



Transfer Research Questions that Matter: 2016 Transfer Scholar Meeting Recommendations

Prepared by the Transfer Research Team – Credit When It's Due (CWID)¹

On April 8, 2016, a group of 18 researchers participated in an invited convening on transfer research held at the Bill & Melinda Gates Foundation in Washington DC. The meeting was held immediately prior to the American Educational Research Association (AERA) annual conference also in DC on April 8-14. The purpose of the meeting was to discuss perspectives, research findings, and methodologies to guide future research on transfer.

The convening engaged participants in a lively conversation about the extant research on transfer recognizing that the decades of research conducted by higher education faculty, graduate students, and other researchers not only has contributed to the understanding of many questions associated with transfer, but it has also expanded the field to more inquiries. Indeed, Cohen and Brawer (2013) who wrote the seminal text on community colleges contend transfer has been studied more than any other topic pertaining to community college education. And yet, despite the many years of study, many questions remain unanswered.

The DC meeting convened researchers with a wide range of expertise (see the embedded participant list and biographies), and the researchers attending the meeting provided insights and perspectives on their own work Whereas some meeting participants study transfer using qualitative methods, seeking to understand the diversity of student experiences, identities, and perspectives at various points along the transfer pathway, others use quantitative methods to track student progression toward outcomes attainment and to ascertain the effectiveness of transfer functions operating within states and systems. Some studies of transfer use single institutions as the foci, others use institutional pairings and partnerships as the unit of analysis, some use nationally representative datasets, and some look at state systems, although these studies are far less prevalent. Overall, the extant literature provides insights into prominent transfer patterns, but leaves much to be explored.

The dialogue among the individuals attending the transfer research meeting surfaced three major domains in which future research is needed: access and success among students of color and other underserved populations, transfer and articulation functions of community colleges and universities; and state, system, and institutional policy to support a robust transfer eco-system. These three domains are not necessarily mutually exclusive, but provide an organizational framework that represents the expertise of transfer researchers who attended the meeting.

¹In 2012, the Bill & Melinda Gates Foundation awarded a grant to researchers at the University of Urbana-Champaign to study the multi-state reverse-transfer initiative called Credit When It's Due (CWID). Since that time, the team expanded its focus on transfer research with continuing funding from Gates, and team members who continue to collaborate are Debra Bragg, University of Washington; Jason Taylor, University of Utah; Matt Giani, University of Texas at Austin; and Maria Salazar Soler, University of Illinois at Urbana-Champaign.

A primary outcome and deliverable of this meeting was a set of research questions to guide future inquiry for transfer research. To facilitate this, meeting participants engaged in small group discussions to develop a set of research questions associated with these three domains of research. Although many research questions emerged from these discussions, groups were charged to condense and prioritize research questions into a short list of questions which are most critical to address. The following discussion presents the outcome of these small group discussions and represents a focused set of research questions related to the three domains.

Student Access to and Participation in Transfer

The extent to which students participate in transfer, experience the transfer process, and attain benefits from transfer varies by race/ethnic background, income, and other defining characteristics. Transfer also varies by academic discipline, with the growing interest/enrollment in STEM creating increased need to understand the ways diverse learners succeed or fail in the transfer process. Concerns about inequities in the STEM transfer process for diverse student groups, the racial transfer gap, transfer culture, and other indicators of difference that are linked to difficulties in the transfer experience are addressed by the questions composed by Peter Bahr, Debra Bragg, Gloria Crisp, Dimpal Jain, Janet Salm, and Dimitra Jackson Smith.

1. How are the complex enrollment patterns within and across institutions (course-taking and transfer) related to student background/experiences/characteristics/identity, and how are they further related to institutional and system-level structural processes, and what is the interplay of the two (student and structure)? What are the causes behind the linkages observed (and unobserved) between student characteristics and institutional/system process and students' patterns of intra- and inter-institutional enrollment?
2. In what ways are existing mechanisms and supports inadequate and adequate to the anticipated growth in demand for upward transfer and the corresponding growth in diversity of needs, experiences, cultural backgrounds, student characteristics, etc., among transfer-ready students?
3. In what ways is identity salient in the transfer process before/during/after transfer, recognizing that there is an intersection of structure and student identity/behavior/experience?
4. How does self-identification play a role, and how does it evolve, in the transfer process? What is the role of academic and college-going knowledge? How is that influenced by enrollment and transfer supports?

