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Integration and coordination across public benefit programs: Insights from state and local government leaders in the United States

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1. Introduction

In 2020, 11 % of the United States (U.S.) population lived in poverty and 28 % lived below 200 % of the federal poverty threshold. (Shrider et al., 2020) Public benefit programs in the U.S. provide financial support for basic needs such as healthcare, food, and housing through a variety of programs authorized by the federal government and implemented at the Tribal, state, and local levels. Participation in public benefit programs not only helps to lift families out of poverty but can also improve population health. (National Academies of Sciences E, and Medicine, 2019, and Medicine, 2019) Multiple studies using quasi-experimental designs have demonstrated the impacts of enrollment in a single program, such as the Supplemental Nutrition Assistance Program (SNAP) or federal rental assistance, on health, social, and economic outcomes including adult earnings, asthma risk, school absenteeism, and mental health. (Hoynes et al., 2016; Fenelon et al., 2021; Fenelon et al., 2017; Boudreaux et al., 2020; Denary et al., 2021) Moreover, as concluded through simulation modeling by the National Academies of Sciences, Engineering, and Medicine, concurrent enrollment in multiple safety net programs may have even greater impacts due to synergies between health and economic benefits. (National Academies of Sciences E, and Medicine, 2019) For example, a pre/post study in

the San Francisco Bay area found receipt of both SNAP and Supplement Security Income (SSI) improved household food security and self-rated health and reduced psychological distress compared to only receiving SSI. (Jensen et al., 2019; Wang et al., 2021).

However, many households currently do not enroll in all public benefit programs for which they are eligible, representing missed opportunities for maximizing benefits. (Minton and Giannarelli, 2019) Program participation is also highly variable across programs (e.g., 82 % of eligible people participated in SNAP in 2017 compared to only 51 % of eligible people participating in WIC) and states (e.g., participation in at least one public benefit program among income-eligible households ranged from 40 % to 70 % in 2014). (Minton and Giannarelli, 2019; U.S. Department of Agriculture Food and Nutrition Service, 2022; U.S. Department of Agriculture. WIC, 2017) Household characteristics also influence program participation: children are significantly less likely to participate in WIC after their first birthday, and immigrant families are more likely than non-immigrant families to forego assistance, even when eligible. (Bovell-Ammon et al., 2019; Whaley et al., 2020) Targeted changes to program implementation could improve program participation and participant experiences, with long-term benefits for health. (National Academies of Sciences E, and Medicine, 2019) For this reason, President Biden issued Executive Order 14,058 in December 2021

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Table 1
Existing Program Linkages from the Supplemental Nutrition Assistance Program (SNAP) to Seven other Public Benefit Programs Discussed in Interviews.

Linkage*	Description of Linkage	NSLP [†]	WIC [‡]	Medicaid/CHIP [§]	LIHEAP	Lifeline	Federal Rental Assistance	Child Care Subsidies
<i>Adjunct Eligibility</i>	Documentation of SNAP receipt confirms income-eligibility for the program. This is mandatory in states.		X					
<i>Categorical Eligibility</i>	Proof of enrollment in SNAP allows the participant to forego the full program application. This is mandatory in states.	X			X			
<i>Deemed Eligibility</i>	SNAP receipt can be used to determine financial eligibility. This is a state option.							X
<i>Direct Certification</i>	Data is matched across administering agencies to automatically determine eligibility without additional information from the participant. This is mandatory in states.	X						
<i>Express Lane Eligibility</i>	Similar to direct certification, children receiving SNAP can be determined eligible for the program. This is a state option to adopt that is not limited in duration or state need.			X				
<i>Qualifying Low-Income Consumer</i>	Proof of enrollment in SNAP allows participants to forego the full program application. This is mandatory in states.					X		
<i>Safe Harbor Under Calculation of Income</i>	Income determination from SNAP enrollment process can be used to calculate income at the time of program application. This is a state option to adopt.						X	
<i>Targeted Enrollment Strategy Waiver</i>	SNAP receipt is used to determine financial eligibility for the program without the participant providing an additional application. This is a waiver states can apply for that is limited in duration and state need.			X				
<i>Targeted Enrollment State Plan Option</i>	SNAP receipt is used to determine financial eligibility for the program without the participant providing an additional application. This is a state option to adopt that is not limited in duration or state need.			X				

* Linkages summarized based on prior work by the Center on Budget and Policy Priorities (Ambegaokar et al., 2017).

† National School Lunch Program (NSLP).

‡ Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

§ Children’s Health Insurance Program (CHIP).

|| Low Income Home Energy Assistance Program (LIHEAP).

calling on agencies to improve and modernize the participant experience in social benefit programs, including a direct call to the Secretary of Agriculture to identify opportunities to streamline administrative processes in nutrition assistance programs. (Transforming Federal Customer Experience and Service Delivery to Rebuild Trust in Government, n.d).

Currently, accessing programs and maintaining benefits often requires households to work with multiple separately-located agencies, provide redundant information across disparate eligibility systems, and repeatedly update income and employment information. (Online and Platforms, 2022) Current federal policy offers limited opportunities for state and local agencies to reduce administrative burden by facilitating co-enrollment across programs. (National Academies of Sciences E, and Medicine, 2019) For example, innovations in technology, targeted client outreach, and data sharing across administrative agencies facilitate easier enrollment and remove barriers to program access, but uptake of such strategies remains challenging for some states. (Online and Platforms, 2022) States implementing co-enrollment practices and coordinated service delivery saw improved participant satisfaction, shorter wait times, less paperwork, reduced program churn (experiencing a period without benefits before reapplying), and an increased number of eligible families receiving multiple benefits. (Isaacs et al., 2016a) However, many states have not implemented these strategies.

The Supplemental Nutrition Assistance Program offers the most opportunity for linkages across a range of food assistance, health, income support, and housing programs. Compared to other programs, SNAP offers coordinated delivery and co-enrollment processes such as adjunct eligibility, categorical eligibility, deemed eligibility, and direct certification (Table 1) that are either mandated (e.g. direct certification) or state options (e.g., deemed eligibility). (Ambegaokar et al., 2017) Identifying opportunities for program linkages and coordinating service delivery is critical to increasing program access, improving the experience of participating families, and, ultimately, improving health equity. (National Academies of Sciences E, and Medicine, 2019) This work builds upon and enhances findings from previous studies led by the

Center for Law and Social Policy, the Urban Institute, and Center on Budget and Policy Priorities. (Ambegaokar et al., 2017; Urban Institute, 2022) We provide an updated analysis of in-depth qualitative perspectives from state-level stakeholders on facilitators and barriers to integrated program enrollment across public benefit programs with a focus on linkages to SNAP.

