented a plan for adjusting and ending the restrictions that were introduced at the beginning of the pandemic. The Public Health Agency of Sweden rescinded recommendations for distance education at HEIs. This allowed higher education institutions to gradually return to their regular operations during the autumn semester 2021 now that they were no longer as restricted by the pandemic.

The return is occurring gradually at most HEIs and with a mixture of campus-based teaching and remote teaching. At the same time, there are differences in the pace of return and how it is planned. While some HEIs are resuming primarily campus-based teaching quickly, others have chosen to continue with remote teaching as their primary format for a longer period. To gain an understanding of the transition to remote teaching and remote working at HEIs, UKÄ has used mobile phone data to track activity at seven campuses during the period up until November 2021. The results show that activity during the most recent autumn was somewhat higher than autumn 2020 but the difference was not significant. It remains to be seen if campuses will open more for students and staff during the second half of the autumn semester, which many HEIs have announced. It is still far from the levels of activity on campuses that were normal prior to the pandemic.

An early consequence of the coronavirus pandemic was that many young people became partly or fully unemployed and that the outlook on the labour market was generally much worse for young people. Because of this, the Government began an extensive expansion of higher education in spring 2020. An increased interest in higher education together with the Government's expansion efforts resulted in record numbers of students applying for higher education in autumn 2020.

Interest for higher education remains high. The number of applicants to higher education continued to increase in the autumn semester 2021 and is now higher than at any other time in the last ten years. The HEIs, however, reduced the number of applicants they accepted somewhat. This means that competition has increased for study openings within higher education.

Preliminary data for autumn semester 2021 show that the total number of students in Swedish higher education remains at a record level. The number of new entrants on programmes leading to a professional qualification increased significantly in autumn semester 2020, but this upward trend has now levelled out. At the same time, the number of new entrants

on programmes in the autumn semester 2021 is significantly higher than before the pandemic. During the coronavirus pandemic, the percentage of women among students on programmes leading to a professional qualification has increased.

The social imbalance in recruitment to higher education increased during the first phase of the pandemic as more students from already overrepresented social groups have applied to study. This is seen both in the transition to higher education among 19-year-olds in autumn 2020 and in the social composition of the group young new entrants. The difficult situation for young people on the labour market has not led, however, to new groups applying to higher education.

The influx of students to higher education has resulted in more appeals to admission decisions. Between 2018 and 2020, the number of submitted appeals to the Higher Education Appeals Board doubled, and this trend continued in 2021. Behind the increase are more appealed admission decisions, which are likely both a consequence of the coronavirus pandemic and changes that make it easier for students to appeal to the Board.

The number of graduates has also increased during the pandemic. Four per cent more students graduated in 2020/2021 than the previous academic year. The increase, however, was less than during the pandemic's initial year. There is no clear explanation for why the number of graduates has increased. For example, there was no equivalent change in the number of new entrants a few years earlier. On the other hand, the changes in the labour market during the pandemic have led to an increased interest in applying for the award of a qualification.

UKÄ has conducted several surveys of how teaching and research have been impacted by the pandemic and how the situation with remote teaching and remote work has impacted teachers and students. One survey of ten undergraduate courses shows that teacher-led time has not changed significantly during the pandemic, but instruction has been given in other forms. A significant challenge has been finding forms of examination for courses that previously provided traditional written examinations. Course content has largely been the same as prior to the pandemic, even when teaching has been provided remotely. The survey also shows that even though teachers generally feel that digital instruction has worked relatively well, interaction between the students and teachers has changed. This has impacted student learning.

Clinical training plays an important role in professional health care programmes, but the medical system's taxing load during the coronavirus pandemic has impacted opportunities for students to obtain the skills training they need. A survey of the medical programme and nursing programme shows that most clinical training could be conducted during the

pandemic. But some of the skills training modules were cancelled, provided digitally or replaced with theory training. There are signs that the pandemic contributed to advances in educational development. More concrete teaching has been introduced into clinical training. The survey shows that both teachers and students would like some of the changes to be made permanent.

An early and clear consequence of the coronavirus pandemic was a significant decrease in international student mobility. Exchange students were impacted the most, with significantly fewer in academic year 2020/21 compared with prior to the pandemic. Preliminary data for autumn semester 2021 shows that the mobility of incoming students has largely rebounded and is back to the same level as prior to the pandemic. But there are likely still fewer exchange spots for outgoing exchange students who would like to study at universities outside of Europe, since many of the partner universities to higher education institutions have suspended their exchange agreements. The HEIs are trying to compensate this lack of available exchange options by increasing exchanges with European partners.