The Transfer Function and Pathways

Improved understanding of core transfer and articulation functions and the ways students decide, progress, and attain outcomes from their upward, lateral, reverse, and other movement through higher education deserves greater attention from researchers. Issues surrounding the design, efficiency, effectiveness of processes and practices pertaining to student advising, course-taking, credit attainment, and credentialing relative to transfer is the focus of the set of research questions recommended by Peter Attewell, Rachel Baker, Davis Jenkins, Michelle Hodara, Jason Taylor, and Xueli Wang.

1. How do students conceptualize and make decisions about their educational and career pathways, and in what ways do students' conceptualizations, intentions, and decisions influence their enrollment patterns and propensity to transfer?

2. For community college students who accumulate a large number college credits and are on the verge of transfer, what external factors influence their decision not to transfer?
3. In what ways do community colleges structure their intake and advising processes to support transfer pathways, and how do these structures and processes influence transfer?
4. What are the incentives for 4-year institutions to develop stronger pathways and enroll more transfer students? What are the institutional and organizational factors at 4-year institutions that facilitate or impede transfer access?

Transfer Policy

Understanding the state, system, and institutional policies that facilitate transfer access and success is needed to bring about systemic change. The roles that state legislators and other policy leaders play in adopting and implementing effective transfer policy needs greater attention, as does research on institutional incentives for transfer, data capacity for measuring transfer, and accountability structures. Individuals who participated in this small group discussion were: Angela Boatman, John Fink, Mark D'Amico, Chris Mazzeo, Matt Giani, and Maria Soler.

1. What are the drivers of state policy change in transfer and articulation, and what role do state personnel play? What impressions do state leaders have of state-level policy change pertaining to transfer? What do state leaders see as the benefits and risks of transfer policy change?
2. What role do state legislators play in transfer policy adoption? What do they perceive to be the benefits of transfer reform for students? Are there patterns of legislative activity (e.g., greater vs. lesser governmental regulatory control) based on legislators perceptions of how transfer is working in their states?
3. What state policy levers, arrangements, and incentives do states have to advance transfer and articulation? How are higher education institutions responding to current policy arrangements and proposed changes?
4. How is state-level implementation of transfer and articulation policies and processes changing? How are institutions reacting and engaging in new and emerging state transfer policy and process changes, such as policy on time to degree, reverse credit transfer, online advising, etc.?
5. How do institutions respond to and implement state-level policies related to transfer and articulation, and what are the effects? How should we measure these effects? What are the metrics and data that should be used to measure policy effectiveness? What are the data? Are these policies effective in increasing transfer rates? Are they effective for some students, all students? Are there certain points in students' academic progression that demonstrate more or less success, and are these effects differential for different student groups?

References

Cohen, A., Brawer, F., & Kisker, C. (2013). *The American community college, 6th edition*. San Francisco, CA: Jossey-Bass.

Short Bios of Transfer Research Meeting Participants

Paul Attewell - pattewell@gc.cuny.edu

Paul Attewell is a Distinguished Professor of Sociology at the Graduate Center of the City University of New York, where he teaches in the PhD programs in sociology and in urban education. His research focuses on processes affecting students from low-income backgrounds in non-elite colleges. His book *Passing the Torch: Does Higher Education for the Disadvantaged Pay Off across the Generations?* (Co-authored with David E. Lavin) won both the American Education Research Association's Outstanding Book Award, and the Grawemeyer Prize in Education. His latest book is titled 'Data Mining for the Social Sciences: An Introduction' (coauthored with David Monaghan).

His research on transfer from community colleges to four year colleges includes a study of national student transcript data that documented large losses of credits after transfer. "The Community College Route to the BA" in *Education Evaluation and Policy Analysis*, March 2015, found that only 42% of community college students who initially intended to transfer to a four-year college were able to do so. Of those who did transfer about 14% lost all their credits by transferring. Another 28% of transfers lost between 10% and 89% of their credits after transfer. This loss of credits in the community college to BA pipeline is clearly a major barrier to production of BAs and is a problem for those who envision community colleges as a stepping-stone to the baccalaureate.

