Editorial: Threads of Transformation: Unravelling Norms, Reweaving Futures

Editor, Grace Fisher, University of Warwick

It is with great excitement that I welcome you to volume 18 issue 1, the first issue of Reinvention: An International Journal of Undergraduate Research in 2025, and my first as Editor. The continued
success of Reinvention reflects the collaborative efforts of students, researchers and reviewers dedicated to expanding the boundaries of undergraduate scholarship. The theme of this issue, 'Threads of Transformation: Unravelling Norms, Reweaving Futures', weaves together a range of papers that interrogate the structures of society, culture and health. Each piece reflects on the forces – both visible and invisible – that shape personal identities and collective systems. These threads do not merely describe change; they compel us to understand transformation as something complex, layered and profoundly human.
Before diving into the articles, I want to take a moment to acknowledge the dedicated work of our editorial team, peer reviewers and contributors. This journal is a collaborative effort, and I am continually inspired by the rigour and creativity that emerges from our undergraduate researchers.

In this issue, we present to you four original interdisciplinary research papers and a guest article. We begin with 'You Are What You Eat: Depraved Food and Chinese Queer Kinship in The River (1997), which presents a bold and critical reading of Asian cinema through the lens of familial structures and taboo. This paper invites us to examine how cultural narratives are both shaped by and resistant to tradition, particularly when viewed through the embodied symbol of food. Turning to public health, 'Age and Racial Disparities Persist for Gonorrhoea and Chlamydia in the United States' offers a valuable overview of sexually transmitted infections across states, highlighting shifting patterns and health disparities. This work not only contributes epidemiological insight but also raises broader questions about healthcare access and education.

Our final research article, 'The Current State of the Healthy Start Food Voucher Scheme in the South West of England' presents findings from a qualitative study with stakeholders. It brings policy into conversation with community, showing how top-down interventions interact with the realities of food insecurity on the ground.

The guest article 'Breaking into Academic Publishing: Creating a credible, quality and publishable article', written by Exchanges Editor in Chief, Dr Gareth Johnson provides insight into the common pitfalls, along with practical guidance and commentary what student researcher to post graduate researchers need to consider, as they submit articles to academic journals and take the next steps to transform their writing for publication success.

Together, these articles unravel the threads of transformation across continents, disciplines and experiences. They offer frameworks that challenge, inform and expand how we think about belonging, survival and systemic change.

As a final-year medical student, I have come to appreciate the critical role of interdisciplinary thought in creating compassionate, informed solutions. This journal is a space where such thought flourishes.

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You Are What You Eat: Depraved Food and Chinese Queer Kinship in The River (1997)

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Abstract

This article identifies an under-explored connection between queerness and cinematic food, especially focusing on food images in Chinese queer cinema. Queer theories, food studies and philosophy of food are brought together in a discussion of a cinematic text: *The River* (1997*).* The discussion explores two questions: (1) Do these food scenes convey different symbols in comparison to Western queer cinema? (2) How do these food images register Chinese family relations and queer kinship? By examining how food is portrayed in this film, this article considers the notion of 'depraved food' and further suggests that on-screen food images can be read as a stand-in for Chinese queerness. Consequently, it is proposed that these food images critically depict Taiwan during the 1990s, especially how the traditional Confucian family and Confucian values are challenged by the modern crisis, conversely, the innovative Chinese queer family appears.

Keywords: Chinese queer cinema; food images; Tsai Ming-liang; 1990s; Confucianism; queer family; *The River*; Food images in Tsai Ming-Liang's The River'; Taiwan society in 1990s.

Introduction

Chinese identity is significantly shaped by Confucianism, with a focus on the discrete unit of the Confucian family as well as on the broader nation. As Li Minghui writes, 'the idea of family is a central one for the Confucian project' (Lee, 2017: 7). Such a family-based national ideology characterises a Chinese Confucian family as a hierarchical unit built on patriarchy and filial duty. Specifically, it maintains the order of the whole nation, representing the privileged normality. Yet, the position of Confucianism in modern

society faces a series of challenges and crises: the threat from modernisation, globalisation and Western capitalism, and the decline of the Confucian family structure to name but a few (Li, 2017: 1). In this context, due to its subversion of sex and gender norms, queerness must be an anathema to the formation of a Confucian family.

This article considers the above concerns by exploring the relationship between food elements, the formation of Chinese families, and the emerging queer characters in Chinese contemporary cinema. The actions of cooking and eating typically involve processes of physical and physiological destruction and violence: people cut, chop and cook ingredients before they chew and digest the food. In this article, the focus is on the Taiwanese queer film *The River* (Tsai, 1997), particularly looking at the food practices of queer characters, which represent their homosexual desire and queer subjectivity, as an entry point. The destructive process is embodied in changes to more quotidian elements: here, the significance of food and its related behaviours – how food is prepared, cooked and eaten. As such, the maxim 'you are what you eat' is much more than pure sustenance.

The basic information and principles of Chinese food culture are fundamental to the reading of *The River* (Tsai, 1997) as a cinematic text. This article is evoked by Korsmeyer's question of whether the taste of the food is imbued with flavour or if it also carries moral valence (Korsmeyer, 2012: 89). She explains that:

Even ordinary, everyday acts of cooking and eating are forms of ethical conduct. Cultural and religious traditions since antiquity have prescribed what we should and should not eat. In fact, ethical choices about food used to be considered as important as other more recognizably moral issues. (Kaplan, 2012: 8)

As a sub-category, table manners refer to 'appropriate eating and drinking behaviors'. These rules are a series of regulations that encompass all activities related to food, including but now limited to how the table is arranged, what utensils are used and when, and where one places their hands and feet when eating. (Kaplan, 2012: 9)

Table manners and moral aspects of food can be integrated into the reading of the ordinariness of the Chinese queer family. The following cinematic analysis of *The River* will particularly focus on the subversive representation of food elements in terms of table manners to further explore how these queer foods challenge the entrenched Confucian family.

The River (1997): Depraved food and the Chinese family of the 1990s

The River tells a story of a young Taiwanese man, Hsiao-Kang (Kang-sheng Lee). He and his parents are like strangers, even though they live in the same small flat in Taipei. Hsiao-Kang's father (Tien Miao) regularly has sex with young gay men in gay saunas. His mother (Yi-Ching Lu) works in a restaurant and often bringing leftovers home. She is having affair with a pornographer.

Hsiao-Kang's story begins with his experience as a stand-in movie actor, playing a floating corpse in the polluted Tamsui River. Hsiao-Kang subsequently develops chronic neck pain that proves incurable, despite trying many treatments. Eventually, Hsiao-Kang's father decides to take him to look for a local healer. That night, Hsiao-Kang encounters his father in a dark room in a gay sauna and they mistakenly have sex with each other.

As Tiago De Luca suggests, Tsai Ming-liang's *The River* is characterised by its focus on the animal-like human body and how it exists in domestic spaces. Significantly, the film 'opened the doors of domestic privacy' that were previously closed off to mainstream cinema's attention (De Luca, 2011: 158). Tsai's attention to excessively private, everyday issues contains many easily overlooked food images, such as boxed lunches from the film set, packed drinks, leftovers and fruit. At the same time, he introduces both private (Hsiao-Kang's home and car, and hotel) and public places (a breakfast stall, film sets, and a McDonald's restaurant) related to food. Rey Chow suggests the quality of "excess" in the film, specifically referring to the excess of metaphorical meaning presented on-screen (Chow, 2004: 133).

To expand the concept of 'excess' into the realm of food images, it can be argued that food images also convey the allegorical nature of *The River*. While it is not a typical example of the 'food film' genre, the movie contains numerous subtle food images within its complex and rich cinematic text. It is suggested that *The River*'s food images have been largely ignored, even though there are strong non-verbal expressions belonging to what Chow describes as 'the most quiet yet radical manner' (Chow, 2004: 138). Even so, these food images reveal the themes of isolation and alienation that have been mentioned in much scholarly literature and become what I define as 'depraved food'.