2. Methods

2.1. Recruitment

We purposively sampled government leaders from states with experience implementing public benefit program linkages. We first made a list of all states participating in one of two programs: (1) Work Support Strategies (WSS), a five-year initiative to help families get and keep the benefits for which they are eligible (specifically SNAP, Medicaid, and child care assistance), implemented by the Center for Law and Social Policy (CLASP) in partnership with the Urban Institute and the Center on Budget and Policy Priorities (CBPP) starting in 2011; (Urban Institute, 2022) and (2) the Integrated Benefits Initiative Pilot, a partnership testing innovative approaches to modernizing and aligning the benefit delivery system. (Center on Budget and Policy Priorities, 2022a) We also identified additional states that implemented program linkages since these two prior initiatives to provide an updated analysis to previous research. Next, we identified agency leaders from these states through partnerships with three national organizations serving human services agencies. (Feeding America, 2022; Center on Budget and Policy Priorities, 2022b; American Public Human Services Association, 2022) We first contacted state SNAP directors for interviews and then identified other relevant stakeholders (e.g., other program directors, agency stakeholders, and implementing organization staff) through snowball sampling. To be eligible for an interview, participants were required to be 18 years of age or older and have recent experience implementing one of the following means-tested programs at the state or

local level: SNAP, the USDA National School Lunch Program (NSLP), WIC, Medicaid, the Children's Health Insurance Program (CHIP), the Low-Income Home Energy Assistance Program (LIHEAP), Lifeline (phone or internet service), federal rental assistance, or childcare subsidies. The majority of individuals interviewed held roles that oversaw multiple public benefit programs.

2.2. Data collection

In-depth telephone interviews were conducted by a trained, graduate student researcher (SW) between December 2019 and July 2020 using a semi-structured interview guide. We selected interviews as our methodology to allow flexibility to deeply explore topics introduced by participants within their unique state and local context. (Seidman, 2006) We conducted interviews over the phone allowing for geographic diversity in our sample and creating efficiency for the research team and interviewees. (Block and Erskine, 2012; Trier-Bieniek, 2012) In-depth interviews via the telephone generate robust data when compared to face-to-face interviewing methodologies. (Block and Erskine, 2012).

The Consolidated Framework for Implementation Research (CFIR) is an implementation science framework to understand program and policy innovation (i.e., program linkages). (Damschroder et al., 2009) We used CFIR to inform guide development to ensure the inclusion of factors that previously predicted effective program and policy implementation. The CFIR is organized into five domains: intervention characteristics (e.g., available technology systems), outer setting (e.g., federal regulations impacting program linkages), inner setting (e.g., priorities of administering agencies), individual characteristics (e.g., views and opinion of agency leaders), and process (e.g., processes linking social benefit programs) (Table A1). (Damschroder et al., 2009) We iteratively revised the guide for clarity and content in consultation with four experts from two social policy organizations. Interviews included one to four individuals from each state, depending on the preference of state leadership, and lasted approximately 60 min. Questions were asked about agency goals related to multiple program participation, current policies and processes coordinating program enrollment and delivery, and the barriers and facilitators of implementing program linkages (Table A1). Specifically, we asked states about co-enrollment and coordination efforts between SNAP and seven other public benefit programs (Table 1). All interviews were audio-recorded and professionally transcribed.

To document characteristics of states in our sample and compare representation to the U.S. we completed a desk review of population characteristics using data from the U.S Census, (United States Census Bureau. Explore Census Data. Accessed Feb 22, 2022) United States Department of Agriculture (USDA), Centers for Medicare & Medicaid Services, and Code for America. (U.S. Department of Agriculture Food and Nutrition Service, 2022; Medicaid.gov., 2022; Renalli et al., 2021; Code For America, 2022) The Institutional Review Board (IRB) at the [blinded for peer-review] deemed research as exempt from IRB oversight because interviewees participated within their professional capacity. All interviewees provided informed verbal consent before beginning the interview and audio-recording.

2.3. Data analysis

All transcripts were read, coded and analyzed in ATLAS.ti. First, a trained graduate student researcher (GH) used a line-by-line inductive and deductive coding approach on four transcripts. Deductive codes were informed by the constructs of the CFIR framework across the five domains, with line-by-line coding generating detailed codes relevant to the constructs. Next, codes were theoretically collapsed and mapped onto the domains of the CFIR framework to develop an initial codebook. The codebook was discussed with the principal investigator (AM) and iteratively modified to reach agreement on code definitions. Next, two trained graduate student researchers (GH and AR) independently coded two transcripts and assessed inter-coder agreement by comparing coded

Table 2

Characteristics of States (n = 13) Represented in In-Depth Interviews about the Implementation of Program Linkages to Promote Co-Enrollment in Public Benefit Programs.

Characteristic	Sample n (%)	U.S. N (%)
Total	13 (100)	50 (100)
Political Characteristics		
<i>Political Party Affiliation of Governor*</i>		
Republican	6 (46)	27 (54)
Democrat	7 (54)	23 (46)
Geographic Characteristics		
<i>U.S. Census Region</i>		
Northeast	4 (31)	9 (18)
South	2 (15)	12 (24)
Midwest	2 (15)	16 (32)
West	5 (38)	13 (26)
Population Characteristics		
<i>Size[†]</i>		
< 2,000,000	4 (31)	14 (28)
2,000,000 – 9,000,000	5 (38)	25 (50)
>9,000,000	4 (31)	11 (22)
<i>Rurality[‡]</i>		
≤25 % rural	7 (54)	21 (42)
>25 % rural	6 (46)	29 (58)
<i>Population < 100% of the Federal Poverty Level[§]</i>		
≤10 %	3 (23)	13 (26)
>10 %	10 (77)	37 (74)
Public Benefit Program Administration		
<i>State or County Administration of SNAP</i>		
State	11 (85)	40 (80)
County	2 (15)	10 (20)
Previous Participation in Work Support Strategies or Integrated Benefits Initiative Pilot	10 (77)	11 (22)
SNAP Caseload, median (IQR)	760,469 (1,002,955)	529,435 (629,780)
Medicaid/CHIP Caseload, median (IQR) ^{**}	1,468,338 (2,028,254)	958,732 (1,357,725)
Established Methods to Promote Co-Enrollment		
<i>Direct Certification Rate, 2018–2019^{††}</i>		
<95 %	3 (23)	12 (24)
> 95 %	10 (77)	38 (76)
Number of Programs with Online Applications, mean (sd) ^{§§}	3 (1.1)	3 (0.9)
Number of Programs with Combined Applications, mean (sd) ^{§§}	3 (1.6)	3 (1.2)

* Governor political party defined at the time of the interview.

