Sally Lucas Jean, R.N. (1878-1971): Her historical legacy and lessons for contemporary public health nursing education

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4 Abstract

5 Sally Lucas Jean, RN (1878-1971) pioneered health education in the United States and globally.

At the time of her death in 1971, aged 93, her legacy included serving on boards of leading
American health associations, spearheading public health projects worldwide and transforming

8 thinking on contemporary public health education. Sally Lucas Jean's influence continues today,

9 from her input on educational children's television programs, policies on child health and her

10 involvement in developing the early foundations of health communication. In this historical

11 reflection, we examine her role in defining health education and communication, alongside

12 influencing and applying strategies to improve public health nursing.

13

14 Keywords

15 Sally Lucas Jean; Health Education; Public Health Nursing

16

1 Introduction

2 Beginnings and Early Career

3 The construction of modern public health can trace its roots back to one nurse, who advocated 4 for the health of children and pioneered health education. Sally Lucas Jean (SLJ) (see Figure 1) 5 was born in Maryland in 1878 to parents George Jean and Emily Watkins Selby. Formative 6 childhood experiences, such as the deaths of her father and close friend, kindled in her a passion 7 for nursing and a yearning to do more to protect the lives of those around her. Her mother had visited injured soldiers on the battlefields of the Civil War and recounted stories to her young 8 9 daughter who later described herself as being "touched by the tales of suffering" (Southern 10 Historical Collection: The Wilson Library - University of North Carolina at Chapel Hill., n.d.). 11 Performing as Florence Nightingale in a school play as a child also inspired her with the 12 knowledge that a nurse saved and transformed lives, reinforcing her future career aims. Although her family did not support her career aspirations, she attempted to enroll at Johns Hopkins 13 14 Hospital School of Nursing. The Superintendent of Nurses quickly realized that SLJ was 15 underage and advised her to complete her formative education before applying to nursing school. 16 In 1896, shortly after graduating from Maryland State School, she began training as a nurse. In 17 1898 she received her diploma from Maryland Homeopathic Hospital Training School for 18 Nurses and pursued her career as a nurse in US Army hospitals (Rudavsky, 2000; Southern 19 Historical Collection: The Wilson Library - University of North Carolina at Chapel Hill., n.d.). 20 From the beginning of her service in the Army, SLJ strove to make a difference. In her journal, 21 she characterized her time at Georgia's US Army hospital, as "a month of limited usefulness and 22 a very uncomfortable feeling of being superfluous" (Southern Historical Collection: The Wilson 23 Library - University of North Carolina at Chapel Hill., n.d.). At the age of 20, on transferring to

1 Kentucky during the 1898 Spanish-American war, she experienced starkly different conditions. 2 Living in a cold tent and treating typhoid patients with inadequate resources, SLJ observed the impact of poor nutrition on the soldiers (Southern Historical Collection: The Wilson Library -3 4 University of North Carolina at Chapel Hill., n.d.). These battlefield observations were 5 foundational to her future involvement in promoting better nutrition and child health. After her 6 war experiences, she returned to Maryland to work as a nurse for Baltimore public schools. 7 Working in hospitals both before and after army service, she found herself frustrated with a lack of continuity of care (Rudavsky, 2000). Her observations of patients discharged to the same dire 8 9 conditions that contributed to their initial hospitalization, convinced her of the insufficiency of 10 the biomedical model of care. "There were many experiences during those hospital years which 11 deepened my growing conviction that caring for a patient's physical needs was not enough" 12 (Southern Historical Collection: The Wilson Library - University of North Carolina at Chapel Hill., n.d.). SLJ realized that one key to decreasing health inequalities was addressing factors 13 14 such as housing, nutrition, and education, known today as the social determinants of health. 15