Peter Bahr - prbahr@umich.edu

Peter Bahr seeks to deconstruct students' pathways into, through, and out of community colleges and into the workforce or on to four-year postsecondary institutions. His recent work is focused particularly on students' course-taking and enrollment patterns in the community college and their subsequent labor market outcomes, such as employment and earnings, as well as the impact of students' varied patterns of course-taking and enrollment on the assessment of community college performance. He also is investigating students' pathways through the STEM transfer curriculum in community colleges, with the objective of strengthening the pipeline of students into STEM baccalaureate programs. Bahr joined the faculty of the Center for the Study of Higher and Postsecondary Education (CSHPE) at the University of Michigan in 2009. He previously held a faculty appointment in the Department of Sociology at Wayne State University (2004-2009), a research appointment in the Chancellor's Office of the California Community Colleges (2001-2003), and a research appointment in the California Department of Education (2000-2001). He received a Ph.D. in sociology from the University of California-Davis.

Dr. Bahr has developed three main areas of research pertaining to the transfer of community college students between institutions. He has studied students' patterns of lateral transfer between community colleges (i.e., transfer from one community college to another). He also has investigated community college students' experiences and outcomes in four-year institutions after transferring into these institutions. Currently, however, Dr. Bahr is engaged in work to identify, quantify, and analyze students' primary pathways into, through, and out of the community college transfer curriculum in science, technology, engineering, and math (STEM). In this research, Dr. Bahr and his team have built curricular maps to describe the primary course sequences in each STEM field in community colleges, and then developed analytical frameworks to investigate pathways within and across these sequences. The result is the capacity to pinpoint where students enter the STEM transfer curriculum, where and under what conditions students are lost from this curriculum, and to what degree and in what ways progress through (or, conversely, departure from) the STEM curriculum differs by key student characteristics (e.g., gender, race/ethnicity).

Rachel Baker - rachelbb@uci.edu

Rachel Baker is an Assistant Professor of Education Policy at the University of California, Irvine's School of Education. She earned her PhD in Education Policy and the Economics of Education at

Stanford University. Rachel studies inequalities in access to and success in higher education using behavioral economic models of decision-making and quasi-experimental and experimental methods. Aside from her work on transfer, Rachel's work includes agent-based simulations of race- and SES-based affirmative action policies, a study of students' knowledge of labor market outcomes, and descriptive and experimental work on persistence in online classes. She works closely with the California Community Colleges. Rachel graduated with a B.A. in psychology and elementary education from Dartmouth College. Her professional experience includes teaching elementary school in the Marshall Islands, working as a literacy specialist at a school for the Deaf, and coordinating college readiness programming at The Steppingstone Foundation in Boston.

Rachel conducted a study on the effects of California's Associate Degrees for Transfer on student course taking, degree receipt, and transfer to CSUs. Leveraging the phased roll-out of the degrees across departments, across schools, over time, she used a triple difference design to examine the causal effects of offering these degrees. The study found that the degrees had a significant effect on the number of associate degrees granted in treated departments and on the number of students transferring from CCCs to CSUs. This is the first statewide analysis of its kind and has implications for a number of states who have implemented, or plan to implement, similar policies.

Angela Boatman - angela.boatman@vanderbilt.edu

Angela Boatman is currently an Assistant Professor of Public Policy and Higher Education at Vanderbilt University, conducting and coordinating research on issues related to the education pipeline, remedial education, higher education policy, and American community colleges. Prior to joining the faculty at Vanderbilt, she was a Postdoctoral Scholar at the Center for Education Policy Analysis at Stanford University, and an intern at the State Higher Education Executive Officers (SHEEO) researching state tuition, fees, and financial aid policies. Past projects in Tennessee include an evaluation of the impact of innovations in the delivery of remedial courses, including the use of instructional technology, on collegiate student outcomes, as well as the effects of more traditional remedial and developmental courses for students further down the academic preparation distribution. Currently, she is examining the effects of peers in mainstreamed remedial and college-level math courses, as well as the effects of using learner-adaptive technologies in community college courses. Boatman holds dual Masters Degrees in Public Policy and Higher Education from the University of Michigan, and completed her doctoral degree at the Harvard Graduate School of Education.