UKÄ conducted surveys in spring and summer 2021 to determine the experiences of bachelor, master's and doctoral students and researchers during the pandemic. The experiences of bachelor and master's students are characterised by studies that largely have been conducted through remote studies during the pandemic. More than half indicate that this applied to all of their instruction, and nine of ten state that at least half of studies have been through distance education during the pandemic. At the same time, these students state that the teachers have organised the remote teaching well and provided good information on how instruction would take place. The bachelor and master's students have also been encouraged to make suggestions on improvements to their remote teaching.

A majority felt that they received the support they needed from their teacher to complete their studies during the pandemic. But about one-third state that the lack of digital skills among the teachers has negatively impacted the quality of the teaching. There are some gender differences in how remote teaching is seen – women are generally more positive in their answers and indicate somewhat more than men that they have become more positive to remote teaching during the pandemic. Most have experienced stress and anxiety during the pandemic, and this was true of women more than men.

A study among Norwegian undergraduate and master's students during the pandemic shows similar results. In Norway, like Sweden, these students are generally positive to the instruction they have received during the pandemic. Most bachelor and master's students at Swedish HEIs rate their education highly despite the major transition to remote teaching – 77 per cent indicate that the quality of their education overall has been good or very good during the pandemic. At the same time, the number is

lower than in the Student Mirror survey conducted in 2016. At that time, 91 per cent rated their education overall as good or very good.

Doctoral student experience of the transition during the pandemic, like bachelor and master's students, was largely positive. A majority feel that it has worked well to work and conduct doctoral education through distance studies. Even if many argue that the amount of supervision has decreased during the pandemic, most are satisfied with the quality of the supervision they received. Most are also satisfied with the digital doctoral courses, seminars and defences of theses, as well as the equipment they have access to for working at home during the pandemic. Overall, the survey shows that the HEIs have generally succeeded in managing the pandemic's consequences in a way that the doctoral students are satisfied with.

But there have also been difficulties for doctoral students. International collaborations have become fewer, and intellectual exchange with other doctoral students and senior researchers has decreased. More than half indicate that they have needed to cancel or delay parts of the doctoral education. This largely applies to the inability to collect data. For this reason, work on their thesis has taken longer than planned. Some doctoral students have applied to extend their doctoral studentship because of the pandemic, and the survey shows that most of these applications have been granted.

There are substantial differences across different research fields. Doctoral students within the humanities and social sciences have consistently responded more negatively to the survey questions than the average. It is also clear that foreign doctoral students have had more negative experiences of conducting doctoral studies during the coronavirus pandemic than Swedish doctoral students. On the other hand, there are no significant differences between the responses of women and men in the survey.

Researchers have had varying experiences. While some researchers in the survey have been relatively unaffected by the pandemic, others have had significant negative impacts. Many indicate that they have had problems with data collection that could not be conducted as planned. This finding is in line with the doctoral student survey. Within the humanities and social sciences, archives and libraries were not open enough and studies could not be conducted because of infectious disease restrictions. Restrictions for patient visits have impacted the work of researchers in the medical and health sciences, while researchers in the natural sciences have had a more difficult time conducting field studies because of travel restrictions.

Research has also suffered because teaching has taken more time in connection with the transition to remote teaching. Researchers have not been able to use their research funding as planned, which has led to reduced

use of research funding. Many also feel that remote work during the pandemic has impacted research negatively. In the long term, there is a concern that the lack of physical meetings will lead to diminished productivity and quality of research.

Research infrastructures provide access to advanced technologies and equipment to Swedish researchers active in the country and, in many cases, are a prerequisite for being able to conduct internationally competitive research. The most prominent change among the studied research infrastructures is the development of new work methods and routines because of the transition to maintaining physical distance. At the same time, the infrastructures have quickly been able to adapt their operations to the changes in society. They have stable and long-term funding that is not significantly impacted by the pandemic, even if some have seen a decrease in the number of users. Several representatives have noted the capacity of the infrastructures to quickly analyse large amounts of samples and data. With a more developed national coordination and strategy, their potential to contribute to society during the pandemic could be leveraged better.

In its initial phase, the pandemic has had a limited impact on international recruitment of researchers at the start of their careers. As of October 2020, there had been no dramatic changes in the number of, the recruitment of or the retention of employees with career development positions at HEIs. At the same time, we see a levelling out in the increase in percentage of internationally recruited employees with career development positions that had been ongoing since at least 2012.

Even when looking at the percentage of internationally recruited employees with career development positions based on country of birth or citizenship, no clear impact of the coronavirus pandemic can be found. As for retention in Swedish higher education among postdoctoral appointees, the results in the short term are clear – no significant change occurred during the period 2018–2020. This means that postdoctoral appointees during the pandemic's initial phase continued in or left Swedish higher education after two years to approximately the same extent as previously.