16 Changing Perceptions: Championing Children's Health

Inspirational teachers, particularly women who challenged social convention, heavily influenced
SLJ. At Maryland State School, her biology teacher believed that girls should have as
comprehensive an education as boys and went to great lengths to ensure her beliefs became
reality. As part of an extensive set of primary notes SLJ left behind (Southern Historical
Collection: The Wilson Library - University of North Carolina at Chapel Hill., n.d.), SLJ fondly
recalled an enormous model of the digestive system the teacher had sewn - complete with organs
attached - stretching the length of the classroom. This same teacher also procured animal organs

such as lungs and hearts for the girls to examine as part of their lessons – a "very unusual
procedure at that period" (Southern Historical Collection: The Wilson Library - University of
North Carolina at Chapel Hill., n.d.). These creative educational approaches challenged social
convention about female education as preparation for fulfilling societal roles as wives and
mothers (Green, 1978). SLJ no doubt drew from these early influences as she herself pushed the
boundaries of what could be done in public education.

7 The period 1878-98 was a time of America's educational revolution as life changed from 8 agrarian to industrial production and factory organization (Hirschman & Mogford, 2009). The 9 workforce expanded and the 1888 establishment of the National Council for Women in the 10 United States promoted the advancement of women in society, championing "equal educational, 11 industrial, professional and political rights for women" (Robbins, 1898, p. 3). Women also 12 emerged as leaders in public health, such as Lilian Wald, the leader of US Public Health Nursing and founder of The Henry Street Settlement in New York. Wald deployed nurses to care for 13 14 immigrants in the tenements of New York City (Brown, 2014; Coss, 1989). It was during this 15 period of change that SLJ began to emerge as a leader. Prevailing attitudes during this time limited educating the public at large about health. Although the 19th century brought an 16 17 awakening to the connection between sanitation and public health, medical approaches to 18 teaching sanitation were largely moral in nature (Hamlin, 1998). Populations experiencing the 19 negative health consequences of a lack of sanitation were thought to be deficient in spirituality 20 and incapable of understanding epidemiological and other health concepts (Institute of Medicine 21 US., 1988). SLJ considered this deficit of health education as a primary obstacle to children's 22 health. As a hospital "probationer" (Southern Historical Collection: The Wilson Library -23 University of North Carolina at Chapel Hill., n.d., p. 8), she had overseen the care of a young girl

with a broken bone, originally admitted filthy and malnourished. SLJ nursed the girl for several
months and discharged her from the hospital a clean, well-nourished, and healthy child. One
week later, the child was readmitted dirty and starving (Southern Historical Collection: The
Wilson Library - University of North Carolina at Chapel Hill., n.d.). SLJ realized that without
improvements in people's homes and living situations, children's health would not flourish, and
their full potential could not develop.

7 While working with children as a nurse for Baltimore public schools, SLJ sowed the seeds of health education and her subsequent work with the Baltimore Children's Playground Association 8 9 expanded opportunities to test her ideas (Rosen & Kimmey, 1971). SLJ joined the Playground 10 Association in 1915, less than 10 years after its national founding as a revolutionary organization 11 promoting children's health through play. Championed by President Roosevelt, key values of the 12 organization included the principle that "play under proper conditions is essential to the health and the physical, social and moral well-being of the child" (VCU Libraries Social Welfare 13 14 History Project., n.d.). SLJ's involvement in this organization early in her career likely shaped 15 her views on the importance of a well-rounded, community-based approach to health.

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Recognition of her work in health education in Baltimore, MD in 1917, resulted in an invitation
to implement these practices in New York City. SLJ joined the People's Institute in New York
City and served on the Committee of Wartime Problems of Childhood to study challenges to
child health in NYC (Rosen & Kimmey, 1971). SLJ also served on the Child Labor Committee
with Lillian Wald, founder of the Henry Street Settlement, a visiting nurse agency that served the
immigrant families living in the New York City tenements. (Akulin, 1927; Fee & Bu, 2010;
Philips, 1999; Vollmer, 1968). The concept of 'child health' at this time was relatively new and

1 children's hospitals did not emerge in the United States until the mid-1800s, with the later 2 founding of the American Pediatric Society in 1888 (University of Pennsylvania - Penn Nursing., n.d.). The Report of the Sanitary Commission in 1850 (Shattuck 1850), the bacteriological 3 revolution in the 1890s and the subsequent genetic revolution at the start of the 20th Century, 4 5 reframed knowledge about disease transmission, resulting in an enormous shift in the concepts of 6 public health inspiring and informing SLJ's child advocacy work. (Chave, 1984; Fee, 1987; Fee, 7 2015; Gaudillière & Löwy, 2001; Hanlon & Pickett, 1984; Jean, 1949; Rosenkrantz, 1972; 8 Rosenkrantz, 1974).