My definition of 'depraved food' is based on the Confucian concept of *lun* and the related principles of food ethics. Since food ethics describe foods using qualities typically ascribed to humans and human behaviour such as 'wicked', 'brave' and 'honest', I shall describe the food images in *The River* as 'depraved' (Korsmeyer, 2012: 94). This adjective is applied to describe food (and its related scenes) that subvert/challenge/queer the conventional principles of Chinese food culture and broader family values. What is behind these conventional regulations/standards is Confucianism, which is accepted as the most dominant cultural force and religion in China (Sun, 2013: 2). As a significant Confucian value, *lun (伦)* refers to five principal relationships, which not only include the blood relations (such as father and son, husband and wife), but also broader culture and social relations (such as old and young, emperor and official) (Park and Chesla, 2007: 303). To phrase this another way, *lun* emphasises the ubiquitous regulation and hierarchy that is present in all aspects of Chinese society, even in terms of table manners. Thus, the literal meaning of the term incest (i.e., 乱伦 *luanlun*, which can be translated as a subversion of the '*lun*') refers to 'the overturning of kin or, more precisely, of hierarchically arranged social relations' (Chow, 2004: 136).

Similarly, these 'depraved' food transgresses the hierarchically arranged table manners and their association with the power structures of the Chinese Confucian family. The

argument put forward below will be further clarified with a detailed analysis of the food images/scenes shown in the film, including the representation of depraved food related to the father, mother and son. Following that, it will explore how the depraved food images reflect the reconstruction of the Confucian family in 1990s Taiwan.

The collapse of patriarchy: Father and lonely dinner

There are few depictions of formal Chinese family meals in *The River*, although the film is filled with informal food such as fast food, leftovers and fruit. Mary Douglas states that food habits encode the social background (Douglas, 2002: 249). In contrast to Western food culture, Chinese food culture has structural and performative features (Cooper, 1986: 179). Hsu describes the basic structure of Chinese dining as follows:

The typical Chinese dining table is round or square, the ts'ai (菜, dishes) dishes are laid in the center, and each participant in the meal is equipped with a bowl of fan (饭, rice/grain), a pair of chopsticks, a saucer, and a spoon. All at the table take from the ts'ai dishes as they proceed with the meal. (Hsu, 1977: 304)

Hsu's depiction introduces conventional table manners, which include the structure, equipment and setting of a Chinese formal meal. Such table manners reflect the concept of *lun*: for example, a Chinese meal has an inner hierarchy, wherein *fan* (rice) forms the base, and vegetables, fruit and meat constitute expendable dietary elements (Chang, 1977). Similarly, the table manners are reflective of the inner hierarchy of the Chinese family: the child needs to obey and demonstrate deference, while the father/husband sits at the head of the table surrounded by his family, thus underscoring his indubitable position of power.

Based on such structure, it is fair to say that Tsai subverts this structure through the use of depraved food. A key example is the recurring images of Hsiao-Kang's father eating alone at a small table. The first scene takes place during the day when the father is sitting at a small table and eating food. Although this scene is set in the home – a

private/domestic place – the absence of his family conveys a sense of imbalance in this visual composition. He warms up the leftovers for himself with a rice cooker, a commonly used Chinese cooking utensil typically used to cook rice rather than formal dishes.

In addition to the abnormal dining situation, the cinematic design creates a sense of unease in the food scene **(Figure 1)**: the composition of the scene constrains the subject as if confined in the frame, thus conveying a sense of depression, as opposed to relaxation. Meanwhile, the medium shot does not provide a precise depiction of the food, instead dissolving the food into the surrounding environment, which attends to basic physical needs (like the minimalist furniture in the scene). It is hard to describe the food's taste and because the cinematic text offers no clue about it; homely food is portrayed as a physiological imperative (Chow, 2004: 130) rather than sources of warmth or pleasure. Furthermore, the soundtrack to the food scene includes uncomfortable noises, such as the piercing sound of utensils rubbing directly against each other, mechanical chewing and food landing on the table. These subtle noises, as Song Hwee Lim suggests, serve to amplify the silence (Lim, 2014: 119), reinforcing the themes of isolation and alienation.

Fran Martin describes such silence as 'an uncomfortable emptiness' (Martin, 2003: 177). It is suggested here that this is most likely attributable to how these noises subvert the expectation of homely food, which is typically characterised as warm, cosy and relaxed. Such settings are usually places in which individuals can be fully engaged due to the conventional cinematic emphasis on food's temptations and intimacy. However, in terms of audio-visual design, the depraved food in *The River* is repressed. This scene helps to establish the father figure as an explicit clue to 'the dissolution of the kinship system based on seniority and hierarchy' (namely, the subversion of *lun:* incest). The depraved food suggests his loss of patriarchal control over the entire family unit (Chow, 2004: 135).

The second scene is highly similar to the first one: Hsiao-Kang's father is eating another meal at the same dining table. In this instance, it is only the darkness of the background that suggests the passage of time, thus allowing the viewers to determine that the two

scenes are not the same **(Figure 2)**. Additionally, the loose shot scale allows the audience to see more space within this apartment: the bathroom to the side and the bedroom to the rear. Taken together, the interior settings such as doors and walls fragment the domestic space. Such a cinematic strategy presents the different events happening within this space simultaneously yet in isolation from each other. De Luca comments on such sectional space, suggesting that it can present how these characters engage in their own activities in 'different planes across and within the frame' (De Luca, 2011: 160). When the father is eating, Hsiao-Kang leaves the bathroom and goes back to his room. The two physiologically opposing activities (eating and elimination) happen simultaneously to reduce the edible property of food. In contrast to the conventional expectations of a homely food scene, this scene further emphasises the isolation within the family and challenges the traditional Chinese arrangements.

Figure 1: Hsiao-Kang's father enjoying a lonely meal

Figure 2: Hsiao-Kang's father enjoying a lonely meal in the night

The lost young generation: Hsiao-Kang's animal-like table manners

Poor table manners also appear at the same table when Hsiao-Kang uses a serving spoon to eat rice directly from the cooker **(Figure 3).** Although Chinese food culture involves individuals sharing dishes between themselves, rice is the exception to this; it is normally served in people's own bowls, signifying personal space and etiquette. In a Chinese family's daily life, if rice is not served properly from the rice cooker, it will be regarded as poor manners – what Cooper describes as 'disinterest, disrespect and carelessness' (Cooper, 1986: 180). Therefore, Hsiao-Kang's eating behaviour overturns the cultural norms relating to table manners. The mise-en-scène continues with the scenes of the father eating dinner alone, with the food shown to be unappetising. The dim lighting further depicts food as a basic physical need rather than any social or leisure event. Additionally, Hsiao-Kang's naked body and strange behaviour seem to suggest he is more animal than human highlighted further by the degradation of his table manners. David Kaplan suggests that food virtue is crucial to ensuring human dignity; nevertheless, this scene presents food as depressing because its rich ethical value is infinitely wrung out, leading it to become 'depraved food' (Kaplan, 2012: 9).

From a narrative perspective, Hsiao-Kang's behaviour is caused by his neck pain: his physical disability makes him incapable of maintaining and cooking a normal meal (as mentioned, a normal Chinese meal is consists of rice and dishes). Crucially, his neck pain also stops him from conforming to the expected content and manner of traditional Chinese dining etiquette. The representation of depraved food portrays what Chow describes as 'destitution and deviance', characteristics of the psychologically and morally defective contemporary urban human (Chow, 2004: 133).

It is suggested that the morally anarchic concept is expanded into the field of food. If the father's depraved food – eating along – implies the disintegration of the traditional Confucian family, Hsiao-Kang's depraved food suggests a youth's disability or inability to act brought about by contemporary social change and crisis in Taiwan. As Kuang-Tien Yao points out, the globalisation of Taiwan creates an 'emptiness and hopelessness' for those people who are marginalised in society. The young generation, such as Hsiao-Kang, is not fully prepared to take part in these new urban activities and the ongoing economic boom (Yao, 2005: 231, 238). Instead, they wander around the city, eating like a lonely animal.

Figure 3: Hsiao-Kang's strange and animal-like table manner

The modern female: Mother and public food place

Hsiao-Kang's mother, the female character, seems to play a rather limited role in the film. Of the few scenes in which she appears, most are outside the domestic space (home), such as the restaurant where she works, her lover's car and her lover's home. The absence of any representation of domestic females reflects Tsai's cinematic response to Taiwan's shifting social landscape during the 1990s. New job opportunities emerged when economic growth began in the 1970s, thus leading Taiwanese women to undertake gainful employment outside of the home. By the 1990s, it was usual for women to enter the labour market, with some of them accessing better employment opportunities after having received a proper education (Yao, 2005: 231).