Overall, the impression is that HEIs have managed the pandemic well considering the circumstances. Instruction has been maintained even if it has been very taxing on students and teachers. Research and doctoral programmes have also continued. Future work needs to try to place the Swedish experience in an international perspective and to begin studying – where possible – the long-term effects the pandemic on HEI activities.

Introduction

The Swedish Higher Education Authority (UKÄ) has been tasked by the Government to follow up the consequences to higher education of decisions and initiatives taken because of the novel coronavirus. The purpose is to be able to follow up the results of initiatives and gain lessons from the effects on higher education and research in the short and long term. The final report for the assignment will be submitted by 1 December 2022.

The assignment includes regular updates from UKÄ to the Ministry of Education and Research about the assignment's implementation and reports on the results of the follow-up. UKÄ has decided to divide the assignment period into four interim reports:

- 16 March 2021 (interim report)
- 1 December 2021 (interim report)
- 15 March 2022 (interim report)
- 1 December 2022 (final report).

This report is the second interim report on the government assignment. It consists of several reports, statistical analyses and memorandums produced since the previous reporting occasion in March 2021.

Follow-up of the consequences of the novel coronavirus for higher education, public service agreement 2 July 2020

“The Swedish Higher Education Authority (UKÄ) is tasked with following up the consequences to higher education resulting from decisions and initiatives taken because of the novel coronavirus. The follow-up is to include the effects of the transition to remote teaching and the initiatives taken by the Government concerning, e.g., expansion of higher education. The purpose is to be able to follow up the results of initiatives and gain lessons from the effects on higher education and research in the short and long term. The follow-up is to consider such questions as quality, the fair and equal application of the legislation, regulations and rules, and scaling. The assignment is to be conducted in dialogue with higher education institutions.

UKÄ is to regularly update the Government Office (Ministry of Education and Research) on the progress of the assignment, regularly report the results of the follow-up and submit a final report no later than 1 December 2022.”

Amendment to the assignment, public service agreement 22 July 2022

The follow-up is also to consider questions of widening participation.

To provide as complete a picture as possible, the follow-up will include statistics and analyses from UKÄ's regular operations that show, in some way, consequences from the pandemic on higher education to this point.

Our approach

UKÄ works broadly with the assignment in eight areas:

1. Basic projects
2. Study and work environment
3. Quality of education
4. Research
5. Student rights
6. Labour market
7. Finances and funding
8. Mobility and internationalisation.

In the autumn 2021, work began within mobility and internationalisation, and several new projects began looking at the labour market.

Follow-ups and analyses collected from the HEIs also provide important documentation. For some subprojects, UKÄ utilises consultancies to support the work. The assignment has its own website: *The Coronavirus and Higher Education*. The site is updated regularly with our own studies and with studies by others related to the pandemic and higher education.

Consultation is an important part of the assignment, particularly with the HEIs' management. In early September, two meetings were held with the contacts appointed by the HEIs to discuss the assignment.

UKÄ also collaborates with student organisations (SFS) and other agencies like the Swedish Council for Higher Education (UHR), the Swedish Research Council (VR), the National Board of Student Aid (CSN), the Swedish National Agency for Education, and the Swedish National Agency for Higher Vocational Education (MYH). In connection with the assignment, UKÄ also has contact with its Nordic equivalents, particularly the Nordic Institute for Studies in Innovation, Research and Education (NIFU) and the Norwegian Agency for Quality Assurance in Education (NOKUT). The project group has also informed UKÄ's two reference groups for the national quality assurance system about the work and received feedback from them.

On 27 January 2021, UKÄ held a seminar and other activities on student rights related to online examinations. This was also one of the topics at UKÄ's conference on student rights held on 21 October, where the Association of Swedish Higher Education Institutions (SUHF) presented its recommendations on remote online examinations using real-time streaming. On 28 April, UKÄ held a seminar on the first interim report and an equivalent seminar on the second interim report will be held in the beginning of December.

The interim report

In this report, we have compiled publications produced for the assignment. The publications vary in size from longer reports to shorter analyses and memorandums. The interim report consists of sections with associated publications, statistics and analyses. We present the publications by briefly summarising their results. The full publications are available for download from the assignment's website.

The inflow of students to higher education

This section presents statistics and analyses that show in various ways how the pandemic has impacted the inflow of students to higher education.

Continued large inflow of students to higher education

A clear effect of the coronavirus pandemic is that interest in higher education has increased among the population. At the beginning of the pandemic, between the autumn semesters 2019 and 2020, the number of applicants to higher education increased significantly. But applications also increased ahead of the autumn semester 2021, and the number of applicants who had not studied previously in higher education is now higher than what it has been over the last decade.