† Per the 2020 Census (United States Census Bureau. Explore Census Data, 2022).

‡ Defined by the proportion of housing units in the state being classified as rural per the 2010 Census (United States Census Bureau. Explore Census Data, 2022).

§ Per the 2019 ACS 1-Year Estimates (United States Census Bureau. Explore Census Data, 2022).

|| Supplemental Nutrition Assistance Program (SNAP) caseload as reported by the USDA for December 2019 (U.S. Department of Agriculture Food and Nutrition Service, 2022).

** Medicaid and Children's Health Insurance Program (CHIP) caseload as reported by states to Centers for Medicare & Medicaid Services for December 2019 (Medicaid.gov., 2022).

†† Direct certification is the mandated process in which children are automatically certified for the National School Lunch Program without application based on participation in another means-tested public benefit program. The USDA has set a benchmark of 95%. Data from school year 2018–2019. (Renalli et al., 2021).

§§ Online applications and combined applications for five total programs: Medicaid, SNAP, Temporary Assistance for Needy Families (TANF), Special

Supplemental Nutrition Program for Women, Infants, and Children (WIC), and/or Low Income Home Energy Assistance Program (LIHEAP) as of 2019. (Code For America, 2022).

segments of text; differences in code use were discussed to reconcile discrepancies. The researchers then independently coded eight transcripts, assessed inter-coder agreement, and met with the research team to finalize the codebook, resulting in 45 codes across five code groups (Table A2). The researchers (GH and AR) coded all transcripts, recoding the transcripts used for codebook development (GH = 8 transcripts, AR = 8 transcripts). Researchers wrote memos after coding each transcript, documenting emerging themes and findings. The research team discussed preliminary findings and shared them with participants via email, allowing participants to engage with and add to the interpreted data; participants confirmed the findings as accurate.

3. Results

3.1. State characteristics

We completed 16 in-depth interviews with 23 individuals holding director, administrator, manager, or staff advocate titles from 13 states that were representative of the U.S (Table 2). Most states represented administered SNAP at the state-level (85 %), and most (77 %) had participated in either WSS or the Integrated Benefits Initiative Pilot. In the school year 2018–2019, the majority (77 %) of states met USDA’s direct certification benchmark of 95 %; this is a mandated linkage between SNAP and NSLP which uses SNAP data to establish NSLP enrollment automatically among eligible school-aged students. (Renalli et al., 2021) Among states represented, across Medicaid, SNAP, WIC, Temporary Assistance for Needy Families (TANF), and LIHEAP, an average of three (SD = 1.1) of the applications were online and an average of three (SD = 1.6) of the five applications were combined. (Code For America, 2022).

3.2. Key themes

We identified five themes related to linkages used by state agencies to facilitate co-enrollment (Table 3) and facilitators and barriers affecting coordinated program delivery (Table 4). Themes included: (i) technology innovation and limitations; (ii) communication and collaboration across agencies; (iii) federal mandates and the need for state authority; (iv) political will; and (v) frontline staff.

3.2.1. Technology innovation and limitations

Integrated eligibility systems took different forms across state agencies and included: (i) data sharing between administering agencies, which allows agencies to determine eligibility based on information already provided by the participant for a separate program; (ii) combined program applications, meaning a joint application can be used to determine eligibility for more than one program; or (iii) an online application portal where customers can access applications for multiple programs. (Center on Budget and Policy Priorities. Integrated Benefits Initiative: New Approach to More Human-Centered Safety Net. Accessed January 25, 2022) These systems were always described by agency leaders as crucial to facilitate linkages between programs and promote co-enrollment; yet, many state agency leaders described lacking the resources needed to implement this technology. Outdated eligibility systems, referred to as legacy systems, were described by many agency leaders as reinforcing siloes between administering agencies because they hinder automatic integration. Paper applications were also commonly described as hindering integration across agencies while online applications and customer portals were described as promoting efficiency.

Many agency leaders shared that they wanted to use technology to create more human-centered approaches to eligibility determination

Table 3
Themes Related to Processes and Structures needed to Achieve Co-Enrollment in Public Benefit Programs.

Theme	Description	Illustrative quotes
Technology Innovation and Limitations	Building integrated technology systems that allow data sharing across agencies and combined applications created efficiencies for staff and reduced burden for participants, but lack of resources made it challenging to establish.	“Our goal is to have one portal where people can come in and access all of the programs and services administered by the Agency of Human Services...and then hopefully we’re connected to the child support system and exchange data there. Our child welfare system will hopefully be connected to that at some point and then our child development or childcare system as well.” -State 2 “In SNAP land, folks can be eligible for a higher benefit amount if they demonstrate medical expenses. And, many times, a barrier to folks was that they had turned in those receipts and documentation to the housing authorities, and no longer had copies, or were having difficulty getting those copies, because housing uses them to reduce rent, as well. So, I believe we were the first state to take this approach, but we have the authority to print out their rental computation forms, and on it is listed the individual’s medical expenses, the cumulative amount. And, instead of, say, taking each individual receipt, or whatever it is that they turn into the housing authority, we can simply use that sheet, and that streamlines the process and kind of allows us to capitalize on information that was shared with the housing authority.” – State 10
Communication and Collaboration Across Agencies	Public benefit program administration is segmented across agencies, making establishing trusting working relationships and information sharing protocols across agencies vital to co-enrollment success.	“In terms of the co-enrollment with Medicaid, we do provide a regular data dump of all SNAP recipients to our Medicaid agencies, they [Medicaid and SNAP] are two separate agencies. At the county level, most of them are co-located although the administrations remain separate, so on the SNAP side we do have that as a priority in terms of sending the data over, and I do know that Medicaid uses that for a large portion of their eligibility.”-State 13 “We have an all-programs team meeting every Thursday where they sit down, the members of the team, and go over initiatives they’re working

(continued on next page)

Table 3 (continued)