Hsiao-Kang's mother is portrayed as a female character relegated to a low-skilled job who rarely appears in the home. She rejects the conventional duties of a mother and wife in a Confusion family and does not cook for or feed her family. The depraved food brought by Hsiao-Kang's mother is mostly embodied by leftovers, what remains of commercial food sold in a restaurant. In her first scene, she is depicted as a sociable, independent person: the long shot frames her in the centre, standing and eating leftovers from the restaurant **(Figure 4).** As the following plot will reveal her love affair, therefore, this depraved food symbolises her detachment from both familial responsibilities and traditional food ethics. The place where she eats is temporary and constructed from some boxes. Unlike the cosy and stable domestic space, the temporary nature and instability of where she chooses to eat are reflective of the transient and unstable nature of her love affair. Besides, the depiction of Hsiao-Kang's mother's experience working in a commercial public location suggests that she is the only person in the family who has integrated into the increasingly commercialised and globalised Taiwan. This is emphasised later when she gets into her lover's car and feeds him with her hands **(Figure 5).**

Some scholars have explored food as a symbol of sexual queer desire in queer cinema, such as the peach in *Call Me By Your Name* (2017) and the hive/honey in *Fried Green*

Tomatoes (1991). These viscous, sweet and natural foods represent the queer characters' sexual desire. Nevertheless, as a queer film, *The River* utilises food images to suggest heterosexual desire instead (Tandoh, 2018). It is posited that the only detailed representation of heterosexual relationships within the whole film is still framed within an incestuous (乱伦, *luanlun*) context. This directly challenges *lun*, a crucial Confucian value that is embodied by a 'moral emphasis on seniority, order, and propriety'. Specifically, *lun* is a criterion that all Chinese individuals should obey (Chow, 2004: 135).

Here, the depraved food linked to the mother figure suggests the sexual intimacy between the wife/mother and another man, these scenes challenge the structure of the Confucian family. Either standing or eating with one's hands represent alternative forms of table manners, which minimise the traditional moral properties of the food. In this extramarital affair, she feeds her lover with food, while he feeds her longing for heterosexual love. The representation of depraved food confers upon her agency as a modern woman. This idea is explored in her following scenes in a domestic setting, where she never eats in the home, instead endlessly drinking water **(Figures 6 and 7).**

Corrado Neri offers a useful metaphor; he writes that 'the disappearance of emotion, something that, like water in a drought, is nowhere to be found' (Neri, 2008: 400). Chow also mentions that 'water has always been a potent symbol of the sexual unconscious and (desire for) lover' in Tsai's films (Neri, 2008: 395). Thus, the repetitive scenes where the mother drinks water illustrate her unquenchable thirst (physical sustenance, love and desire), and her desire to be watered like a parched plant. It further suggests her eagerness to receive the heterosexual love and desire that can never be satisfied by her husband. The traditional Confucian wife is often tied to familial duty and obligation, however, Hsiao-Kang's mother embarks on an affair out of pure desire. Consequently, the food images relating to her are symbols of incest, 'anomie, estrangement, desperation, and general social malaise' (Chow, 2004: 127). The depraved food images lack moral principles, suggesting her inability to fulfil the culturally appropriate gender role as a Confucian wife/mother figure.

Figure 4: Hsiao-Kang's mother stands and eats the leftovers

Figure 5: Hsiao-Kang's mother feeds her lover with her hands

Figure 6: Hsiao-Kang's mother continually drinks water in domestic scenes (1)

Figure 7: Hsiao-Kang's mother continually drinks water in domestic scenes (2)

Homosexual desire: Queer cruising and McDonald's

As Yao suggests, the setting in Tsai's film is a significant element because his characters barely talk to each other (Yao, 2005: 129). Therefore, the setting/place can be taken to always convey information and emotions. In addition to the lonely meals in the family home, Hsiao-Kang's father also appears in a public food scene in McDonald's, a Western-based multinational fast-food chain. This sequence conveys homosexual desire in a subtle and implicit way by presenting the McDonald's restaurant as a public space in which gay men cruise for sex, as well as a space for consuming food. The Western setting challenges traditional Confucian values; homosexual love is anathema to the rigid gender system that is based on the binary of male (husband/father) and female (wife/mother) within the Confucian family (Chow, 2004: 136).

Confucianism regards the heterosexual family as the fundamental unit of society. Within the traditional gender binary, the father enters the public labour market, while the mother is responsible for bearing children and providing society with a young workforce. Through such compliance with Confucian moral principles, the economic production and consumption of a state and human society can function properly (Park and Chesla, 2007:

296). However, in the McDonald's scene, the Western food chain subverts Confucian food ethics both in terms of food ethics and social dynamics. The transition from a dingy, small apartment to the bright, crowded McDonald's is indicative of the shift from a Confucian homely place to a capitalist public place for food consumption. As Wu suggests, Taiwan, as a metropolis, reflects Western capitalist ideology in terms of food culture. To be precise, the fast-food chain deconstructs Confucian food culture, which is typically based on order and occurs in domestic spaces (Wu, 2002).

Figure 8: Hsiao-Kang's father exchanges glances with the young gay man

The tonal information in this scene underscores such differences: the colour palette fits with the classic McDonald's colourway of red and yellow, while the inclusion of light blue, another bright colour, evokes the desire to engage in public consumption. The transparent window creates a sense of exhibition of both the food and the consumers, ensuring that eye contact can be made between the display and viewers. In this way, Hsiao-Kang's father is locked into a two-way gaze with the McDonald's fast food in the window and the passers-by outside, respectively. Such a mode aligns with Gary Needham's idea that 'cruising is another way of looking'. Needham suggests gay male cruising is characterised as 'the reciprocity of the glance and the often-playful exchange of looks' (Needham, 2015: 49). Put simply, gay males typically initiate contact with other gay males by making first making eye contact.

This moment in *The River* establishes a parallel between the act of eating and the act of looking – both are forms of consumption. Through the transparent window, it can be seen that Hsiao-Kang's father is positioned in the centre of the frame. When he is eating, his eyes search thoughtfully for something on the right of the window, as if he was examining and selecting merchandise that appeals to him. His wandering eyes also create a sense of expectation for what is on the other side of the glass. As his eyes shift, a young man appears from the right. Although the young man has his back turned to the viewer, the direction of Hsiao-Kang's father's eyes indicates that they make eye contact. Hsiao-Kang's father stares at the young man while sipping his drink as if he was enjoying and tasting the young homoexual's body **(Figure 8).** Food becomes a sensory device to evoke an association between appetite and sexual desire. The young man's body is as 'delicious' and as readily accessible as the fast food served in the restaurant.

His appearance suggests the recognisability of his identity as a homosexual, what Bech (1997: 106) describes as 'the welter of signs', including his style of dress (black top with a large neckline and skinny jeans) and his furtive glances back. In comparison to the conventional male clothing in Chinese society, his appearance is slightly feminine, flamboyant, fashionable and revealing, indicating the objectification of his identity and how he positions himself as 'being on display'. Henning Bech characterises the homosexual gaze as audacious for how it lingers in another temporal dimension, which allows the long and voluptuous stare (Bech, 1997: 106).

Such gaze is proposed that it is both an iconic gesture and an affective form of body language due to how gaze visually links the relationship between food and sex – especially the relationship between fast food and homosexual desire. John Ryle draws an analogy between food and sex, suggesting that the dynamic between two men is not a 'dinner party', but 'fast food' (Ryle, 1998). Elspeth Probyn also suggests the similarity between a public affair and fast food, in that both are 'tainted by commercialization, and lack of taste or table manners' (Probyn, 1999: 424).

Therefore, fast food becomes what this article refers to as 'depraved food' because it represents the deconstruction of Confucian values (especially food ethics) against the backdrop of growing commercialisation and globalisation in 1990's Taiwan. The McDonald's scene is the product of modernity and capitalist ideology as it produces large quantities of standardised food, such as hamburgers, fries and Coca-Cola, which people can eat using their hands, dispensing with the need for chopsticks and the absence of traditional Chinese table manners – and thus Confucian values. At the same time, it embraces the subversive gay culture as an anonymous commercial place for gay male cruising: gay males come here to both consume fast food and satiate their queer desire.