While HEIs accepted more applicants during the pandemic's initial phase, the number of accepted applicants fell somewhat in autumn semester 2021. This means that competition has increased for study openings within higher education. The growing interest in higher education is true of both women and men. In terms of interest among different age groups, during the pandemic's initial phase, 19-year-olds were the group that applied to higher education at higher rates. Their interest has remained high and has continued to increase somewhat. In autumn semester 2021, the oldest age group, those over 30, had the highest increase.

UKÄ has also compared preliminary data on new entrants and registered students in autumn semester 2021 with data for previous years to provide a picture of how the inflow of students has changed during the pandemic. During the first pandemic year, the number of Swedish new entrants to higher education increased substantially, while the number of incoming new entrants fell by half. Between autumn semesters 2020 and 2021, however, the number of Swedish new entrants decreased while the number of incoming new entrants almost returned to the pre-pandemic level. This means that the distribution between Swedish and incoming new entrants is now the same as prior to the pandemic. At the same time, the total number of new entrants has increased.

The number of new entrants on several programmes leading to a professional qualification increased significantly in autumn semester 2020, but this upward trend has now subsided. In total, however, there were significantly more new entrants on professional degree programmes in autumn

semester 2021 compared with prior to the pandemic. During the coronavirus pandemic, women have begun studying on programmes leading to a professional qualification to a greater extent than men.

Preliminary data for autumn semester 2021 shows that the total number of students in Swedish higher education remains at a record level: 375,600. That is approximately the same number as the previous autumn semester.

Source (in Swedish)

Officiell statistik om sökande och antagna, www.uka.se.

Färre svenska studenter men fler inresande studenter i högskolan hösten 2021, 2021-11-15, UKÄ.

Sökande och antagna till högskoleutbildning på grundnivå och avancerad nivå, höstterminen 2021. UF 46 SM 2101, UKÄ och SCB.

In December, UKÄ published a short analysis of how the inflow to higher education changed during the coronavirus pandemic between autumn semesters 2019 and 2021, based on preliminary data.

Increased social imbalance in recruitment

An early consequence of the coronavirus pandemic was that many young people became partly or fully unemployed and that the outlook on the labour market was generally much worse for young people. Because of this, the Government began an extensive expansion of higher education in spring 2020. An increased interest in higher education together with the Government's expansion efforts resulted in record numbers of students applying for higher education in autumn 2020.

UKÄ conducted a special study to investigate how the coronavirus pandemic impacted the social recruitment imbalance to higher education in 2020. The results suggest that social groups already previously overrepresented in higher education applied to study to a greater extent than other groups during the pandemic. This is seen both when we study the transition to higher education among 19-year-olds and when we study the social composition of the group young new entrants.

The social imbalance in recruitment to higher education has been compounded in the pandemic's first phase. Our initial hypothesis that the difficult labour market for young people would encourage new groups to apply to higher education, resulting in a decrease in the social imbalance in recruitment, is unsupported by this study.

Source (in Swedish)

Den sociala snedrekryteringen förstärktes i pandemins första fas. Rapport, 2021-07-01, UKÄ.

More appeals to admission decisions

In recent years, there has been a sharp increase in the number of cases to the Higher Education Appeals Board. Between 2018 and 2020, the number of submitted cases doubled and this trend continued in 2021. Behind the increase are more appealed admission decisions, which are likely both a consequence of the coronavirus pandemic and changes that make it easier for students to submit appeals to the Board.

Source (in Swedish)

Ärendeutvecklingen i Överklagandenämnden under pandemin, Rapport, 2021-11-10, UKÄ.

The return of students to campus

In this section, we present the results from two studies that touch on, in various ways, student presence and activities on campuses during the pandemic.

HEIs differ in their return to campus

When the coronavirus pandemic struck in spring 2020, HEIs took many measures to manage the situation and limit the spread of infection in society. One of the most important was the transition to distance teaching and examinations.

In early summer 2021, the Government presented a plan to adapt and wind down the restrictions that had been implemented because of the coronavirus pandemic. The Public Health Agency of Sweden rescinded recommendations for distance education at HEIs. This allowed HEIs to gradually return to education and research with fewer limitations than previously imposed by the coronavirus pandemic.

Against this background, UKÄ has conducted a study of the HEIs' plans for teaching during the autumn semester. The study shows that the return is taking place gradually at most HEIs and with a mixture of campus-based teaching and remote teaching. But there are differences in the pace of the return and how it is planned to be implemented. While some HEIs are resuming primarily campus-based teaching quickly, others have chosen to continue with remote teaching as their primary format for a longer period. Several HEIs indicate that they hope and plan to be back to teaching without or with few restrictions during either the later part of the autumn semester 2021 or spring semester 2022.