Theme	Description	Illustrative quotes
		on, how they might intersect with the other program, how we could leverage those benefits of whatever that new initiative is and also are there things happening that are adversely impacting maybe something in another program [...] And so we just have a really strong team here between our programs that really just makes sure we're all rowing in the same direction and doing everything we can to maximize the programs for participants and make it as easy as possible to access the programs." <i>State 2</i> "I actually am the sponsor for [State Housing Agency] to have access into our eligibility system to get all the information they need for their determination. So we communicate constantly, we have MOUs in place, and they have direct access into our system to see what they need so they know all the information they need to use our public assistance information in their determination." <i>-State 8</i> "So in other programs, they are totally state-operated or funded. Therefore we get to choose, right? We get to say how does one qualify for this program. And then in federal programs like TANF, you tend to have more flexibility for how somebody qualifies for basic cash assistance. So in many of those cases where there is flexibility, we've chosen to align policies more so to food assistance [SNAP], for instance, where we think that that is beneficial to create administrative efficiencies." <i>-State 11</i> "I honestly think that in my world, managing SNAP, sometimes it puts you at a disadvantage when you have these combined applications and when you have a combined system because your reporting requirements can be different across programs [...] Although it might be better for the customer in certain ways, I think the administrative part gets a little bit tricky." <i>-State 2</i> "We have a new governor, and the secretary of the health and human services agency has placed a really high priority in terms of
Federal Mandates and need for State Authority	Varying degree of state/local authority over public benefit programs both promoted and hindered co-enrollment efforts; federal oversight and mandates left states wanting additional guidance of how to align program operations.	
Political Will	Shared visions across agencies and top government leadership, data, and pressure from community organizations	

Table 3 (continued)

Theme	Description	Illustrative quotes
	and advocates promote agendas and change to achieve co-enrollment.	guiding principles and a strategic vision of integration and coordination across and between programs and really taking a person-centered approach, thinking about the person being served and how the state can best fulfill all of the needs with the full package of benefits, services and other programs that they are entitled to with minimum duplication and minimum administrative burden." <i>- State 5</i> "The one thing that I will say about our state and our state agency, in particular, is that because they are so under-resourced, they don't have the luxury of having a really long attention span. And, so, emergencies come up, their attention is sort of being very frequently and rapidly diverted away from, I think, more proactive things that they could be doing." <i>- State 6</i> "And I know from our leadership's standpoint we are placing a very large focus on social determinants of health and insuring that everybody is receiving all the benefits to which they are eligible to help support them in maintaining the best health and outcomes that they can so that they can go on and become independent, without relying on the Department of Human Services' benefits." <i>- State 3</i> "We do something here called 'with informed choice'. So whenever a household first comes in and applies or does a recertification for another program, our workers are trained to look at that information they're providing to determine if they might qualify for other benefits." <i>- State 1</i> "One practice that we have is we actually have a WIC technician that is sited in our lobby-two days a week to process WIC applications so that we can do warm handoffs right in our lobby for SNAP enrollees to WIC. So not really a data strategy but definitely kind of an operational strategy." <i>-State 11</i>
Frontline Staff	Caseworkers and outreach staff counseling patients on eligibility can fill gaps in technology systems, but inability to determine eligibility across multiple programs and lack of knowledge can hinder efficiency.	

Table 4
Facilitators and Barriers to Establishing and Advancing Processes and Structures to Achieve Co-Enrollment.

Theme	Facilitators	Barriers
Technology Innovation and Limitations	Investment in modernized technology systems (i.e., integrated eligibility systems such as combined applications and online application portals) Automatic enrollment processes (e.g., automatically being enrolled in NSLP* via direct certification if receiving SNAP† without additional processes or agreement needed from the participant)	Legacy eligibility systems maintain siloed administering agencies Limited financial resources to upgrade technology systems Long timelines required to accomplish system upgrades and modernization
Communication and Collaboration Across Agencies	Data hubs to share participant eligibility information across agencies Memorandums of Understanding to establish data sharing protocols and data protections between agencies Inter-agency working groups and meetings to collaborate as an entire state Professional meetings and networks facilitating peer-learning to share innovative best practices	Inability to automatically share data across eligibility and administering systems Siloed agencies with lack of alignment in priorities and no prior working relationships
Federal Mandates and need for State Authority	Use of state authority over block grant program implementation to align eligibility criteria across other programs Federal mandates of direct certification to establish data sharing mechanisms	Misaligned eligibility criteria across public benefit programs Insufficient guidance from federal agencies on how to coordinate program delivery
Political Will	Aligning recertification periods of programs Shared missions and visions across agencies focused on holistic program delivery to improve the health and economic wellbeing of participants Upper state leadership (e.g., governors) prioritizing system change to promote coordinate program delivery Use of data (e.g., child poverty rates, program churn, etc.) to inform decisions and motivate change Community organizations and advocacy groups setting agendas for policy and process changes needed to coordinate program delivery	Historically siloed agencies lacking relationships to establish a shared goals and priorities across agencies Misaligned goals among program leadership and upper state leadership Lack of performance data available to inform priorities
Frontline Staff	Training caseworkers and outreach staff to counsel and/or determine eligibility on multiple public benefit programs	Lack of communication of policy and process changes to frontline staff

Table 4 (continued)

Theme	Facilitators	Barriers
	Co-locating caseworkers of different programs in the same building	Lack of financial resources to accomplish outreach goals

* National School Lunch Program (NSLP).

† Supplemental Nutrition Assistance Program (SNAP).

and certification to improve efficiency for staff and participants; however, limited financial resources and time required to upgrade technology made it challenging for this to come to fruition. Yet, agencies still discovered innovative ways to overcome technology barriers. For example, one agency leader described integrating SNAP and housing assistance by sharing reported medical costs between programs through a shared form developed by the agencies, which reduced the burden for participants by eliminating the need to report redundant information.

3.2.2. Communication and collaboration across agencies

No state in this sample had all public benefit programs administered by a single agency. The majority of agency leaders described trust, communication, and collaboration across agencies as vital to overcoming segmentation. Most agency leaders described learning about co-enrollment best practices through attending nationwide or regional professional meetings and workgroups; these spaces facilitated peer-learning and encouragement to improve co-enrollment performance. For many agency leaders interviewed, Memorandums of Understanding facilitated data sharing capabilities across agencies. The most common barrier faced by agency leaders interviewed was the inability to share data across administering agencies automatically (e.g., the inability to share WIC eligibility data with SNAP administering agencies to determine eligibility). One agency leader described overcoming this by establishing an inter-agency data sharing hub whereby participant information was shared across agencies, but this was uncommon across states in the sample.

Inter-agency meetings and workgroups facilitated relationship-building and resource-sharing across agencies. Some agency leaders said having a shared philosophy and mission across agencies helped with communication and achieving shared goals. Yet, highly segmented agencies, such as housing agencies that are operated through many local housing authorities, were commonly described as challenging to share SNAP income eligibility data with due to the need to develop working relationships across multiple local agencies instead of one central agency.