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10 Children's health increasingly became a focus for major change, even within popular culture. For 11 example, one narrative included in the publication, How the Other Half Lives, of "seventy-two 12 dead babies...picked up on the streets" (Riis, 1890), shocked the world and galvanized the public into action. Jacob Riis' report focused extensively on life in the tenements of New York City and 13 the plight of immigrant families. His focus on children's needs led to the development of 14 15 playgrounds in all public schools where children's play would promote healthy development. When the Wartime Problems of Childhood Committee found that one in five of New York City's 16 17 children had severe malnourishment, SLJ investigated ways of bringing education on effective health and nutrition into children's homes. With this goal in mind, SLJ co-founded and directed 18 19 the Child Health Organization (CHO) in 1918 (Jean, 1949). Priority for the organization 20 revolved around child and family health education including more effective reporting, treating, 21 and lobbying for children's health. Teachers, doctors, and parents inundated the CHO with 22 enquiries about food and nutrition, sleep and rest, and child growth, prompting the need for 23 experts on child health to respond. Not only did the CHO answer each question with expert

advice, but they also used the enquiries to develop and publish some of the earliest child-focused
health education materials such as pamphlets on the importance of fruits and vegetables and
textbooks for schools (Jean, 1949). The CHO then established teacher-training programs
including scholarship programs to ensure that teachers had the most accurate knowledge about
the integration of teaching and promoting child health (Jean, 1949).

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7 SLJ's early nursing experiences demonstrated the high cost of ineffective health education approaches, prompting her advocacy for a controversial approach she called "propaganda" (Jean, 8 9 1959). Although the use of media to communicate health and influence public attitudes was not 10 new, its application to public health remained limited and was initially confined to newspapers 11 that distributes health communication information to increase knowledge (Jones, 1915). Other 12 forms of health communication media included circulars, bulletins, pamphlets, and public lectures (Schneider, 1916). Early campaigns followed such as the anti-tuberculosis national 13 14 campaign using media such as newspaper advertisements, posters, handbills, and advertising 15 cards (Tomes, 1998). From 1910, films discussing tuberculosis, oral health, child health, polio 16 and sex education were used as a form of "health propaganda" (Edwards, 1926; Freeman & 17 Hoefer, 1931; Lord, 2010; Pinney, 1936; Sofalvi, 2011). Health communication in the media at 18 this time was biomedical, factual and devoid of evaluation. (Morgan & Horning, 1940). Instead, 19 it aimed at increasing knowledge in the mistaken belief that knowledge alone alters behavior, a 20 notion since discounted by health promoters because it neglects to consider the impact of 21 environment, motivation, ability, and self-efficacy (Ross et al., 2017; Seifert et al., 2012). Fear 22 was often used to frame health messages under the premise that it would provoke behavior 23 change (Adams, 1911). This supposition has since been disproved because high levels of fear,