Angela's work on community college transfer has focused primarily at the state and system level. In a recent study, Angela (along with Adela Soliz) have examined the effects of Ohio's statewide articulation and transfer policy, the Ohio transfer module (TM). This agreement is intended to allow individuals who successfully complete the TM at one institution to transfer all of these credits to a receiving institution. The study explores the effects of completing the TM on vertical transfer from a two-year to a four-year college, credit attainment, and degree completion using propensity score matching. Findings suggest that students who complete the TM are no more likely to transfer than observationally similar peers who did not complete a TM. They are, however, more likely to ultimately earn a bachelor's degree. Given the low numbers of students in Ohio completing the TM, Angela is interested in how the BA attainment rates compare for students who complete only a portion of the TM versus the entire module. Articulation policies such as this provide a system or statewide structure to the academic requirements for transfer, but it is unlikely that structural policies alone are going to solve the challenges of institutional transfer. Angela is further interested in the role advising and technology has on the transfer process, both in the short and long-term. Collaborations such as Arizona State University and the Maricopa County Community College District serve as one example of a partnership that relies heavily on advising through technology to help students transition from Maricopa colleges to ASU. An evaluation on the effectiveness of online advising tools is another research interest of Angela.

Debra Bragg - dbragg@illinois.edu

Debra D. Bragg was named a Gutsell Endowed Professor at the University of Illinois at Urbana-Champaign in 2013, and she is the founding director of the Office of Community College Research and Leadership (OCCRL). She holds a PhD from The Ohio State University in an interdisciplinary doctoral program on comprehensive vocational education, with specializations in postsecondary education, public policy, and program evaluation. Her research focuses on the transition of youth and adults to college and careers with particular interest in access, equity and outcomes for students of color, low-income students, and first-generation students. She has led research funded by federal, state, local government agencies, and numerous studies funded by foundations. Dr. Bragg was named an American Educational Research Association (AERA) Fellow in 2015.

Dr. Bragg's research on transfer includes studies of 2+2+2 articulation agreements to promote student progression from high school to the community college and to the university. In addition, she has conducted extensive research on applied baccalaureate and midpoint credential policy and programs throughout the United States and internationally funded by the National Science Foundation and private foundations. These studies include transfer pathways for students enrolled in associate of applied science programs heretofore considered terminal. In 2012, she began leadership of Credit When It's Due (CWID), a multi-foundation funded initiative to support state policy adoption on reverse transfer. Research on CWID is funded by the Bill & Melinda Gates Foundation, and Dr. Bragg's role in this work involves supporting the talented research team that has been assembled for this work, including leading a mixed methods study on high performance transfer partnerships.

Gloria Crisp - gloria.crips@utsa.edu

Gloria Crisp is an Associate Professor at The University of Texas at San Antonio. She also serves as an Associate Editor of *New Directions for Institutional Research*. Her scholarship is grounded by her personal and professional experiences at institutions that provide broad access to students. Gloria has published nearly 40 articles and book chapters and is co-editor for a forthcoming special issue of *New Directions for Community Colleges*. The National Science Foundation, Association for Institutional Research, and the Hispanic Association of Colleges and Universities have supported Gloria's work. Her survey instrument, The College Student Mentoring Scale (CSMS), is currently being used at institutions around the country and abroad to evaluate the effectiveness of mentoring relationships.

Gloria's transfer research is focused towards identifying factors that promote and hinder transfer, including but not limited to co-enrolling and enrolling in developmental education coursework. Her research has helped to develop theoretical frameworks to explain the student experiences and contextual conditions influencing transfer. Gloria has a particular interest in research to better understand the racial transfer gap, with the majority of her work focusing on Latina/o students. Currently, she is engaged in research to explore the transfer patterns being utilized by students attending 2 and 4-year institutions that are broadly accessible.