3.2.3. Federal mandates and need for state authority

Federal public benefit programs are authorized by the federal government and implemented by Tribal, state, and local agencies. Federal mandates for certain components of program implementation were described as both promoting and hindering state-level authority to implement linkages. For example, the federal government mandates data sharing between agencies for the direct certification of children into NSLP. Direct certification across entitlement programs uses certified eligibility of one means-tested federal public benefit program (e.g., SNAP) to automatically enroll participants into another program (e.g., NSLP). (Renalli et al., 2021) To facilitate direct certification, data sharing mechanisms have been established across all states to meet USDA’s benchmark of enrolling at least 95 % of children receiving SNAP into NSLP. While most states in our sample met the benchmark, some agency leaders described difficulties due to data discrepancies between administering agencies (e.g., lack of a unique personal identifier). Agency leaders noted that additional guidance from federal agencies would help overcome data sharing barriers, like those encountered through direct certification processes. Additionally, many states described barriers of co-enrolling across SNAP and WIC (not an entitlement program); some agency leaders described this as a challenge

because of disparate technology systems, in addition to the need to diagnose nutritional risk prior to enrolling in WIC.

Some agency leaders described leveraging state and local authority to promote program linkages. Commonly, agency leaders described aligning recertification periods across at least two programs, commonly SNAP and Medicaid (an entitlement program), to reduce the administrative burden for staff and participants. Additionally, some public benefit programs (e.g., TANF) are authorized as block-grant programs, meaning states have additional flexibility to administer the program within fixed federal funding levels. Some agency leaders described using this flexibility to align eligibility criteria with common public benefit programs, such as SNAP. Many agency leaders described a need for additional guidance from authorizing federal agencies (e.g., USDA and HUD) on how to align application processes across the segmented agencies and programs that have disparate eligibility criteria. Some agency leaders described the need to revise eligibility criteria across programs through Congressional action. For example, Congress could authorize the creation of an inter-agency workgroup to provide expert recommendations on the alignment of eligibility criteria to achieve co-enrollment.

3.2.4. Political will

Universally, interviewees agreed that political will was needed to foster systems change and promote co-enrollment. Political will took the form of shared goals across agencies and top government officials, the use of data to inform and motivate change, and pressure applied by community organizations and advocates. Many agency leaders described a shared vision of providing holistic support to participants to promote health and economic wellbeing as motivation to establish co-enrollment systems. Changes to top government leadership, such as a new governor taking office, were described as a force of change impacting agency goals and activities. One agency leader shared their new governor prioritized addressing social determinants of health by improving program access and co-enrollment; for example, improving access to SNAP and Medicaid could address two social determinants of health. Some interviewees shared that under past governors, efficiency and holistic benefit delivery were not a state-level priority, leading to insufficient resources and inadequate support for promoting co-enrollment.

Interviewees commonly described relationships with community organizations and advocates as motivating change. Some interviewees described the importance of these stakeholders for informing program and policy agendas within the state, noting the impact of coalitions on system change. One agency leader shared that a coalition between SNAP agency leadership, anti-hunger and SNAP advocates, nonprofits, and foundations developed a plan to end hunger in the state, including prioritizing system alignment to create better access to public benefit programs. Some interviewees also described using data, such as childhood poverty rates and the “SNAP gap” (i.e., the rate of eligible people not enrolled in the program), to inform new strategies.

3.2.5. Frontline staff

Caseworkers and outreach staff were described by some agency leaders as important for establishing linkages across programs and promoting co-enrollment, often filling a system gap caused by lagging technology and limited data sharing capabilities between agencies. Some agency leaders described training caseworkers to determine eligibility across multiple programs during eligibility interviews for SNAP to promote co-enrollment. When caseworkers were not integrated across programs (e.g., SNAP and WIC), “warm handoffs” between different agency caseworkers were described as facilitating connections across programs: one agency leader described stationing a WIC caseworker in the lobby of a SNAP-administering agency to facilitate handoffs. Other interviewees noted that inadequate training and knowledge among caseworkers across programs were barriers to co-enrollment (e.g., SNAP caseworkers not being knowledgeable about

housing assistance).

In some states, agencies shared data but lacked the resources needed to hire sufficient outreach staff to contact eligible participants. Because of this resource limitation, agency leaders described not fully utilizing shared data. Some agency leaders suggested outreach staff should work across public benefit programs to share resources among agencies and promote efficiency. For example, one agency leader suggested that Medicaid outreach staff in hospitals could also provide information about SNAP.

4. Discussion

This study aimed to understand states’ strategies to promote co-enrollment across public benefit programs through the use of program linkages stemming from SNAP and to identify facilitators and barriers to achieving integrated program delivery. Across agencies in our sample, co-enrollment was viewed favorably as a means of creating human-centered and efficient public benefit programs in the U.S. Facilitators of program linkages included modernized technology systems, collaboration across administering agencies, state-level innovation to align programs’ eligibility criteria, and political will among upper government leadership. Barriers to co-enrollment efforts included outdated technology systems, limited financial resources, lack of communication across administering agencies, absence of political motivation for system change, and inadequate guidance from federal agencies. Frontline staff, such as case workers and outreach staff, were identified as helpful for closing some system gaps, but not sufficient to advance co-enrollment goals or achieve full integration.

Past co-enrollment initiatives include the Work Support Strategies (WSS) Initiative and the Integrated Benefits Initiative, and this study’s findings align with prior evidence evaluating these programs and provide an updated snapshot of state-level stakeholder perspectives. (Institute et al., 2022; Center on Budget and Policy Priorities. Integrated Benefits Initiative: New Approach to More Human-Centered Safety Net. Accessed January 25, 2022) States involved in the WSS reported the value of aligning priorities across agencies and government leadership, building coalitions of diverse stakeholders (e.g., agency staff, caseworkers, and community organizations) to drive systems change, aligning program policies as closely as possible, and securing funding to update technology systems; interviewees in our study described similar facilitators and needs for promoting co-enrollment. (Loprest et al., 2016; Isaacs et al., 2016b; Hahn et al., 2016) Interviewees in our study emphasized the need for federal funding for system upgrades; states involved in WSS specifically described benefiting from funding provided through the Affordable Care Act, which could be used to update Medicaid eligibility systems and also leveraged to integrate eligibility systems across other programs. (Loprest et al., 2016) Similar to technology advancements described by states in our sample, states involved in WSS described great benefits for both staff and clients when technology advancements like online application portals and joint program applications were implemented. (Loprest et al., 2016) Technology was also vital to the success of the Integrated Benefits Initiative, with one state integrating benefit applications for nine programs within one website, reducing administrative burdens for both caseworkers and participants. (Code For America, 2022) While automatic and combined enrollment is a more efficient and human-centered design, data sharing between agencies is an interim step that could be taken to reduce the administrative burden that may be feasible for more states. (Maneely and Neuberger, 2021) Developing data sharing agreements between agencies, like Memorandums of Understanding (MOUs), and investing in technology, connects agencies beyond caseworker to caseworker relationships.