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4 Determined to find new ways to teach the public, especially children, SLJ guided several 5 innovative and expansive health education projects as well as proposing criteria by which health 6 education materials could be evaluated (Jean, 1926). SLJ spearheaded programs such as plays -7 performed by representatives from the CHO, about hygiene, nutrition, and oral health care for 8 school children across 29 states. Educating children and their families by promoting health 9 though targeted communication was a revolutionary idea at the time which eventually gained 10 traction in the succeeding decades (Jean, 1959; Jean & Sorden, 1924; Society for Health 11 Communication., 2018). In partnership with the National Dairy Exhibition, SLJ created a vibrant 12 display at the New York State Fair on the nutritional value of milk and dairy products. As the First World War commenced, teachers, eager to be a part of the war effort but discouraged from 13 14 enlisting, were instead encouraged in a pamphlet created by SLJ to "be the second line of 15 defense" and "enlist in the Child Health Service." (Southern Historical Collection: The Wilson 16 Library - University of North Carolina at Chapel Hill., n.d.). To the National Conference of 17 Charities, she demonstrated how to make health education fun and exciting for children by 18 having a clown or Santa Claus to take weights and heights and disseminate health advice. Her 19 efforts to promote health education through communication appeared successful and highlighted 20 the importance and value of visual aids and entertaining props. (Jean, 1948; Rudavsky, 2000; 21 Southern Historical Collection: The Wilson Library - University of North Carolina at Chapel 22 Hill., n.d.; Vollmer, 1968). These health education programs marked a change from previous 23 biomedical approaches to health, which SLJ believed to be largely ineffective. Questioning the

lack of effective health communication in previous health education approaches, SLJ pushed the
 boundaries of tradition by asking questions and seeking new solutions (Warsh & Strong-Boag,
 2005, p. 23).

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5 SLJ became a leader in health education, serving in virtually every major American health 6 association. Her affiliations included chair and secretary of the of the newly formed Health 7 Education Section of American Public Health Association [APHA] in 1918, Director of the Health Education Division at the American Child Health Association in 1922 and work with the 8 9 National Foundation for Infantile Paralysis beginning in 1944 (Rudavsky, 2000). From 1937 to 10 1944 she served as President of the Association of Women in Public Health (The New York 11 Times., 1971) and worked with private groups such as the Advisory Education Group member of 12 Metropolitan Life's School Health Bureau (Rosen & Kimmey, 1971). In these and other roles, she campaigned for recognition of the importance of child health education, and increased 13 14 funding for health education programs. SLJ appeared repeatedly in front of US Senate 15 subcommittees and other government groups, advocating for an overhaul of current approaches 16 to health. Her frustration with the lack of government funding for children's health programs is 17 evident in the testimony she gave to these committees. In a pointed speech she called attention to "The estimate of the United States Office of Education – that center upon which we all depend 18 19 for reliable data in the field of education – that one and three-fourths million children who are in 20 need of special-education services are not receiving them" (Committee on Labor and Public 21 Welfare., 1950, p. 89). Undaunted by the monumental task of changing perceptions and 22 investments, SLJ continued to advise governments and private organizations on the importance 23 of public health education.

1 Other countries sought her expertise, providing the opportunity between World Wars to spread 2 her belief in health education across the globe. In addition to developing programs for governments and organizations in China, Japan, and the Philippines (The New York Times., 3 4 1971), she received requests from Brazil, Canada, France, India, Norway, and Spain, amongst 5 others, for advice and literature on health education (Southern Historical Collection: The Wilson 6 Library - University of North Carolina at Chapel Hill., n.d.). In November 1971, the American 7 Journal of Public Health devoted a 2-page editorial/obituary to her life and accomplishments as a "pioneer health educator" both in the US and abroad (Rosen & Kimmey, 1971, p. 2153). The 8 9 editorial declared, as most important, SLJ's view that "health education could not exist in a 10 vacuum, that it required a framework of health and social services to be effective, and to this she 11 devoted her life" (Rosen & Kimmey, 1971, p. 2153).