Source (in Swedish)

Skillnader mellan lärosätena i återgången till undervisning och examination på campus. Rapport, 2021-09-09, UKÄ.

Activity on campuses rebounding – but far from pre-pandemic levels

The coronavirus pandemic has led to new questions and an increased need to be able to describe current developments. Changes have occurred very quickly, and this has made it more important to be able to provide

updated statistics quickly. To gain a picture of the transition to remote teaching and remote working at HEIs, UKÄ has used mobile phone data to track activity at seven campuses between January 2019 and November 2021.

The results show that the HEIs quickly transitioned large parts of their organisations from campus to home-based work and remote studies. The shift away from campus went very quickly. In just a few days in March 2020, a new level of activity on campus became the norm. The HEIs opened campuses during autumn 2020 but closed again during late autumn when the spread of infection rebounded.

During the current autumn, activity was somewhat higher than autumn 2020, but the difference was not large. It remains to be seen if campuses will open again for students and staff during the second half of the autumn semester, which many HEIs have announced. But they are still far from the levels of activity on campuses that were normal prior to the pandemic.

Source (in Swedish)

Kraftigt minskad aktivitet på campus under pandemin. Statistisk analys, 2021-05-25, UKÄ.

Aktiviteten på campus på väg tillbaka – men långt kvar till nivån före pandemin, 2021-11-24, UKÄ.

Higher Education during the coronavirus pandemic

In this section, we present findings from two studies that look at the transition to remote teaching within different subjects and the pandemic's effects on clinical training within the nursing and medical programmes.

Same amount of teacher-led instruction – but teaching takes other forms

One of the studies followed up how the transition to remote teaching has impacted teaching and examinations, and it investigated the consequences of remote teaching on the quality of the programme or course. Ten different first-cycle courses given in both autumn semesters 2019 and 2020 have been analysed based on three different sets of empirical material: the schedule, examination assignments, and interviews with the course coordinating teachers.

The study shows that teacher-led time on the courses was not significantly different. What did change was the examination methods for the courses that previously had on-campus examinations. Home-based examinations have been organised in various ways, everything from allowing aids without collaboration and adapting questions for this approach to holding audio and video monitored examinations via Zoom. A common recurring theme in the interviews was that the teachers experienced the transition to online examinations as a major challenge.

In the interviews, UKÄ asked how the course coordinating teachers felt that the course's quality was impacted with the transition to remote teaching. Several teachers argued that the main content of the course was the same even if the teaching occurred online. At the same time, some also noted that even if the lectures and seminars have worked relatively well online, interaction between the students and teachers has changed. Some argue that this has impacted student learning. Similar reasoning is found in other reports that UKÄ and other organisations have published.

An important part in the report is the deeper analysis of the transition to remote teaching that the different case descriptions provide separately. This shows in more detail how the teachers have adapted instruction in the individual courses to remote learning situations and what they feel is good and less good.

Source (in Swedish)

Planering och genomförande av undervisning i en pandemi: En fallstudie av tio kurser på grundnivå. Rapport, 2021:33, UKÄ.

Clinical training within medical care has largely been provided

Clinical training plays an important role in professional medical care programmes, but the medical system's heavy load during the coronavirus pandemic has impacted opportunities for students to receive the skills training they need. This is why UKÄ has studied the consequences of the coronavirus pandemic for students on the nursing programme and the medical programme.

The survey shows that most clinical training could be conducted during the pandemic but that some practical parts were cancelled, switched to digital versions, or replaced with theoretical exercises. The implementation of the clinical training has been made more difficult because of lack of patients in some parts of the medical care system in combination with excessive numbers of patients in other parts.

At the same time, the study points to large regional differences. Even if many students report a medical care system under pressure, there are also students who have been able to conduct their clinical training relatively unaffected by the coronavirus pandemic. The study also shows that new routines for follow-up and documentation of student performance have been created. It has been important to systematically follow up the students who have had clinical training during the pandemic to ensure that they have completed required skills training prior to their examinations.

Teachers describe the pandemic as a catalyst for change. Aspects of the clinical training have been made more explicitly teaching moments and new educational approaches have been tested to manage the difficulties caused by the pandemic. There has been a reprioritisation and streamlining of course content in clinical training. Questions about content and quality are once again relevant. Several HEIs describe how a changed approach with clearer focus on the content of clinical training will contribute to students achieving the qualitative objectives, and there are both teachers and students who want many of the changes to be made permanent.

Source (in Swedish)

Verksamhetsförlagd utbildning inom sjukvården under pandemin: En intervjustudie med företrädare för sjuksköterskeprogrammet och läkarprogrammet. Rapport, 2021:25, UKÄ.

Questionnaire surveys of bachelor and master's students and of doctoral students.