Mark D'Amico - mmdamico@uncc.edu

Mark D'Amico is Associate Professor of Educational Leadership and former director of the Ed.D. program at the University of North Carolina at Charlotte. Since joining the UNC Charlotte faculty in 2009, Mark's research has focused on community college student success and workforce development, and he has had articles published in *Research in Higher Education*, *Community College Review*, *Community College Journal of Research and Practice*, *Career and Technical Education Research*, *Journal of College Student Retention*, and others. He was the recipient of the 2014 Barbara K. Townsend Emerging Scholar Award from the Council for the Study of Community Colleges. Mark's national leadership includes serving as Associate Editor of *Community College Review*, on the Editorial Board of *Community College Journal of Research and Practice*, and formerly on the Board of Directors of the Council for the Study of Community Colleges. Currently, he is Co-Principal Investigator on a U.S. Department of Education Office of Special Education Programs-funded project to infuse special

education content into community college early childhood education curricula. Prior to his faculty role, Mark served for nearly 15 years in administrative positions including Executive Assistant to the President of the South Carolina Technical College System where he co-led South Carolina's Achieving the Dream State Policy Team, Special Assistant to the President of Midlands Technical College, Interim Director of Admissions at Francis Marion University, and Assistant Director of Admissions at UNC Charlotte.

Mark's research on transfer has been largely focused on post-transfer integration and outcomes. Related studies include a collaborative project on the early integration and outcomes of community college transfer students in *Research in Higher Education* (<http://link.springer.com/article/10.1007/s11162-013-9316-5>) followed by two additional studies on student subgroups. One is specific to first-generation college students in STEM and non-STEM majors in the *Journal of Research in Science Teaching* (<http://onlinelibrary.wiley.com/doi/10.1002/tea.21301/abstract>), and another is on undeclared first-year and transfer students in the *Journal of College Orientation and Transition*. Mark authored a chapter in the forthcoming volume of *Higher Education: Handbook of Theory and Research* (<http://www.springer.com/series/6028>) on community college workforce development in the student success era with specific attention to transfer and articulation from the Associate of Applied Science and implications for the applied baccalaureate. Mark is embarking on a new study that examines students whose schedules were dropped due to nonpayment and the consideration of transfer swirl and the Pell Grant 12-semester limit.

John Fink - john.fink@tc.columbia.edu

John Fink is a research associate at the Community College Research Center at Teachers College, Columbia University. He conducts quantitative and qualitative research on student experiences throughout intake and advising at community colleges, implementation of guided pathway reforms, and transfer student patterns and outcomes. Prior to joining CCRC, he advised transfer students and created a comprehensive support program for community college transfer students at the University of Maryland, College Park.

John is working with Davis at CCRC to understand factors contributing to transfer student success. He led the analysis of NSC data for [Tracking Transfer](#), which presented new transfer performance metrics for community colleges and four-year colleges. In order to select institutions for site visits to examine effective transfer policy and practice, he and other CCRC researchers used NSC data and identified pairs of two- and four-year colleges that performed better than expected, controlling for student and institution characteristics, in helping community college students transfer and eventually earn bachelor's degrees. The resulting "Playbook" which describes the policies and practices of six pairs of these highly effective transfer partnerships will be published later this spring. John is currently examining transfer student enrollment patterns; geospatial determinates of transfer success, student and institution characteristics associated with transfer student baccalaureate completion across degree fields, and factors contributing to the efficiency and cost-effectiveness of the community college route to the bachelor's degree.

Matt Giani - matt.giani@austin.utexas.edu

Matt Giani is a Research Scientist with the Office of Strategy and Policy at the University of Texas at Austin. His research interests include stratification and social mobility in higher education, high school to college transitions, and the use of quantitative methods in educational policy research. Matt was part of the research team for the Trade Adjustment Assistance Community College Career Training (TAACCCT) evaluations at OCCRL and is co-PI on the Credit When It's Due (CWID) initiative titled "Bridging and Broadening Transfer Research", funded by the Bill and Melinda Gates Foundation. Matt completed his PhD in education policy and planning from the University of Texas at Austin with a specialization in applied statistical modeling.