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13 Barriers to Changing the Status Quo

Although SLJ recognized that health education did not exist in a vacuum, social and political 14 15 barriers often made addressing the surrounding social determinants of health difficult. SLJ also 16 faced opposition to her work from inside the public health profession – including within some of 17 the organizations she founded. In her own words "The health educator may be compared to the captain of a ship who sails under orders, with a full awareness of the predestined port and 18 19 knowledge of the arts and sciences involved in steering the ship assigned him, as well as the 20 ability to deal with the various human problems presented by his officers and crew. Tides, winds 21 and weather will influence the navigator in his steering, but his goal is determined" (Jean, 1951, p. 963). 22

1 Resistance to SLJ's revolutionary ideas were both practical and cultural in nature. In her own 2 written history of the development of Health Education in the USA, she recognized the hesitancy of many within the Child Health Organization to adopt the "propaganda" or communication 3 4 approaches she advocated (Jean, 1959, p. 36). SLJ attributed this reticence to adopt new and 5 more direct education approaches to the prevailing attitude at the time that a general knowledge 6 of the body and disease was all that was needed to instill good health practices amongst the 7 public (Jean, 1959). Opposition to her approaches to public health within the CHO was so fierce that SLJ had to ask the renowned pediatrician and CHO president Dr Emmett Holt to advocate 8 9 on her behalf to convince the organization's administration (Warsh & Strong-Boag, 2005). In 10 later years, she and other members of her division would resign from the American Child Health 11 Association, in protest over political opposition – including budget cuts – to her education 12 programs, with even President Herbert Hoover calling the work of SLJ and her colleagues "claptrap," demonstrating a disdain typical of the period for health communication (Warsh & 13 14 Strong-Boag, 2005, p. 39).

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Practical barriers such as finance also hindered the adoption of SLJ's suggested practices. In a 17 1949 review of changing health education practices, she noted that some opportunities to teach 18 better health practices were lost simply because the budgets of local organizations could not 19 stretch to encompass those new practices (Jean, 1949, p. 9). SLJ found that one way to overcome 19 financial barriers in the public sector was to partner with private companies on public health 20 projects. Serving as a consultant for companies such as Quaker Oats and the Association of 22 American Soap and Glycerin Producers, SLJ found private companies and the public in general

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4 SLJ's ideas sometimes faced skepticism from the public, but she believed that allowing people to 5 voice their thoughts and become more involved in their healthcare and health education was the 6 best way to overcome hesitancy (Jean, 1949). Her firm belief was that "facts fight fears," and 7 throughout her life she highlighted cases where health education was the primary driver of behavioral changes that improved health and reduced disease (Jean, 1949, p. 10). Other health 8 9 pioneers suggested that "uneducated minds" needed to be addressed (Chadwick, 1843, p. 180). 10 In the early 1900s, organisms responsible for infectious disease were identified, alongside a recognition of the importance of sanitation and improved maternal nutrition (Rosen, 1958). 11 12 Therefore, educating populations about infectious disease, sanitation and nutrition may have exerted an impact amongst those willing to apply new health practices, commonly called early 13 14 adopters by the later diffusion model (Rogers, 2003). Education appeared in tension with 15 prevailing social attitudes, in recognizing poverty as the root of many health challenges such as 16 high infant mortality, but simultaneously ascribing the core causes of poverty as "defects of 17 intelligence and moral character" (Brosco, 2012, p. 1851). In contrast, SLJ recognized that social 18 and structural factors, such as poverty, education and healthcare access affected people's ability 19 to apply health principles. This thinking was revolutionary for its time.

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Prevailing social norms about women including female public health professionals also deterred
the progress of SLJ's health education approaches. For example, a 1922 evaluation of child
health projects in the Midwest seemed to focus more on the appearance of the nurses rather than

their competence. One physician paternalistically assessed a public health nurse as; "although
'not wholly sound in the modern public health teaching,'" her "white hair...and dignity... lend
prestige to the exhibit car" (Warsh & Strong-Boag, 2005, p. 38). SLJ's lobbying partly created a
cultural shift in recognizing nurses as critical societal resources for health (Halfon et al., 2007).