In this section, we present the findings from two questionnaire surveys aimed at bachelor and master's students and doctoral students, respectively. UKÄ conducted the surveys in spring and summer 2021 in collaboration with Statistics Sweden.

The Student Mirror

The Student Mirror focused on the situation of students during the pandemic. What effects has the pandemic had on student study environment and health? How do they feel that the quality of their course or programme has changed? The survey uses a similar method to that used by UKÄ and the previous National Agency for Higher Education in its student mirrors. An important difference is this survey also looked at the situation of new entrant students.

The experiences of bachelor and master's students are characterised by studies that largely have been conducted through remote studies during the pandemic. More than half indicate that all of their instruction was switched to remote learning, and nine of ten state that at least half of their studies were through distance education during the pandemic. The majority of these students states that the teachers have organised the remote teaching well and provided good information on how instruction would take place. The bachelor and master's students have also been encouraged to make suggestions on improvements to their remote teaching.

A majority felt that they received the support they needed from their teacher to complete their studies during the pandemic. But about one-third state that the lack of digital skills among the teachers has negatively impacted the quality of the teaching. There are some gender differences in how remote teaching is seen – women are more positive in their answers and indicate more than men that they have become more positive to remote teaching during the pandemic. Most have experienced stress and anxiety during the pandemic, and this was true of women more than men. New entrant students have also experienced a somewhat higher level of stress and anxiety.

A study among Norwegian bachelor and master's students during the pandemic shows similar results. In Norway, like Sweden, these students are generally positive to the instruction they have received during the pandemic. Most bachelor and master's students at Swedish HEIs rate their education highly despite the major transition to remote teaching – 77 per cent indicate that the quality of their education overall has been good or very good during the pandemic. At the same time, the number is lower than in the Student Mirror survey conducted in 2016. At that time, 91 per cent rated their education overall as good or very good.

Source (in Swedish)

Studentspegeln 2021: Studenters upplevelser av att studera under coronapandemin, Rapport 2021:37, UKÄ.

Annexes with information on the study and student responses to questions can be downloaded at www.uka.se.

Postgraduate Student Mirror

The postgraduate student mirror paints a picture of how the country's doctoral students have been impacted by the coronavirus pandemic. UKÄ has asked questions to a selection of doctoral students about their health and wellbeing, the progress of their doctoral work during the pandemic and the impacts of conducting parts of their work remotely. UKÄ has also asked questions about whether the doctoral students believe the coronavirus pandemic will delay completion of their thesis.

The survey shows that most doctoral students feel that working remotely has worked well. Even if many argue that the amount of supervision has decreased during the pandemic, most are satisfied with the quality of the supervision they have received. Most are also satisfied with the digital doctoral courses, seminars and defences of theses, as well as the equipment they have access to for working at home during the pandemic. Overall, the survey shows that the HEIs have generally succeeded in managing the pandemic's consequences in a way that the doctoral students are satisfied with.

Even though much has worked well during the pandemic, there have also been difficulties. International collaborations have become fewer. The majority responded that intellectual exchange with other doctoral students and senior researchers has decreased. More than half indicated that they have needed to cancel or delay parts of the doctoral studies. This has largely applied to data collection, which was not possible. For many, doctoral work has, therefore, taken longer than planned, and 20 per cent of all doctoral students say that they have needed to change the focus of their dissertation. Some doctoral students have applied to extend their

doctoral studentship during the pandemic, and the survey shows that most of these applications have been granted.

The differences between different research fields are substantial. Doctoral students within the humanities and fine arts consistently responded more negatively to the questions in the survey than the average. This group of doctoral students, along with doctoral students from the social sciences, reported that they have faced major obstacles in their doctoral work during the coronavirus pandemic. A comparison of Swedish and foreign doctoral students also makes it clear that foreign doctoral students have had more negative experiences of doctoral studies during the coronavirus pandemic than Swedish doctoral students.

Source (in Swedish)

Doktorandspegeln 2021: Forskarutbildningen under coronapandemin, Rapport, 2021:27, UKÄ.

Annexes with information on the study and doctoral student responses to the questions can be downloaded at www.uka.se.

Mobility and internationalisation

This section discusses impacts of the pandemic on international student mobility.

Incoming students back at pre-pandemic levels

An early consequence of the coronavirus pandemic was a significant decrease in international student mobility. Exchange students were impacted the most, with significantly fewer in academic year 2020/21 compared with 2018/19, the last year prior to the pandemic. The decrease applied to both outgoing students from and incoming students to Swedish HEIs. During the same period, however, only minor changes occurred in the number of incoming free movers.