Agency leaders in our sample shared a motivation to improve integration across public benefit programs with the goals of addressing underlying determinants of health, improving health among participants, and promoting health equity, which was a new theme identified

in our study compared to past work evaluating WSS and the Integrated Benefits Initiative. This motivation aligns with the Center for Disease Control and Prevention (CDC) Public Health 3.0 Framework, which suggests that addressing factors outside of traditional healthcare systems, such as housing and healthy food access, will lead to improved population health and address persistent population health disparities. (DeSalvo et al., 2017) One component of the framework includes the need for multisectoral collaboration and integration, such as integration across public benefit programs. (DeSalvo et al., 2017).

Human-centered systems (i.e., integrated eligibility systems) were described favorably by agency leaders in our sample, as they reduce administrative burdens by minimizing staff time on a given case and reduce the amount of redundant information a participant provides across programs. (Hahn et al., 2016) Automatic enrollment, joint applications, simplified recertification processes, and data sharing are some strategies to achieve efficient systems. For example, Express Lane Eligibility is a linkage that uses SNAP eligibility findings to issue CHIP benefits without any additional action required by the participant. (Ambegaokar et al., 2017) Express Lane Eligibility has been found to improve enrollment and retention among eligible children and also reduces overall administrative costs, particularly when completed automatically by technology systems versus caseworkers. (Hoag, 2015; Blavin et al., 2014) In Michigan, it is estimated that 200,000 h of caseworker time was saved in a year by simplifying recertification processes across social benefit programs. (Schweitzer, 2022) Further, when administrative burdens were reduced across TANF, SNAP, and Medicaid between 2000 and 2016 (e.g., using automatic enrollment processes, presumptive eligibility, and automating recertification) coverage across these social benefit programs increased among eligible participants. (Fox et al., n.d) Creating these human-centered systems and reducing administrative burdens could be especially important for vulnerable populations that struggle to navigate the public benefit system, such as immigrant populations, older adults, and people with disabilities. (Schweitzer, 2022; Acevedo-Garcia et al., 2021; Bitler et al., 2020) For example, among mixed immigrant status families, automatic enrollment into all eligible programs may promote coverage and program uptake. (Acevedo-Garcia et al., 2021; Bitler et al., 2020).

4.1. Limitations

One limitation of this qualitative study is that participants are from a subset of U.S. states – results are not intended to be generalizable across all states. Instead, we purposively selected states in our sample based on their previous experiences working to promote co-enrollment through established program linkages. Second, our interviews, except for two, took place before the COVID-19 pandemic. The COVID-19 pandemic required rapid innovation from states to meet the increased demand for public benefit programs; these findings do not speak to innovations made by states during the pandemic. Third, we were unable to compare findings based on SNAP administration at the state vs local level as we only included two states in our sample that implement SNAP at the local level. Finally, findings represent the perspectives of upper-level leadership within state health and human service agencies and do not represent the lived experiences of program participants or frontline staff. This research provides rich detail and recommendations from stakeholders intimately involved in program implementation and can inform future research that prioritizes the expertise of frontline staff and people using public benefit programs in the U.S.

4.2. Implications for policy and practice

This research begins to address gaps in the literature to identify actions that could be taken by government stakeholders, professional organizations, and researchers to promote co-enrollment. At the federal level, Congress and relevant government agencies could reform mandates (e.g., eligibility and reporting criteria) to improve alignment

Table A1
Interview Guide Domains and Questions.

CFIR* Domain	Interview Questions
Intervention Characteristics	What kind of evidence do you think is needed for program linkages to be prioritized in your state? What policies or processes has your agency put in place to facilitate co-enrollment in [NSLP [†] , WIC [‡] , Medicaid, LIHEAP [§] , Lifeline, housing assistance, or childcare subsidies] and SNAP ? Are there any other policies or process that have been implemented to coordinate enrollment or recertification across multiple programs that I haven't asked about?
Outer Setting	What motivates your work to promote program co-enrollment? What are the key resources required to implement these linkages? What, if any, additional resources, support, or technical assistance are needed to facilitate cross-enrollment? How are opportunities to coordinate enrollment or recertification in multiple programs communicated to your agency? What, if anything, have you learned from other states involved in similar work? What is the role of current or former program participants in informing this work?
Inner setting	Do you think your state places a priority on coordinating enrollment and recertification across multiple health and human services programs? Data from SNAP could in some circumstances be used to facilitate enrollment in many other health and human services programs, such as the National School Lunch Program, WIC, Medicaid and CHIP, childcare subsidies, housing and energy assistance, and discounted phone services. What are your agency's goals around co-enrollment? How could coordination be improved? What is the biggest barrier to improving coordination?
Individual Characteristics	Can you tell me a little bit about your role at your agency and your involved in health or human services programs? Which health or human services programs do you work on and what do you do?
Process	Who has championed this work? How do you know if you are meeting your co-enrollment goals? What measures do you care about or pay attention to? How do you know if your agency's actions are effective? What do you find most challenging about using SNAP status to enroll people in multiple public benefit programs? What concerns you most in the future of using SNAP status for multiple program enrollment? What recommendation do you have for other states doing similar work?

* Consolidated Framework for Implementation Research (CFIR).

† National School Lunch Program.

‡ Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

§ Low Income Home Energy Assistance Program (LIHEAP).

|| Supplemental Nutrition Assistance Program (SNAP).

across public benefit programs and support joint eligibility determination across programs. Establishing and providing additional funding for technology enhancements, similar to funding provided through the Affordable Care Act, could also support integration across multiple public benefit programs. Additionally, federal- and state-level funding provided to professional organizations and inter-state coalitions to disseminate best practices (i.e., MOU language) to support data sharing across agencies could support program integration.

At the state level, training staff (e.g., caseworkers and outreach staff) to enroll participants in multiple programs with a single interaction could promote enrollment across programs. Collaborating across agencies, creating shared visions, and prioritizing system enhancements that create human-centered public benefit programs are also important actions to consider prioritizing at the local agency level. Professional organizations can continue to support state-level advancements by

Table A2
Codebook: Codes and Definitions.