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6 Impact on Health Education Today

7 SLJ's revolutionary approach to public health continues to shape practices and policy today. Credited with introducing the term "health education" and heavily influencing its trajectory, 8 9 many modern public health approaches build on concepts introduced by SLJ (Rosen & Kimmey, 10 1971). After SLJ's death, theoretical frameworks related to health education and behavior 11 continued to evolve with emerging modern theories building on her concept of behavioral 12 change - that influencing an individual's intent was key to changing their behavior through the work of Albert Bandura, and later studies on social learning theory, motivation and self-efficacy 13 by Ajzen and Fishbein in the 1980s and 1990s (Ajzen, 1991; Ajzen & Fishbein, 1980; Bandura, 14 15 1977, 1986, 1997).

16

Perhaps SLJ's greatest impact on modern public health education was her far-sighted approach
on health issues: "sometimes the problem is economic...sometimes social...sometimes
medical...in all cases the adviser must understand the patient's habits, tastes, and prejudices..."
(Jean, 1922, p. 162). This approach revolutionized public health thinking, which tended to resort
to negative attitudes about lower class individuals and families and victim blaming (Dougherty,
1993; Reiser, 1985). Building on her pioneering views, groundbreaking works such as the
LaLonde report of 1974 also encouraged health practitioners to consider the social determinants

1 of health (Hancock, 1986). Modern public health continues to build on the views of SLJ by 2 encouraging not only an evaluation of an individual's current condition and personal choices, but also recognition that socio-economic circumstances have an enormous effect on a person's state 3 4 of health. After her death, public health practitioners worked to create a better structure to 5 understand and analyze those social determinants of health. The Integrated Model of Behavior 6 Prediction, for example, emphasizes that beliefs and goals are subject to structural barriers 7 preventing the realization of an individual's best intentions (Fishbein & Ajzen, 1975). This 8 concept underwent further development through the Socio Ecological Model (Golden & Wendel, 9 2020). Echoing the decade's old approach of SLJ, this model encourages public health 10 practitioners to examine every potential influence (environmental, institutional, and cultural) on 11 the health of an individual or population. 12 SLJ's promotion of health communication remains of value for public health officials today. In seeking ways to engage and educate the public about how to stay healthy, SLJ focused on the 13 14 efficacy of health communication and the primacy of the social determinants of health when 15 creating health literacy programs (Jean, 1922). She emphasized the need to adapt programs to local situations and displayed frustration at the "gap between knowledge and practice" (Jean, 16 17 1951, p. 966), believing that more effective health education programs could overcome barriers to good health practices by appealing to "heart" as well as "head" (Jean, 1951, p. 966). Although 18 19 modern public health communication approaches are more mindful of external barriers to health, 20 health communication remains an expanding area. For example, the use of graphic anti-smoking 21 labels on cigarettes, rather than merely a Surgeon General's warning text, appears to reduce the 22 appeal of cigarettes to teens, and deter the purchase of cigarettes by some smokers (Niederdeppe 23 et al., 2019; Shadel et al., 2019). SLJ's emphasis on targeted messaging, which is both appealing

and individualized, remains in use today. Audience analysis and market segmentation for
 campaign planning endure as critical tools for the success of modern public health messaging
 (Slater & Flora, 1991; Williams & Flora, 1995).

4 SLJ's goal in creating health education programming was to evolve from simply treating disease 5 to promoting wellness. As early as 1949, she envisioned a future where health practitioners "picture[d] the WHOLE child healthy and strong" rather than "grow[ing] accustomed to an ideal 6 7 of health being merely freedom from disease" (Jean, 1949, p. 10). Her experiences taught her that barriers to access limited her patients' abilities to be truly healthy. During her work in the 8 9 Baltimore public school system, she realized that although the city's hospital clinic services were 10 free to the largely immigrant population she served, "the nearest one was three miles away in an 11 unknown world!" (Southern Historical Collection: The Wilson Library - University of North 12 Carolina at Chapel Hill., n.d.). So she centered her novel approach to health education on the idea that "health education could not exist in a vacuum, that it required a framework of health 13 and social services to be effective" (Rosen & Kimmey, 1971), later recognized as scaling-up 14 15 services in health promotion. It would take almost 30 years for this concept to be widely adopted, 16 with the Alma Ata declaration of 1978, which recognized health as not only a human right but 17 also more than just the absence of disease (World Health Organisation., 1978). In line with this thinking, in 1992 the Center for Disease Control (CDC) changed its name to the Centers for 18 19 Disease Control and Prevention, signaling a wider movement in public health emphasizing 20 wellness and treatment (Steinberg, 2007).