Michelle Hodara - Michelle.Hodara@educationnorthwest.org

Michelle Hodara is a Senior Researcher at Education Northwest where she leads research and evaluation projects on programs, policies, and practices that improve students' college readiness, access, and success. In addition, she is the lead of the Oregon College and Career Readiness Research Alliance, a partnership between stakeholders from state education agencies, school districts, postsecondary institutions, and researchers at REL Northwest. She is trained in quantitative methods for program evaluation, and she has extensive experience managing and analyzing large, longitudinal secondary, postsecondary, and labor market datasets. Previously, she worked at the Community College Research Center at Columbia University where she developed expertise on major issues affecting community colleges and reforms that support low-income students' college access and success. Michelle holds a Ph.D. in Economics and Education from Teachers College, Columbia University. Prior to earning her doctorate, she was a special education teacher on the Zuni Pueblo Indian reservation in northwest New Mexico and a developmental reading and writing instructor at University of New Mexico in Gallup, New Mexico.

Chris Mazzeo and Michelle Hodara are co-principal investigators on a qualitative study of credit mobility in 10 states: California, Florida, Georgia, Kentucky, New York, North Carolina, Ohio, Tennessee, Texas, and Washington. The study, funded by the Bill & Melinda Gates Foundation, focuses on credit mobility (i.e., the transfer and application of credits from a sending to a receiving institution) because it is a key lever to improving the bachelor's degree completion of community college transfer students. The project team conducted a comprehensive scan of transfer policies in the 10 states and interviewed 34 state/system officials, 84 college staff, and 65 community college and university students. The study presents a typology of transfer policies that are designed to protect students' credits, an analysis of the primary ways community college transfer students are losing credit across these states, and considerations for how states and institutions can improve the credit mobility of community college transfer students. The final report will be available in early May. The report raises the following questions about transfer. The first set of questions will help better define the problem of credit mobility and the second begins to examine whether or not credit mobility is related to specific types of policies.

Dimitra Jackson Smith - dimitra.jackson@ttu.edu

Dimitra Jackson is a tenure-track assistant professor of higher education at Texas Tech University. She recently received tenure and promotion, which will go into effect September 1, 2016. Her research agenda follows three distinct, interrelated strands: (a) student success in STEM fields, (b) educational pathways among traditionally underrepresented students, and (c) the role of community colleges and minority-serving institutions in student success. More specifically, Dr. Smith's research focuses on the transition experiences of traditionally underrepresented students in STEM areas. The transition includes transfer among educational institutions and transfer into the STEM workforce. Before joining the faculty at Texas Tech University, Dr. Smith focused her attention on research as a postdoctoral research associate in the Office of Community College Research and Policy at Iowa State University. Prior to this research position, Dr. Smith served in several student services positions including a Program Development Specialist in Multicultural Student Affairs and a Graduate Family Interaction and Behavior Assistant at the Institute for Social and Behavioral Research at Iowa State University. Since 2011, Dr. Jackson has been an Assistant Professor at Texas Tech University. Her research accomplishments have awarded her several recognitions by the Council for the Study of Community Colleges, the National Institute for the Study of Transfer Students and by Iowa State University STATEment Makers committee.

Aligning with her interrelated strands, she has published research on transfer student capital; the transition experiences of African American females from community colleges to HBCUs; the academic and social experiences of all community college transfer students; support systems and transfer students; and ethnic/minority and female transfer students.

Dimpal Jain - dimpal.jain@csun.edu

Dimpal Jain is an Assistant Professor in Educational Leadership and Policy Studies at California State University, Northridge. As a first generation college student from an immigrant family, she received her B.A. in History from Western Washington University and her Masters and Ph.D. in Higher Education and Organizational Change at the University of California, Los Angeles (UCLA). As a former community college practitioner and faculty member, her research interests include campus climate experiences for women of color, critical race theory, womanism, the community college transfer function, and a transfer receptive culture.

She has held positions at UCLA's Center for Community College Partnerships, Santa Monica College, and Seattle Central Community College. Currently she is co-authoring a book manuscript entitled *A Critical Race Perspective of Transfer: Transforming Higher Education through a Transfer Receptive Culture*. Overall, she is a strong advocate for the presence of students of color and those who identify as underserved, first generation, and/or low-income in higher education. In particular, she is committed to the scholarship and practice that will benefit the educational attainment of these students.