Domain	Construct	Code	Definition	When to Use	When not to use
Intervention Characteristics	Adaptability	Flexible	Flexible components of a program or system in place (i.e. block grants and flexibilities this allows)	Use when discussing the flexibilities a program may have and why these flexibilities may exist	If speaking about eligibility criteria by not qualifying if flexible
Intervention Characteristics	Complexity	Interview	When applying for certain benefits, an interview is required. Describes process of interview, reason for interview, etc.	Describes any components related to needing to interview for benefits.	Do not use when discussing other components of the application that are not related to the interview.
Intervention Characteristics	Complexity	Communication	Describes how applicants/participants are communicated with and how participants can communicate back with agencies	When describing communication methods (letter, phone, email, etc.) about anything pertaining to application, scheduling interviews, or recertification	Do not use when describing communication between stakeholders. Do not use when describing communication that would occur during benefit interview.
Intervention Characteristics	Complexity	Restrictive	Discusses losing benefits when it is not appropriate to be losing benefits.	Use when informant is describing anything that is restrictive about the social safety net, including any proposed change. Use when discussing “cliff effect”, bridging to self-sufficiency, may be used when discussing components of categorical eligibility.	Do not use when informant describes how their job may be restricted to certain tasks.
Intervention Characteristics	Complexity	Enrollment	Describes anything related to enrollment process (application, eligibility criteria, etc.).Describes criteria to be eligible for a program and differences/commonalities among different programs’ criteria. Describes the application (online, paper, etc.) for any benefits administered.	When describing any eligibility criteria. Includes streamlining/standardizing criteria. Includes describing differences in eligibility between different programs and how this impacts how enrollment into programs is aligned. When describing application process and portal (including online). Also use when discussing integration among programs.	Do not use when discussing auto-enrollment, or the need to opt-in to programs
Intervention Characteristics	Complexity	Error	Describes accuracy of benefit amount provided, overpayments, underpayments, etc.	Use when describing possible errors that can happen when issuing benefits	Do not use when not speaking about issuance errors.
Intervention Characteristics	Complexity	Employment	Employment requirements for a program or an employment program created to help meet requirements	Use when discussing employment requirements or employment programs.	Do not use when discussing employment of individuals that are not program recipients (i.e. employing more case workers)
Intervention Characteristics	Cost	Third Party	Describes vendor/third party who is hired to create a system for applications to be processed or to create an integrated system	When describing anything having to do with a third party/vendor	When discussing integration of systems broadly without mention of third party.
Intervention Characteristics	Cost	Economic	Describes the cost related to the intervention program to the jurisdiction/state/nation	Describes a cost saving or increased cost related to the issuance or restrictive issuance of a given social program.	Do not use when discussing returning \$ to the local economy—just ripple effect.
Intervention Characteristics	Design Quality and Packaging	Opt-in/Opt-Out	Use when discussing auto-enrollment, opting-in, or opting-out to other programs that an individual is eligible for.	When describing co-enrollment and needing to opt-in. When discussing opt-out mechanisms.	Do not use if strictly speaking of enrollment process.
Intervention Characteristics	Design Quality and Packaging	Re-certification	Describes process or process changes in recertification for programs.	When informant describes re-cert process. Includes describing trying to align recert with recert of other programs.	Discussing data specific to churn (use tracking)
Intervention Characteristics	Trialability	Innovation	Describes new, or need for new, components or approaches to an assistance program or system	When describing innovations made, innovations they wish could be made, success/failures of innovations. Describes components of programs that may be specific to that state because of prior innovation.	Do not use when speaking about federal policy change.
Intervention Characteristics	Cosmopolitanism	Coalitions	Describes influence and purpose of a broad group of stakeholders working together. Also use when discussing work groups.	When discussing coalitions	If only discussing one stakeholder (i.e. advocates)
Outer Setting	Cosmopolitanism	Professional Organizations	Learning about programs and how to change operations from professional organizations	Informant discusses role of a professional org	Does not include role of states or Fed dept.
Outer Setting	External Policies and Incentives	Federal policy	Describes a policy or regulation at the federal level that impacts how their jurisdiction operates or when describing the impact of a federal department on program implementation.	When discussing ABAWD, broad-based categorical eligibility, or other nationwide implication, including data sharing or aligning eligibility criteria across programs. Also use when discussing federal policy changes.	.
Outer Setting	External policies and Incentives	Political Will	Political will or politics at local or national level that impact how programs are administered	Discussing political will or political party, or role of political leaders at the local level. Also talking about priorities of administration	Do not use for specific policies or regulations mentioned or the influence of a federal department.
Outer Setting		Local Policy			

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Table A2 (continued)