Today, programs that build on SLJ's health education concepts can be seen in a variety of
settings. *Sesame Street* is one example of a successful modern health education program

exemplifying a principle that SLJ introduced, in that children have the power to be health leaders

1 in their families and communities (Rosen & Kimmey, 1971). Like SLJ's creative health 2 education programs, Sesame Street appeals to its audience and disseminates information at their level of understanding, effectively targeting its messages to at-risk-populations (Cole et al., 3 4 2010; National Bureau of Economic Research., 2015). 5 Recent public health challenges bring to light the importance of the health education principles 6 that SLJ championed. For example, the social and political causes of the spread of 7 misinformation in a public health crisis like COVID-19, are complex, but many of the failures of public health communication during the pandemic also illustrate a failure to apply the principles 8 9 championed by SLJ. For example, some online public health materials produced about the 10 pandemic appeared unattractive and inaccessible and a study of the top 100 English language 11 resources that appear on search engines for "coronavirus" revealed that the majority exceeded a 12 10th grade reading level (Basch et al., 2020). Given that half of all US adults are unable to read a book at the 8th grade level or above (Hersh et al., 2015), most of the available online Covid-19 13 14 information was inaccessible to over half of the population. A challenge exacerbated by the pandemic is the shortage of well-trained healthcare and public 15 health providers (Association of American Medical Colleges., 2021). SLJ recognized that 16 17 educating the educators was critical to effective public health practices and training nurses and 18 teachers became a primary mission of the Child Health Organization which she championed

(Jean, 1949). Today, budgets, staffing and the already stretched public health nursing sector are
facing new challenges as we learn to live with COVID. In the United States alone, public health
departments at all levels have lost 55 thousand public health workers over the last 12 years, with
Public Health Nurses seeing the largest reductions (Edmonds et al., 2020).

1 Nursing and the discipline of public health today are very different from when SLJ developed 2 her thinking around health education. Rapid changes in economic, political, and socio-economic situations, availability of and access to healthcare combined with population increases may all 3 4 play a part in the changes. Whilst SLJ's progressive thinking was novel for its time, applied to 5 today's situation, it may be considered slightly naïve and fall into the trap of blaming individuals 6 for failing to improve their own health. This is primarily because the aim of public health in 7 SLJ's time was to encourage individual responsibility by educating the public to modify 'risky behaviors.' However, insight into the complexity of behavior change and evidence about the 8 9 broader impacts of the social determinants of health was in its infancy (Davies & Macdowall, 10 2006, pp. 10-11).

11

12 Conclusion

SLJ was without question a trail blazer. She advocated for diversity and overcoming barriers to 13 equity in public health and school health education, whilst repeatedly expressing her respect for 14 15 local public health educators globally (Southern Historical Collection: The Wilson Library -University of North Carolina at Chapel Hill., n.d.). SLJ championed increased availability and 16 17 national consistency of health education training for nurses (Jean, 1959). In demonstrating the critical importance of school nurses at the frontlines of infectious disease outbreaks, she 18 highlighted their roles as key advocates for public health in the school education system (Rosen 19 20 & Kimmey, 1971). Her involvement in numerous medical and political communities enabled her 21 lobbying for transformative public health measures, health education and communication (The 22 New York Times., 1971; Vollmer, 1968). The increasing significance of public health problems 23 and the need to reach wider audiences more effectively facilitated an era of health

communication in the 1970s (Salmon & Poorisat, 2020). Half a century earlier, SJL introduced
 novel methods, establishing the early foundations of health education while ensuring the future
 of public health nursing. Her work serves as a tribute to the power of public health nursing.

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Figure 1. Sally Lucas Jean



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