The next shot is a depiction of gay male cruising. A stationary shot is used to show how Hsiao-Kang's father walks out of the McDonald's and 'chases' the young man slowly down the corridor **(Figure 9).** Richard Tewksbury explores the concept of 'the chase', describing it as the process that takes place 'between the initial eye contact and an eventual sexual contact... a series of interactions in which men pursue each other' (Tewksbury, 1996: 15). This chase sequence contains frequent, intensive exchanges of glances. The place is shot as a symmetrical and seemingly endless corridor, which is darker than the bright artificial lights in the previous scene. The contrast between the unoccupied corridors and the colourful lights in McDonalds highlights the solitude and isolation of individual humans in an increasingly commercial society. Given this setting, the chase between the two men has shades of ironic warmth and intimacy. A similar vertical composition also appears in another scene – the sauna scene – in which Hsiao-Kang also seeks out a sexual partner, constructing a visual parallel between father and son. **(Figure 10).**

These two places can be read politically given the connection between McDonald's and neocolonialism, and the sauna's association with Japanese colonial rule over Taiwan (Marchetti, 2005: 117). The framing of these spaces creates what De Luca describes as an 'explicit, indeed vertiginous, sense of depth' as well as a sense of darkness and anonymity (De Luca, 2011: 164). Furthermore, as a ubiquitous food chain, McDonald's

represents the setting's norms of anonymity where both food consumption and queer cruising can take place. With the decline of Confucian food norms, such anonymity facilitates subversive queer activities (Tewksbury, 1996: 9). In contrast, the darkness in the sauna helps to conceal the transgressive sexual activities that take place in a semi-public setting. As Bech argues, cruising, or the gaze, belongs to the city (Bech, 1997: 108). By depicting McDonald's as a place for gay males to seek their sexual partners, food consumption turns into the consumption of homosexual desire and young male bodies. The similarity of the graphic composition of the McDonald's corridor scene and sauna scene informs the understanding of the relationship between anonymous queer desire and locations for commercial food consumption. The seemingly infinite composition allows the characters to chase and get lost in their surroundings, in which the familiar domestic food space as well as the solidity of heterosexual mode are replaced and challenged by commercialisation.

Figure 9: McDonald's corridor scene

Figure 10: The sauna scene's similar composition as Figure 9

Conclusion

In conclusion, the above analysis highlights a myriad of depraved food images in *The River.* My analysis suggests these images are consciously designed to offer an alternative interpretation of Confucian values. Longji Song writes that the Chinese individual who is not defined by ethics becomes something inconceivable, the unethical subject (Sun, 1983: 30). Such an argument can be expanded into the field of food: it is proposed that those foodways that lack moral properties are depraved food, subverting the *lun* (伦, same as ethics in the English meaning), a fundamental Confucian cultural value. They are typically nondescript because the edible value is repressed and minimised.

By presenting images of depraved food, Tsai presents a critical depiction of Taiwan during the 1990s. To be precise, the conventional Confucian family has been reconstructed by capitalist ideology. The father, traditionally a figure of familial authority, eats alone without exercising control over his family. He eats in the fast-food chain and pursues another homosexual. Meanwhile, the mother is able to fit in with the commercialised society, bringing leftovers to her family, which makes her the literal 'breadwinner'. At the same time, she abandons her conventional maternal duties, instead embracing the longing for extramarital heterosexual intimacy. Finally, the son eats alone,

the transgression of Chinese table manners is reflective of a young, lonely soul grappling with the dysfunction of maintaining a conventional 'normal' life in a globalising society. Through depicting this depraved food, Tsai offers critical observations on 1990s Taiwan: a culturally hybrid society that oscillates between Confucian ethics and capitalist ideology. As Yao concludes, 'it is portrayed mostly as an alienating, superficial, disjointed and impersonal modern globalized city' (Yao, 2005: 219).

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References

Filmography

Tsai Ming-liang, (1997), *The River* [Film], Shiu Shun-ching, Taiwan

Bibliography

Bech, H. (1997), *When Men Meet: Homosexuality and modernity*, (Cambridge, UK: Polity Press)

Chang, K. C. (1977), *Food in Chinese Culture*, (New Haven: Yale University Press)

Cooper, E. (1986), 'Chinese table manners: You are how you eat', *Human Organization*, 45 (2), 179–84

De Luca, T. (2011), 'Sensory everyday: Space, materiality and the body in the films of Tsai Ming-liang', *Journal of Chinese Cinemas*, 5 (2), 157–79

Douglas, M. (2002) Implicit meanings: Selected essays in anthropology. Routledge.

Martin, D. F. (2003), 'Vive L'Amour: Eloquent Emptiness', in Berry, C. (ed) *Chinese Film in Focus: 25 New Takes,* London: BFI Publishing

Hsu, F. L. K. and V. Y. N. Hsu (1977), 'Modem China: North', in Chang, K. C. (ed.) *Food in Chinese Culture*, New Haven: Yale University Press

Kaplan, D. M. (ed.). (2012), *The Philosophy of Food*, vol. 39, (Berkeley: University of California Press)

Korsmeyer, C. (2012), '5. Ethical Gourmandism', in Kaplan, D. M. *The Philosophy of Food*, (Berkeley: University of California Press), pp. 87–102

Lim, S. H. (2014), *Tsai Ming-Liang and a Cinema of Slowness.* (Hawai'i: University of Hawai'i Press)

Lee, M. H. (2017), *Confucianism: Its roots and global significance.* (Hawai'i: University of Hawai'i Press)

Marchetti, G. (2005), 'On Tsai Mingliang's *The River*', in Berry, C. and Feii L. *Island on the Edge: Taiwan new cinema and after*, Hong Kong: Hong Kong University Press

Needham, G. (2015), 'Cruising: Another way of looking', *Wuxia*, (1-2), 44-67

Neri, C. (2008), 'Tsai Ming-liang and the Lost Emotions of the Flesh', *Positions: East Asia Cultures Critique*, 16 (2), 389–407

Park, M, and C. Chesla. (2007), 'Revisiting Confucianism as a conceptual framework for Asian family study.' *Journal of Family Nursing*, 13 (3), 293–311

Probyn, E. (1999), 'An ethos with a bite: Queer appetites from sex to food', *Sexualities*, 2 (4), 421–31

Ryle, J. (1998), 'Outdoor Sex; the Junk Food of Love', *The Guardian,* available at
https://johnryle.com/?article=fast-food-gay-sex-and-the-tearoom-trade, accessed 16
September 2022

Sun, A. (2013), 'Confucianism as a World Religion', in Sun, A., *Confucianism as a World
Religion.* Princeton, N.J.: Princeton University Press

Sun, L. (1983), 'Zhongguo Wenhuade', 'Shenceng Jiegou', *The Deep Structure of Chinese
Culture.* Hong Kong: Jixian Publishers.

Tandoh, R. (2022), 'A Feast for the Eyes: Ruby Tandoh on food and film', *The Guardian,*
available at https://www.theguardian.com/lifeandstyle/2018/mar/18/food-and-film-
ruby-tandoh-call-me-by-your-name-moonlight-tampopo, accessed 16 September
2022

Tewksbury, R. (1996), 'Cruising for sex in public places: The structure and language of men's
hidden, erotic worlds', *Deviant Behavior*, 17 (1), 1–19

Wu, I. F. (2002), 'Flowing desire, floating souls: Modern cultural landscape in Tsai Ming-
Liang's Taipei trilogy.' *CineAction*, 58–64

Yao, K-T. (2005), 'Commentary on the Marginalized Society: The Films of Tsai Ming-Liang', in
Kwok, R. *Globalizing Taipei*. Routledge, 219–40

Age and Racial Disparities Persist for Gonorrhoea and Chlamydia in the United States

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Abstract

Sexually Transmitted Infections (STIs) are primarily spread through sexual activity. In recent years, STIs have been on the rise globally. In the United States, chlamydia and gonorrhoea are the most prevalent bacterial STIs and have been for the past decade. Both these infections infect the same tissues, have similar modes of transmission, clinical presentations, and can be treated by the same antibiotics. Yet, the epidemiologies and forecasts appear to be different. This paper identifies vulnerable populations specific to gonorrhoea and chlamydia and assesses factors that are likely driving these disparities. Publicly available surveillance data from The Centre for Disease Control and Prevention (CDC) was examined to identify vulnerable populations for both diseases. These findings show that there are sex-specific differences in risk of gonorrhoea and chlamydia, and that young females carry an increased risk of both. Also, there is an increased risk of both infections among the Black/African American population. Understanding risk and risk-drivers is essential to targeting these vulnerable populations for the interest of public health.

Keywords: Sexually transmitted infections (STIs); Sexual health; Gonorrhoea; Chlamydia; Risk factors; Adolescent sexual health; Ethnic disparities; Social determinants of health; prevalence.