Domain	Construct	Code	Definition	When to Use	When not to use
Outer Setting	External policies and incentives External policies and incentives	Ripple Effect	Describes local policy that enables or restricts administration/enrollment within a program Describes impacts changes to the social safety net have on other components of the society, including economic impacts.	Use when discussing local policy. May overlap with “waiver” if a waiver was used to achieve this policy change. Use when describing impacts outside of social safety net including school funding because of participation rates, or other funding in society connected to social safety net. Use when discussing economic impacts (i.e. more \$ being returned to local economy through SNAP).	Do not use when discussing the political environment of the jurisdiction. Do not use when only discuss impacts within the social safety net.
Outer Setting	Patient needs and resources	Advocate Organization	Describes how advocates influence any stage of work within department/agency. Also describes influence of NGOs, or think-tanks	When informant describes how they interact with advocates or how advocate work influences their work/policies. Also used when describing impact of NGO	Do not use when speaking about a coalition of a broad group of stakeholders.
Outer Setting	Patient needs and resources	Community Organization	Describes community orgs or partners and how they influence/promote the enrollment of individuals into programs	Speaks about direct support provided to individuals regarding enrollment/reach of benefit programs. Use when describing ACA navigators (do not use case workers)	Do not use when speaking about advocacy organizations, meaning just speaking about programmatic or policy changes achieved
Outer Setting	Patient Needs and Resources	Health	Describes influence/motivation to change or continue with certain aspects of programs to promote health	When discussing health, health promotion, or social determinants of health in relation to safety net programs	When not discussing health related motivation.
Outer Setting	Patient needs and resources	Population characteristics	Characteristics of the jurisdiction (state or county)	Use when describing the state or county within the interview i.e. the poverty rate, wealth, older adults etc.	Do not use when discussing political setting.
Outer Setting	Peer Pressure	States	Learn how to improve practices from other states; operations influenced by practices of other states	Informant discusses influences of other states	Do not use if only discussing what another states does—must describe how this influences what the informant’s state does.
Outer Setting	Readiness for Implementation	Knowledge/Skills	Describes knowledge of case workers, department staff, or others working with participants	Includes any existing knowledge gaps or knowledge known by staff. Also includes knowledge gaps of informant. Use when describing training and skills of case workers.	Do not use when describing knowledge of participants.
Inner Setting	Readiness for Implementation	Case Workers	Describes the role of eligibility specialists including if they co-enroll individual into different programs (i.e. they screen individuals for multiple programs at once)	When describing role, process, and responsibilities of program specialists/case workers	Do not use when talking about roles of agencies/departments
Inner Setting	Readiness for Implementation	Resources	Describes resources available to staff to complete their jobs efficiently or describes limited resources in terms of staff within the dept. Also for state level resources.	When describing anything related to staff resources, budget, time of staff, office resources, etc.	Do not use when describing knowledge of staff or explicitly speaking about data mgmt. services or technology services without also speaking of financial cost.
Inner Setting	Networks and Communications	Administration	Describes administration of programs at jurisdiction level or within different agencies.	When describing role of different agencies. May overlap with “interagency collaboration”	Do not use when describing role/responsibilities of an individual.
Inner Setting	Networks and Communications	Interagency Collaboration-Facilitator	Describes how different departments or agencies are working each other. Includes how information is shared back and forth between different agencies. Describes successful communication between different agencies/departments	Informant describes how they are linked to other departments/agencies. When describing what one agency does vs another agency. Includes communication, how agencies do communicate with one another about programs.	When describing an application system and how it may or may not be linked across departments/assistance programs.
Inner Setting	Networks and Communications	Interagency Collaboration-Barrier	Describes how different departments or agencies are working with or without each other, but describes the barriers. Includes how information not shared back and forth between different agencies. Describes communication problems between different agencies/department	Informant describes how they are not linked to other departments/agencies. When describing what one agency does vs another agency and these limitations. Includes communication barriers.	When describing an application system and how it may or may not be linked across departments/assistance programs.
Inner Setting	Implementation Climate	Priority	Describes proactivity taken or not taken within a department to improve how programs delivered to clients	When describing the proactivity/priority of local jurisdiction agency officials to be seeking ways to improve the program	Do not use when speaking about political climate—use “political”. Also do not use when talking about program goals or enrollment goals.
Inner Setting	Culture	Goal	Describes program goal or department’s goal in serving residents. Includes describing how the goals of different programs do or do not align	Use when describing the goal(s) of assistance programs	Do not use when discussing political influence behind goals of department/program.
Inner Setting	Individual Identification with Organization	Role/Responsibilities	Describes personal role, responsibilities, and duties within department/agency/organization.	Informant describes what they do and their responsibilities. Also describing responsibilities of the department that they work within. Also use when person is describing a knowledge gap, because it is outside of their role or responsibility.	When describing roles and responsibilities that are outside of the department/agency of the informant.

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Table A2 (continued)

Domain	Construct	Code	Definition	When to Use	When not to use
Individual Characteristics	Knowledge and Beliefs about the Intervention	Opinion	An individual's own viewpoint on a given program, policy, barrier, facilitator, etc.	Individual states their individual view about how programs operate/policies. I.e. they state they are worried, glad, etc. Use when describing feelings about programs.	Do not use when describing political influence within the state/jurisdiction. Do not use when describing an overall perception of how the jurisdiction is performing.
Process	Executing	Data Sharing	Describes if data is shared between different programs, including if it is not shared. Describes how this could be a facilitator or barrier to enrolling in programs.	Informant describes how participant information is shared or is not shared between different agencies administering programs. Includes when barriers to data sharing are discussed or burden on participants is discussed. When describing the mechanism for how data is shared or could be shared	
Process	Executing	Data Mgmt	Describes process for how data is stored (i.e. electronic, files of paperwork, etc).	Informant is describing how data is stored (historically or current)	When describing sharing data, note may overlap with data sharing.
Process	Reflecting and Evaluating	Tracking	Describes processes to tracking program reach including co-enrollment, churn, overall participation.	When informant describes data/metrics used to track program reach	Outcomes of the data (i.e. change in policy/process because of data)
Process	Executing	Technology	Describes technology innovation that facilitates or create barriers for participants obtaining the information they need	When describing technology innovations. Use when describing IT role/support.	Do not use if just discussing application portal
Process	Executing	Backlog	Describes backlog of case applications	Use when describing any backlog in applications of any program	Do not use if just discussing priority of agency without also discussing backlog in cases—may be double coded with “priority”
Process	Engaging	Outreach	Describes how benefit programs are promoted, either solo or in conjunction with another program. Describes education around programs. Direct outreach to promote enrollment	Use when discussing pamphlets, brochures, or other promotional/educational material. Discuss process/strategy of direct outreach to reach eligible participants. Person to person outreach vs use of communication materials.	
Process	Planning	Efficiency	Describes time and work burden related to co-enrollment	Use when discussing aspects of linkages, application, overall process of enrolling and the efficiencies/inefficiencies of the process. Efficiency/inefficiency can be for the client or staff. Use when describing the co-location of services.	Do not use when describing legal components causing inefficiencies.
Process	External Change Agents	Waiver	Discusses use of waivers to overcome barriers or create program innovations	Use when discussing waivers submitted or planning to submit waivers	Do not use when speaking about learning from waivers that other states have submitted (use “states”).
Process	External Change Agents	Legal	Legal inhibiting or allowing for innovation	When discussing legal issues, such as data sharing between departments. Use when speaking about MOA/MOUs	Do not use when talking specifically about a policy.
Process	n/a	Barrier	Includes any barrier sited to improving overall process of co-enrollment in programs that is not covered by another code.	Use when informant describes a barrier to facilitating the linkages of programs when other code does not capture	Do not use when discussing barriers of a system or a specific program that can be covered by a specific code
Process	n/a	Facilitator	Includes any facilitators sites to improving the overall process of co-enrollment in programs	Use when informant describes a facilitator to creating linkages/co-enrollment between programs when other code does not capture.	Do not use when discussing facilitators of a specific system or specific program that can be covered by a specific code

facilitating networking and peer-learning of best practices across states. Finally, additional research is warranted to investigate participant experiences and frontline staff experiences with co-enrollment and identify promising practices to reduce administrative burdens and increase enrollment.

Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: All authors (GH, AR, SAW, CE, HS, SNB, and AJM) have no competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. The views expressed in this paper by SNB are solely the personal views of the author.

Data availability

The data that has been used is confidential.

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Appendix A

Tables A1 and A2.

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