Preliminary data for new entrants and registered students for autumn semester 2021 shows that student mobility for incoming students has largely rebounded and is back at the same level as before the pandemic. This is less clear for outgoing exchange students, and we still lack statistics for the current autumn semester.

On 2 December 2021, Statistics Sweden published a new report on international student mobility in higher education during academic year 2020/21. There is already available data on outgoing and incoming students through academic year 2020/21 in UKÄ's statistics database *Higher Education in Numbers*.

Source (in Swedish)

Officiell statistik om internationell studentmobilitet, www.uka.se.

Färre svenska studenter men fler inresande studenter i högskolan hösten 2021, 2021-11-15, UKÄ.

Interviews supplement the picture of student mobility during the pandemic

To supplement the picture of student mobility developments in the official statistics, UKÄ conducted interviews with mobility managers at the HEIs. During October 2021, interviews were conducted with six HEIs on

their view of the situation during the coronavirus pandemic and experiences from mobility efforts during the period spring semester 2020 to autumn semester 2021.

In line with the official statistics, the interview study shows that the coronavirus pandemic has had a major impact on student mobility. Exchanges was one area that were impacted significantly at many HEIs. There are likely still fewer study spots for outgoing exchange students who would like to study at universities outside of Europe, since many of the partner universities to Swedish HEIs have suspended their exchange agreements.

The HEIs are trying to compensate this lack of available exchange options by increasing exchanges with European partners. A re-orientation toward European exchanges can also be seen in the statistics. While some of the most common study destinations prior to the pandemic were the United States, Australia and China, during the previous academic year European countries were the primary recipients of Swedish exchange students.

The HEIs have also made major changes in how they receive and support incoming students because of the pandemic.

Source (in Swedish)

Studentmobiliteten under coronapandemin – en intervjustudie med sex lärosäten, Rapport 2021:38, UKÄ.

The outflow of students from higher education

This section presents data on the number of students who graduated from HEIs in academic year 2020/21.

Continued increase in number of graduates

The number of graduates from HEIs continues to increase during the pandemic. Four per cent more students graduated in academic year 2020/21 than the previous academic year. A total of 74,700 students received first- and second-cycle degrees in 2020/21.

The increase was highest among men: 2,000 more men and 700 more women graduated in 2020/21 compared with 2019/20. Bachelor and master's degrees increased the most. The increase, however, was less than during the pandemic's initial year. The number of graduates increased by 9 per cent between academic year 2018/19 and 2019/20.

There is no clear explanation for the increase in graduates. For example, there is no equivalent increase in the number of new entrants a few years earlier. On the other hand, the changes in the labour market during the pandemic have led to an increased interest in applying for the award of a qualification. Some HEIs also say that it has become more common that employers use recruitment agencies during hiring processes. More formalised employment processes have stricter requirements for issuance of degree certificates.

Source (in Swedish)

Officiell statistik om studenter och examinerade, www.uka.se.

Consequences for higher education research

In this section, we summarise the results from three reports produced within the framework for UKÄ's pandemic assignment aimed at studying how the coronavirus pandemic has impacted research at HEIs.

Infrastructures have been able to continue their work during the pandemic

A special study was conducted to investigate the consequences of the coronavirus pandemic on operations at some of the national research infrastructures operated by HEIs. The study primarily focused on infrastructures within the life sciences, but also included individual infrastructures that primarily work within other scientific fields. The study data consists of material from interviews with representatives for the infrastructures. The study's primary questions dealt with the consequences of the pandemic for a number of areas, including funding, users, work, logistics, ongoing and new collaborations, and development and priorities at the research infrastructures.

One observation for many of the studied infrastructures was that they have been robust and been able to continue operating even when many surrounding factors have changed because of the pandemic. They have stable and, in many cases, long-term funding that has not been significantly impacted by the pandemic. Even if some infrastructures have experienced a slight decrease in the number of users and degree of utilisation, this has not had any greater or long-term effect on their finances. A clear, well-established and effective organisation structure and stable collaborations with users, participating HEIs and other stakeholders and networks in society have prepared them well to address changes and quickly adapt and attack new questions and challenges.

Many of the adjustments made by the research infrastructures because of the pandemic have been intended to create physical distance, in accordance with national guidelines. Day-to-day operations, teaching and participation in national and international conferences and courses have largely taken place remotely. The adjusted routines have, many times, contributed to speeding the development of the research infrastructures' work through digital platforms. For some research infrastructures, introduced restrictions during the pandemic have led to delays in their operations.

Several of the interviewed representatives also point out that the research infrastructures could have been much more useful for Sweden during the pandemic if they had been given other frameworks to work within. They argue that achieving the full potential of utilising research infrastructures in a pandemic requires a national strategy and coordination with clearer divisions of responsibilities and better opportunities to collect and use clinical data for research purposes.