Introduction

Epidemiology

The United States is experiencing a rise in sexually transmitted infections (STIs), reaching an epidemic status, and posing a significant public health threat (Nelson *et al.,* 2021). For the past decade, chlamydia and gonorrhoea have remained the most prevalent STIs in the United States, with 1,649,716 and 648,056 cases reported in 2022, respectively (Nelson *et al.,* 2021).
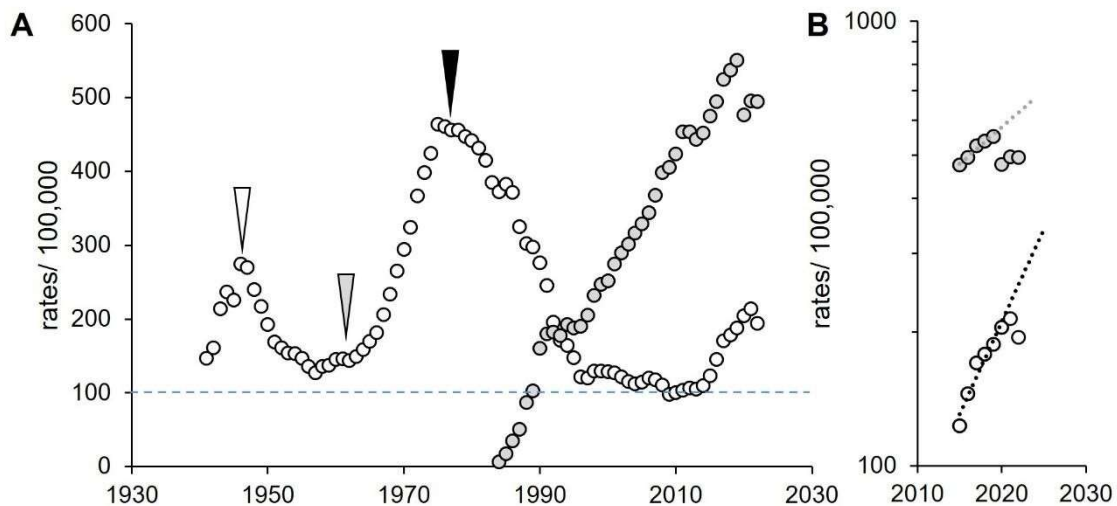
Figure 1A - Rates of infection are dependent on historical events.

Figure 1: Rates of gonorrhoea and chlamydia, in the United States 1941–2022. A. Incidence. White, gonorrhoea; grey, chlamydia. White, arrowhead, introduction of penicillin (Hook and Kirkcaldy, 2018); grey arrowhead, start of the free love and the hippie movement (Goldman, 1998; Johnson Lewis, 2019); black arrowhead, impact of condoms during HIV/AIDS epidemic (Kershaw, 2018; Boti Sidamo *et al.,* 2021). Blue dashed line, threshold resistant to public health interventions. **B. Future projections.** Dotted lines, exponential extrapolations. Data from CDC, https://www.cdc.gov/sti-statistics/datavis/table-sticasesrates.html.

In recent years, rates of reported chlamydia and gonorrhoea in the United States have risen (CDC, 2024a). In 2022, the rates of reported cases of chlamydia were more than double that of gonorrhoea (Figure 1B) (CDC, 2024a). Curiously, they infect the same tissues, have similar modes of transmission, clinical presentations and can be treated by the same antibiotics (CDC 2021a; CDC, 2021b; CDC, 2024a; Quillin and Seifert, 2018). Yet, the epidemiologies and forecasts appear to be different. Considering the effect of the COVID-19 pandemic on reporting, estimates were measured prior to the pandemic; these forecasts presented chlamydia doubling every 18 years and gonorrhoea doubling every 7 years (Figure 1B) (Sentís *et al.,* 2021). This strongly suggests that transmission of these infections is driven by different populations. The aim of this project was to identify the risk groups and to explore key determinants that are driving these differences, such as biological, behavioural, cultural and social factors.

Transmission

Transmission of gonorrhoea is highly efficient from males to their sexual partners through ejaculates as *N. gonorrhoeae* attaches to sperm (James-Holmquest *et al.,* 1974). However, the efficiency of transmission from females to their partners remains unclear (Ketterer *et al.,* 2016). Chlamydia transmission can occur during contact with infected genitalia, regardless of ejaculation (NHS, 2017).

Clinical manifestations and sequala

Clinical manifestations of gonorrhoea and chlamydia are similar but often go unnoticed (Quillin and Seifert, 2018). Typically, symptoms are more apparent in males, such as dysuria and a purulent discharge from the penis, whereas females are more likely to experience inconspicuous symptoms, such as vaginal discharge, which can be mistaken for hormonal fluctuations and typical variability (Quillin and Seifert, 2018).

Timely treatment is important to reduce the severity of sequela and prevent further transmission (NHS, 2017). Importantly, if left untreated, chlamydia and gonorrhoea can result in PID, ectopic pregnancies and irreversible infertility in females and urethritis, epididymitis and proctocolitis in males (Jennings and Krywko, 2023; Stamm *et al.,* 1984).

Thus far, there are no studies that include recent data released by the CDC that explore the US population. To improve sexual health, we must understand both distinct and common influences on risk and identify populations that are disproportionately at risk of these infections so we can consider public health interventions to target the populations that are disproportionately affected.

Materials and methods

Source of data

Datasets were from the Sexually Transmitted Infections Surveillance Report, published by The Centre for Disease Control and Prevention (CDC), https://www.cdc.gov/sti-statistics/data-vis/index.html.

χ2 tests

The CDC surveillance data includes unrecorded sex, similarly unknown age and ethnicity. Since this data is uninterpretable, it was redacted for analysis. Multiracial data is counterintuitive due to the absence of details within this population, making it challenging to explore the social determinants affecting risk in this population.

Expected values considered the null hypothesis; there is no proportionate difference in sex of the population and observed number of STI diagnoses and these values were calculated from the proportion of the population (using US census data) (Duffin, 2022; BMJ, 2019). When observed frequencies were compared with expected frequencies of a single variable – for example, sex – a χ^2 Goodness of Fit test was used. An example calculation from 2017 is shown in Table 1. The gender ratio in the United States has remained steady since 2013 so the same ratio was used for analyses (Duffin, 2022).

When examining the relationship between two independent variables, such as sex and age, comparisons were made using a χ^2 contingency test (BMJ, 2019). Expected values were derived from χ^2 contingency considerations and calculated using the proportion of ethnicity (using US census data) and observed cases (BMJ, 2019). Risk groups, those with proportionately more or fewer cases than expected, were identified by the largest contribution to the χ^2 value ('splitting' of χ^2) (BMJ, 2019). Methods are described in full in BMJ Statistics at square one (BMJ, 2019). A worked example calculation from 2017 is shown in Table 2. Calculation outputs are shown in Table 3.

sex	o [a]	e [b]	o-e	$(o-e)^2$	$(o-e)^2/e$	
Male	321,963	274328.995	47,634	2268998413	8271.085	
Female	232,461	280095.005	-47,634	2268998413	8100.817	
					16371.9	χ^2
					1	df [c]
					0	P [d]

[a] observed cases; [b] expected cases (proportions from US census in 2010); [c] degrees of freedom; [d] probability value.

Table 1: Testing incidence of gonorrhoea in 2017.

		o [a]	o	e [b]	e
Age		Male	Female	Male	Female
0–4		56	144	116.1432	83.85676
5–9		19	90	63.29807	45.70193
10–14		507	2,212	1578.967	1140.033
15–19		34918	57573	53711.02	38779.98
20–24		81036	74578	90367.57	65246.43
24–29		75123	46577	70673.16	51026.84
30–34		47342	24157	41520.63	29978.37
35–39		30277	13448	25391.82	18333.18
40–44		17753	6331	13985.97	10098.03
45–54		23803	5580	17063.18	12319.82
55–64		9311	1538	6300.19	4548.81
65+		1818	233	1191.049	859.9511
Total		321963	232461	321,963	232,461
o-e	o-e	$(o-e)^2$	$(o-e)^2$	$(o-e)^2/e$			

Male	Female	Male	Female	Male	Female	SUM	
-60.14324	60.14324	3617.209384	3617.209384	31.1	43.1	74.3	
-44.29807	44.29807	1962.31866	1962.31866	31.0	42.9	73.9	
-1071.967	1071.967	1149114.011	1149114.011	727.8	1008.0	1735.7	
-18793.02	18793.02	353177687.5	353177687.5	6575.5	9107.2	15682.7	
-9331.571	9331.571	87078220.62	87078220.62	963.6	1334.6	2298.2	
4449.838	-4449.84	19801059.33	19801059.33	280.2	388.1	668.2	
5821.372	-5821.37	33888374.51	33888374.51	816.2	1130.4	1946.6	
4885.184	-4885.18	23865023.05	23865023.05	939.9	1301.7	2241.6	
3767.031	-3767.03	14190522.35	14190522.35	1014.6	1405.3	2419.9	
6739.816	-6739.82	45425117.21	45425117.21	2662.2	3687.2	6349.3	
3010.81	-3010.81	9064976.352	9064976.352	1438.8	1992.8	3431.7	
626.9511	-626.951	393067.6418	393067.6418	330.0	457.1	787.1	
						37709	χ^2
						11	df [c]
						0	P [d]

[a] observed cases; [b] expected cases (proportions from US census in 2010); [c] degrees of freedom; [d] probability value.