Davis Jenkins - davis.jenkins@gmail.com

Davis Jenkins is a senior research associate at the Community College Research Center at Columbia University's Teachers College. He works with colleges, schools and states across the country to find ways to improve educational and employment outcomes for students, particularly those from disadvantaged backgrounds. Davis's research and thinking have informed the development and spread of innovative approaches to improving student success including career pathways, adult technical bridge programs (such as Washington State's I-BEST), and guided pathways to success (GPS). A list of his publications can be found at: <http://ccrc.tc.columbia.edu/person/davis-jenkins.html?other=publications>.

Davis is leading CCRC's research on identifying strategies for improving degree outcomes for community college transfer students. Together with CCRC colleague John Fink, Davis co-authored a report, *Tracking Transfer*, published in January by CCRC, the Aspen Institute's College Excellence and the National Student Clearinghouse published that presented new metrics, created using NSC data, on the effectiveness of two- and four-year institutions in enabling students who start at community colleges to transfer and earn bachelor degrees. The report presented these metrics for two- and four-year institution by institutional characteristics and state. It also presented data on outcomes for transfer students from low-income families. CCRC and Aspen Institute are writing a companion guide, to be published later this spring, on the practices of partnerships of two- and four-year institutions across the country that we identified using NSC data as being more effective than expected (controlling for student and institutional characteristics) in helping cc students transfer and earn bachelor's degrees. This "playbook" will be designed for two- and four-year practitioners seeking to strengthen transfer partnerships. Davis is also leading CCRC research that is using student unit record data from several states (and consortia of colleges in another state) to examine issues such as the implications of the timing of transfer, effects of program choice on transfer outcomes, efficiency of credit transfer, economic implications of different transfer pathways, and outcomes for "reverse transfer" students who start at four-year institutions, struggle academically and drop out to attend a community college. Another project in Texas is designed to identify state policies that might improve transfer outcomes for community college students.

Christopher Mazzeo - Christopher.Mazzeo@educationnorthwest.org

Christopher Mazzeo serves as the director of REL Northwest and the Director of Evidence Use and Policy at Education Northwest. He brings to the job over 15 years of experience developing actionable research and evaluation findings and building partnerships that support better research and evidence use. Prior to joining Education Northwest, Christopher spent three years with the Consortium on Chicago School Research at the University of Chicago. While there, he managed the organization's publications, media, and communications efforts and its nationally focused policy and capacity-building initiatives. Christopher has also served as an evaluation consultant to the Harvard University Strategic Data Project, as a senior education policy analyst with the National Governors Association Center for

Best Practices, and as Assistant Professor of Public Policy and Educational Leadership at Baruch College of the City University of New York. He earned his Ph.D. in Social Sciences, Policy, and Educational Practice at Stanford University.

Chris Mazzeo and Michelle Hodara are co-principal investigators on a qualitative study of credit mobility in 10 states: California, Florida, Georgia, Kentucky, New York, North Carolina, Ohio, Tennessee, Texas, and Washington. The study, funded by the Bill & Melinda Gates Foundation, focuses on credit mobility (i.e., the transfer and application of credits from a sending to a receiving institution) because it is a key lever to improving the bachelor's degree completion of community college transfer students. The project team conducted a comprehensive scan of transfer policies in the 10 states and interviewed 34 state/system officials, 84 college staff, and 65 community college and university students. The study presents a typology of transfer policies that are designed to protect students' credits, an analysis of the primary ways community college transfer students are losing credit across these states, and considerations for how states and institutions can improve the credit mobility of community college transfer students. The final report will be available in early May. The report raises the following questions about transfer. The first set of questions will help better define the problem of credit mobility and the second begins to examine whether or not credit mobility is related to specific types of policies.

Maria Claudia Soler - solersa2@illinois.edu

Maria Claudia is a doctoral student in Education Policy, Organization and Leadership program, with a focus on Higher Education at the University of Illinois at Urbana-Champaign. She holds a MA in International Education and Policy Analysis from Stanford University, an MA in Clinical Psychology, and a BA in Psychology from Pontificia Universidad Javeriana, Bogota-Colombia.