Source (in Swedish)

Effekter av coronapandemin på några av Sveriges nationella forskningsinfrastrukturer. Rapport, 2021:31, UKÄ.

Data collection is a problem within research

During March and April 2021, UKÄ conducted a questionnaire survey aimed at higher education staff. The job descriptions of the survey recipients included research. The purpose of the survey was to gain an understanding of the coronavirus pandemic's consequences for research, both in the short term and long term.

The survey shows that the coronavirus pandemic has not had particularly significant consequences for the research of some of the respondents. But for many others, the pandemic has had a very negative impact on research. Many indicate that they have had problems with data collection that could not be conducted as planned. This applies to many different fields of research. Within the humanities and social sciences, archives and libraries were not open enough and studies could not be conducted because of infectious disease restrictions. Restrictions for patient visits have impacted research in the medical and health sciences, while researchers in the natural sciences have had a more difficult time conducting field studies and field experiments because of travel restrictions.

Another finding is that research has suffered from teaching taking more time because of the transition to remote teaching. Researchers have not been able to utilise their research funding as planned, which led to a decrease in the use of research funding. Many feel that remote work during the pandemic has impacted research negatively. There is wide-ranging concern that the lack of physical meetings will lead to diminished productivity and quality of research.

Overall, the respondents have been satisfied with online meetings and online seminars but significantly less satisfied with online conferences. An interesting finding is that women are more positive to online meetings than men. Even though the focus of this survey was on research,

there are signs of negative consequences on doctoral education. Many indicate that supervision has been negatively impacted, and most supervisors say that doctoral studies are taking longer than planned.

The questionnaire survey is based on a self-recruiting selection of respondents and not on the representative selection used by more conventional surveys that require more resources. A total of seven higher education institutions were included in the study.

Source (in Swedish)

Coronapandemins konsekvenser för forskningen, Statistisk analys, 2021-06-01, UKÄ.

Small impact on international recruitment

Internationally recruited researchers make up a large percentage of all employees with career development positions at HEIs. In the initial phase of the coronavirus pandemic until October 2020, there were no dramatic changes in the number of, the recruitment of or the retention of employees with career development positions at HEIs. At the same time, we see during the 2019–2020 period a levelling out of the increase in percentage of internationally recruited employees with career development positions that had been ongoing since at least 2012.

Even when looking at the percentage of internationally recruited employees with career development positions based on country of birth or citizenship, no clear impact of the coronavirus pandemic can be found. As for retention in Swedish higher education among postdoctoral appointees, the results in the short term are clear – no significant change occurred during the period 2018–2020. This means that postdoctoral appointees continue in and leave Swedish higher education after two years to approximately the same extent as previously.

UKÄ's study was a register study and applies to changes until October 2020. This means that we only have been able to observe the short-term effects of the pandemic's initial phase. It is possible that longer-term studies extended could provide different findings. Because the data comes from registers of higher education staff, the study only includes employees with career development positions and salaries from a HEI, not scholarships.

Source (in Swedish)

Liten påverkan på internationell rekrytering av forskare i början av karriären, Rapport, 2021-10-28, UKÄ.

Annex – ongoing and planned studies

UKÄ works with the pandemic assignment in eight areas: Basic projects; Study and work environment; Quality of education; Research; Student rights; Labour market; Finances and funding; and Mobility and internationalisation. Below, we list ongoing and currently planned studies within these different areas.

Basic projects

Student completion in higher education during the pandemic (direct performance indicator and direct dropouts) Preliminary publication date is March 2022.

Upper-secondary students studying through distance teaching – how do they perform in higher education? Preliminary publication date is autumn 2022.

Quality of education

Persistent changes in the clinical part of the nursing programme after the coronavirus pandemic. Preliminary publication date is autumn 2022.

Student rights

Disciplinary cases at Swedish higher education institutions in 2021. Preliminary publication date is March 2022.

Finances

Analysis of annual reports for 2021. Preliminary publication timeframe March/April 2022.

Labour market

Recent graduates on the labour market Preliminary publication date is March 2022.

Follow-up study of students who had difficulties becoming established on the labour market at the most recent follow-up. Preliminary publication date is spring 2022.

Unemployment and layoffs – the degree to which they have turned to higher education and other post-secondary education. Preliminary publication date is autumn 2022.

Mobility and internationalisation

The pandemic's influence on mobility through exchange programmes. Preliminary publication date is spring 2022.

The Swedish Higher Education Authority (Universitetskanslersämbetet – UKÄ) is to contribute to strengthening Swedish higher education and Sweden as a knowledge society. We review the quality of higher education programmes, we analyse and follow up trends within higher education and we monitor the rights of students.

uka.se