Table 2: Testing incidence of gonorrhoea in 2017.

Sex-specific differences									
Gonorrhoea					**Chlamydia**				
Year	**χ2**	**N** a	**df** c	**P** d	**Year**	**χ2**	**N** a	**df** c	**P** d
2017	16371.9	554424	1	0	2017	166137.9	1703956	1	0
2018	19435.8	582167	1	0	2018	151787	1753474	1	0
2019	21333.9	614640	1	0	2019	136797.7	1800973	1	0
2020	15325.1	675432	1	0	2020	135244.4	1571770	1	0
2021	20208.4	702756	1	0	2021	121960.3	1630268	1	0
2022	31072.4	645594	1	0	2022	109668.3	1641143	1	0
Age-specific differences									
Gonorrhoea					**Chlamydia**				
Year	**χ2**	**N** a	**df** c	**P** d	**Year**	**χ2**	**N** a	**df** c	**P** d
2017	377709	554424	11	0	2017	74720	1703956	11	0
2018	38679	582167	11	0	2018	82023	1753474	11	0
2019	40388	614640	11	0	2019	85645	1800973	11	0
2020	38568	675432	11	0	2020	71411	1571770	11	0
2021	39799	704756	11	0	2021	77656	1630268	11	0
2022	38836	645594	11	0	2022	77837	1641143	11	0
Ethnicity-specific differences in 2022									
Gonorrhoea					**Chlamydia**				
Sex	**χ2**	**N** a	**df** c	**P** d	**Sex**	**χ2**	**N** a	**df** c	**P** d
Males	456346.9	303,311	6	0	Males	405099.8	410560	6	0
Females	224406.9	201122	6	0	Females	658988.3	719612	6	0
Sex-specific differences between ethnicities in 2022									
Gonorrhoea					**Chlamydia**				

Ethnicity	χ2	N [a]	df [c]	P [d]	Ethnicity	χ2	N [a]	df [c]	P [d]
B/AA	15705	245961	11	0	B/AA	18110	467246	11	0
White	12020	142546	11	0	White	31147	359737	11	0
Hisp/Lat	6309	83524	11	0	Hisp/Lat	13791	233536	11	0
Asian	702	8053	11	0	Asian	2024	20348	11	0
Multiracial	1629	14142	11	0	Multiracial	2877	28391	11	0
AI/AN	166	9039	11	0	AI/AN	276	17319	11	0
NH/PI	73	1177	11	0	NH/PI	170	3595	11	0

[a] observed cases; [c] degrees of freedom; [d] probability value.

Table 3: Chi-squared test calculation outputs.

Results

Males carry the burden of gonorrhoea; females, chlamydia

As a first step towards identifying high- and low-risk groups, diagnosed cases were separated by sex, and these observed numbers were compared with χ^2 expectations based upon the proportion of males and females in US census records (see Table 1) (Duffin, 2022; U.S. Census Bureau, 2021). Over the past six years where data is available, males have consistently carried a greater burden of diagnosed gonorrhoea than females, with rates ranging from 28 per cent to 42 per cent higher and an average difference of 34 per cent (Figure 2).
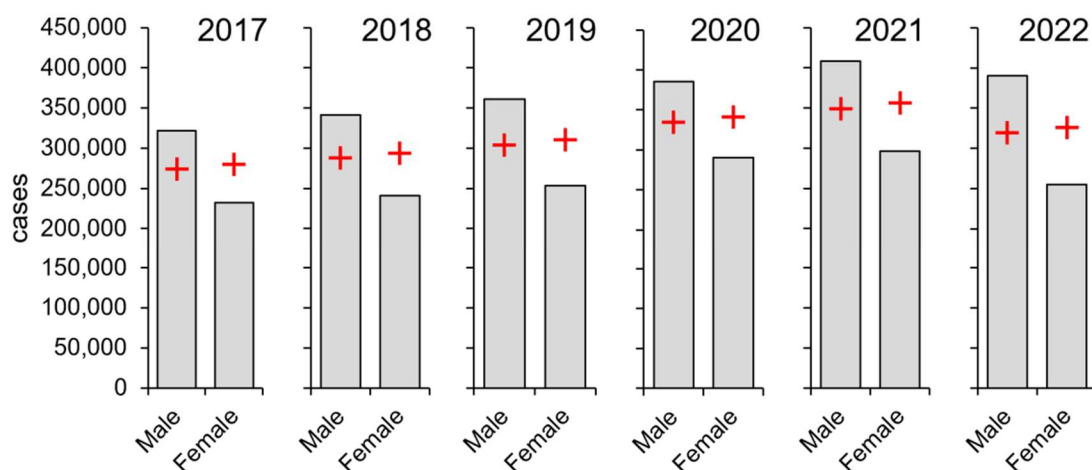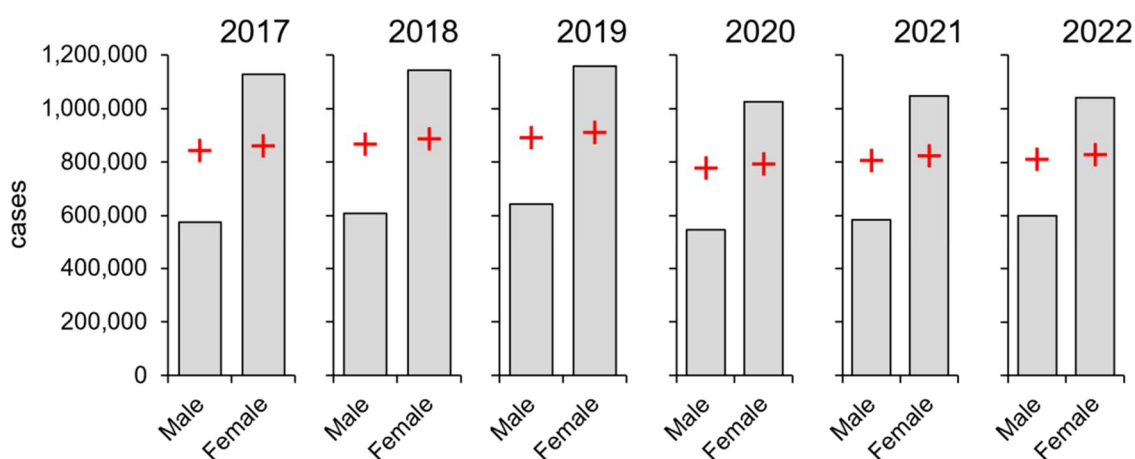
Figure 2: Males carry a larger burden of diagnosed gonorrhoea (2017–2022). Columns, diagnoses; red crosses, expected values derived from the proportion of males and females in the US population (Duffin, 2022). Significance was determined by χ^2 goodness of fit tests: an example calculation from 2017 is shown in Table 1. Data from CDC, https://www.cdc.gov/std/statistics/2022/tables/15.htm.

In marked contrast, females have carried a consistently higher burden of diagnosed chlamydia than males over the same period, averaging 59 per cent higher with rates ranging from 54 per cent to 64 per cent (Figure 3). Thus, despite having the same transmission route and infecting the same tissues, there are sex-specific differences for the two infections. Of note, these are diagnosed cases, which may not reflect the true burden of disease due to factors such as avoidance of, or limited access to, regular sexual health screening.

Figure 3: Females carry a larger burden of diagnosed chlamydia (2017–2022). Columns, diagnoses; red crosses, expected values derived from χ^2 considerations. Data from CDC, https://www.cdc.gov/std/statistics/2022/tables/6.htm.