Maria Claudia is part of the research team of the Credit When It's Due (CWID) initiative titled "Bridging and Broadening Transfer Research". The project, funded by the Bill and Melinda Gates Foundation, seeks to facilitate the implementation and improve the process of "reverse transfer" degree programs. In addition to that project, she has been working with Dr. Debra Bragg on the study of applied baccalaureate degree pathways in the U.S. Part of the study received support from the National Science Foundation. Maria's research interests include higher education access and success policies, especially those related to college choice, mentoring, financial aid, developmental programs, transfer, and career pathway models. She has also conducted research on the effects of legal reform in Colombia regarding the selection of STEM programs and the effect of governmental policy on the creation of credentials and educational pathways.

Maria's previous professional experiences serving as a school and career counselor, lecturer, and counselor for a non-profit organization focused on providing support to Latin American women in London, United Kingdom. She also spent almost four years developing the admission and development programs at Lumni, a company that provides financial aid for higher education to low income students through human capital contracts (also known as Income Share Agreements) in Colombia, Mexico, Peru and Chile.

Janet Salm - Janet.Salm@gatesfoundation.org

Janet Salm works as a program officer in the Postsecondary Success strategy at the Bill & Melinda Gates Foundation. Janet's background includes a Master's degree in public policy and 15 years' experience conducting and supervising rigorous, impactful evaluations focused on assessing impact and improving practice.

At the Bill & Melinda Gates Foundation, Janet is responsible for strategy level measurement and evidence-based grant making across the Postsecondary Success strategy. She work closely with research and evaluation partners and leads analytical modeling work. Janet's research interests include making college more equitable, affordable and flexible to meet the needs of today's students.

Jason Taylor - jason.taylor@utah.edu

Jason L. Taylor is an Assistant Professor of Higher Education in the Department of Educational Leadership and Policy at the University of Illinois at Urbana-Champaign. His broad research interests are at the intersection of community college and higher education policy and educational and social inequality. His research has examined issues related to transfer and reverse credit transfer, dual credit/enrollment, college readiness, developmental education, LGBTQ students and policies, and educational access and equity. He is currently Co-PI for the research agenda associated with the Credit When It's Due (CWID) initiative.

Jason's current transfer research includes three projects. First is the research associated with CWID, which examines state reverse credit transfer policy and the impact of these policies on students, institutions, and states. The second is the use of CWID datasets to examine issues such as transfer shock and factors that influence transfer students' likelihood of bachelor's degree completion. The third is an analysis of psychosocial factors that influence transfer student success based on survey research at the University of Utah.

Xueli Wang - xwang273@wisc.edu

Dr. Xueli Wang is an associate professor in the Department of Educational Leadership and Policy Analysis at the University of Wisconsin—Madison. Her research centers on two interconnected threads: (1) community college students' educational pathways and success, and (2) student participation and success in STEM fields of study. Wang's work appears in numerous academic journals, such as *American Educational Research Journal*, *Educational Evaluation and Policy Analysis*, *Educational Researcher*, *Teachers College Record*, *Journal of Higher Education*, *Research in Higher Education*, *Review of Higher Education*, and *Community College Review*. In 2015, she was awarded the Barbara K. Townsend Emerging Scholar Award by the Council for the Study of Community Colleges.

Having directed two large-scale mixed-methods research projects funded by the National Science Foundation, Wang has extensive training and experience in survey design, advanced quantitative methods involving large-scale longitudinal databases, as well as qualitative and mix-methods research. Currently, Wang serves as PI on "Expanding STEM talent through upward transfer: Factors influencing transfer in STEM fields of study from two-year to four-year institutions." In this four-year, longitudinal mixed-methods study supported by the National Science Foundation, Wang works with her team to examine factors shaping the educational trajectories and transfer pathways of Wisconsin's two-year college students beginning in STEM fields of study. Combining survey data, transcript records, and rich interview data, and employing a rigorous mixed-methods design, this project can produce robust and contextualized research findings that illuminate learning experiences, motivational factors, and effective transfer advising and articulation practices and policies that facilitate STEM transfer.