Young females are high risk of gonorrhoea; males are low risk of chlamydia

Having established the influence of sex on the burden of infection, the data was divided into age and sex, examining by χ^2 contingency tests (see Table 2). Despite there being an average of 34 per cent greater burden of gonorrhoea in males, young females (age 15–24) carry a high proportional risk and have done for the last six years (Figure 4). Notably, older males (age 45–54) also carry a high proportional risk, suggesting transmission from older males to young females.
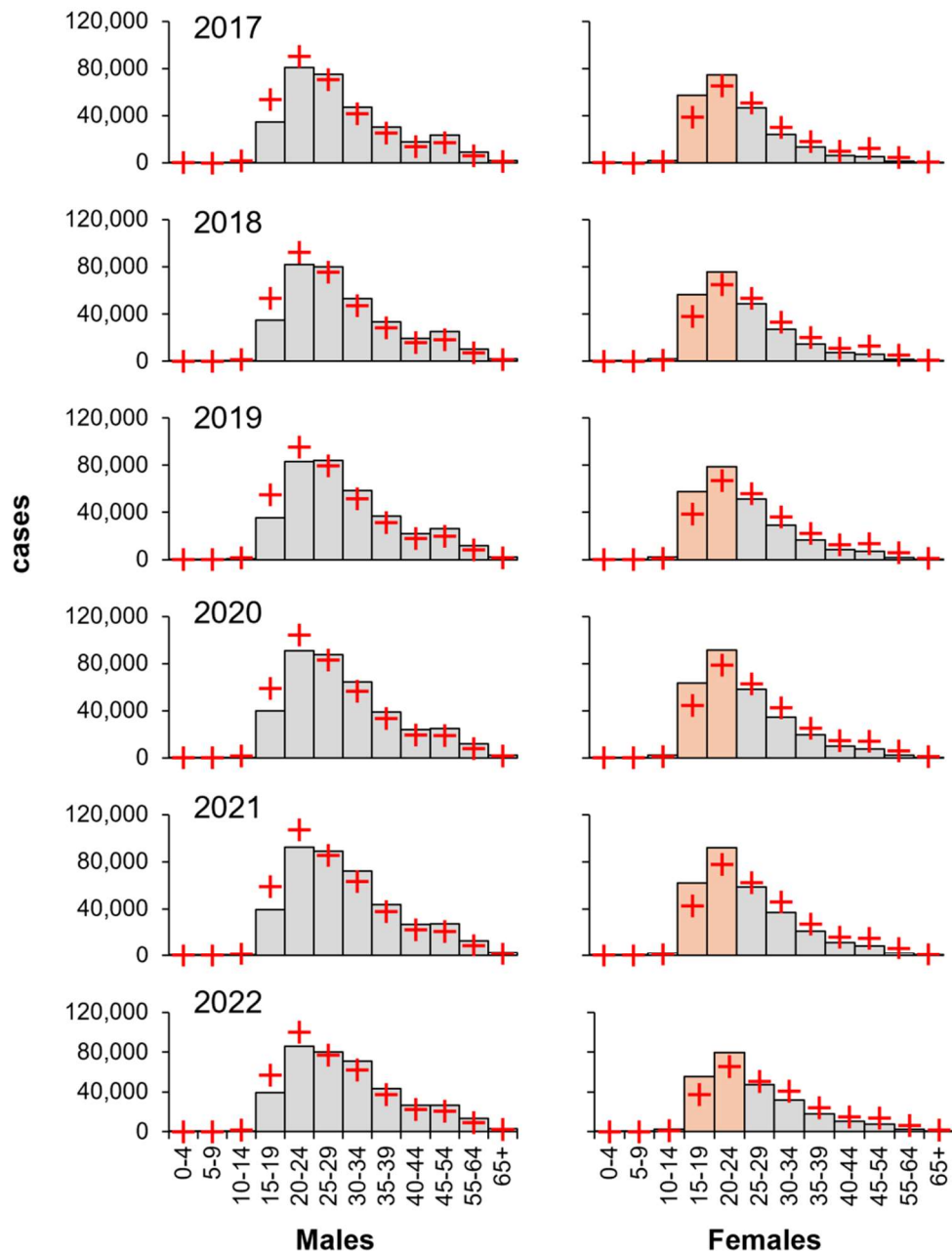
Figure 4: Young females carry a larger proportional burden of diagnosed gonorrhoea (2017–2022). Columns, diagnoses; orange, high-risk female groups; red crosses, expected values derived from χ^2 contingency considerations: an example calculation from 2017 is shown in Table 2. Data from CDC, https://www.cdc.gov/std/statistics/2022/tables/15.htm.

Conversely, even though females carried an average of 59 per cent greater burden of diagnosed chlamydia, young males (age 15–24) have the lowest proportional risk of chlamydia and have done for the last six years (Figure 5), indicating that the burden of infection is age dependent.
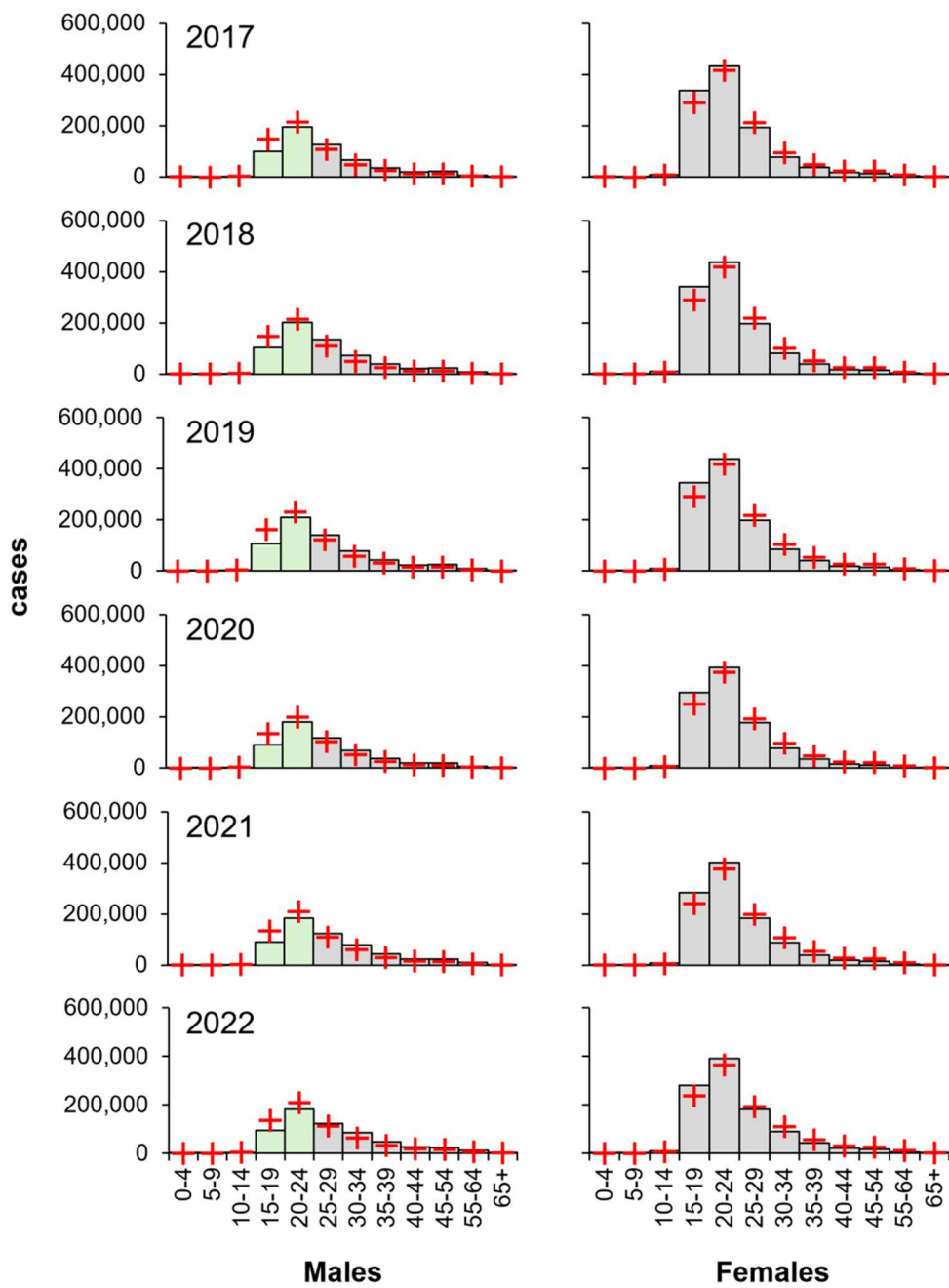
Figure 5: Young males carry the lowest proportional burden of diagnosed chlamydia (2017–2022). Columns, diagnoses; green, low-risk male groups; red crosses, expected values derived from χ^2 contingency considerations. Data from CDC, https://www.cdc.gov/std/statistics/2022/tables/6.htm.

Black/African American population are high risk of gonorrhoea and chlamydia; White population is low risk

Having identified the impact of age and sex, the impact of ethnicity on risk was investigated by χ^2 goodness of fit. The Black/African American population were revealed to have a proportionately high risk of gonorrhoea, and the White population are proportionately low risk (Figure 6). Specifically, Black/African American males are ten times more likely to be diagnosed with gonorrhoea than White males, while Black/African American females are almost nine times more likely than White females.

Females were also identified as lower relative risk of gonorrhoea compared to their male counterparts, except in the American Indian/Alaska Native population. Despite the burden of diagnosis being higher among the Black/African American population, there is a notable shift in the Hispanic/Latino population, where Hispanic/Latino males are at a proportionately higher risk of infection and females at a proportionately low risk. The Asian population have the lowest relative risk. American Indian/Alaska Native have a relatively high risk of infection.
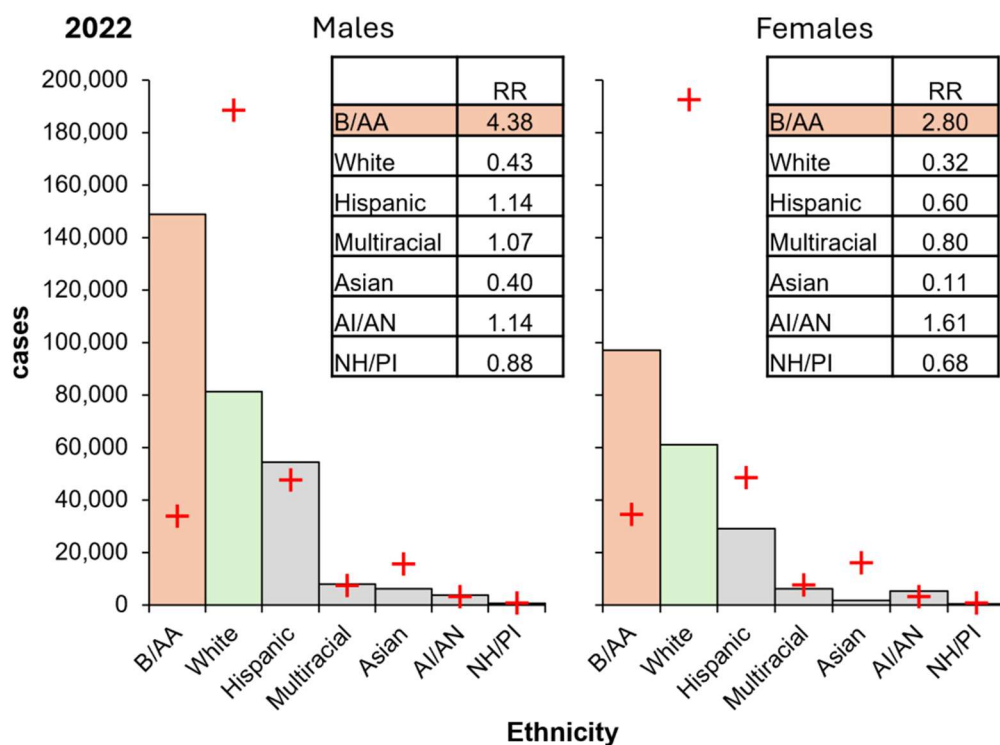
Figure 6: The US Black/African American population carries a disproportionate burden of gonorrhoeal cases in 2022. Columns, diagnoses; orange, highest risk group; green, lowest risk group; crosses, expectation. Inset, RR, relative risk (observed/expected). B/AA, Black/African American; Hispanic, Hispanic/Latino; AI/AN, American Indian/Alaskan Native; NH/PI, Native Hawaiian/Pacific Islander. Data from CDC, https://www.cdc.gov/std/statistics/2022/tables/16.htm.

Like gonorrhoea infection, Black/African American population carry the highest proportional risk of chlamydia cases (Figure 7). Black/African American males are more than eight times as likely to be diagnosed with chlamydia, and females are over six times as likely, compared to their White counterparts. However, White males have the highest proportional contribution to χ^2, carrying the lowest proportional risk. Remarkably, Hispanic/Latino females have a high proportional risk, and males have a low proportional risk, despite the inverse being observed for gonorrhoea. A similar trend was observed in the Native Hawaiian/Pacific Islander population. Like gonorrhoeal infection, the Asian population are associated with low risk whereas American Indian/Alaska Native are associated with high risk.

While these results indicate that ethnicity influences the risk of these infections, social and cultural factors also play a role in these disparities.
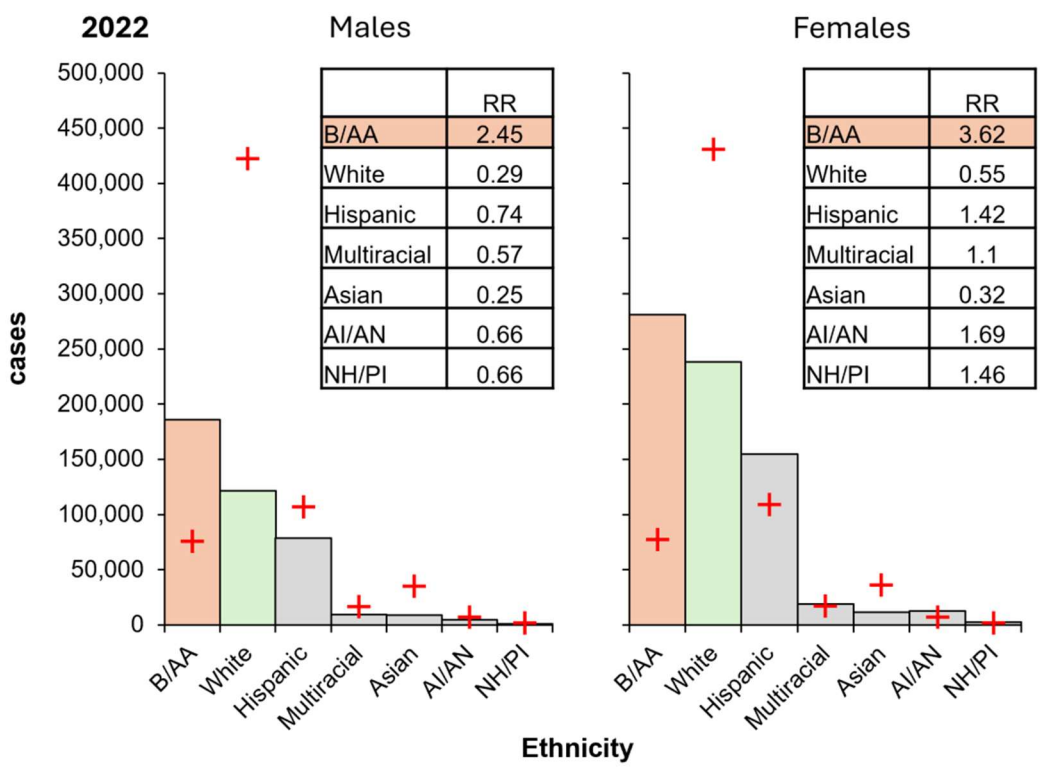
Figure 7: The US Black/African American population carries a disproportionate burden of chlamydia cases in 2022. Columns, diagnoses; orange, highest risk group; green, lowest risk group; crosses, expectation. Inset, RR, relative risk (observed/expected). B/AA, Black/African American; Hispanic, Hispanic/Latino; AI/AN, American Indian/Alaskan Native; NH/PI, Native Hawaiian/Pacific Islander. Data from CDC, https://www.cdc.gov/std/statistics/2022/tables/7.htm.

Young females are high risk of gonorrhoea; young males are low risk of chlamydia

Next, the risks associated with age within ethnic groups was examined by χ^2 contingency tests. Overall, risk groups were similar across ethnicities, with adolescent and young adult females (age 15–24) having the highest proportional risk of gonorrhoea (Figure 8). Interestingly, American Indian/Alaskan Native individuals formed a distinct risk group, with young adult males (aged 15–19) exhibiting a high proportional risk. This was attributed to underreporting, which may mask the true number of cases in this population. Nevertheless, the uniform risk across the three largest populations suggests factors, other than cultural, are driving infection.
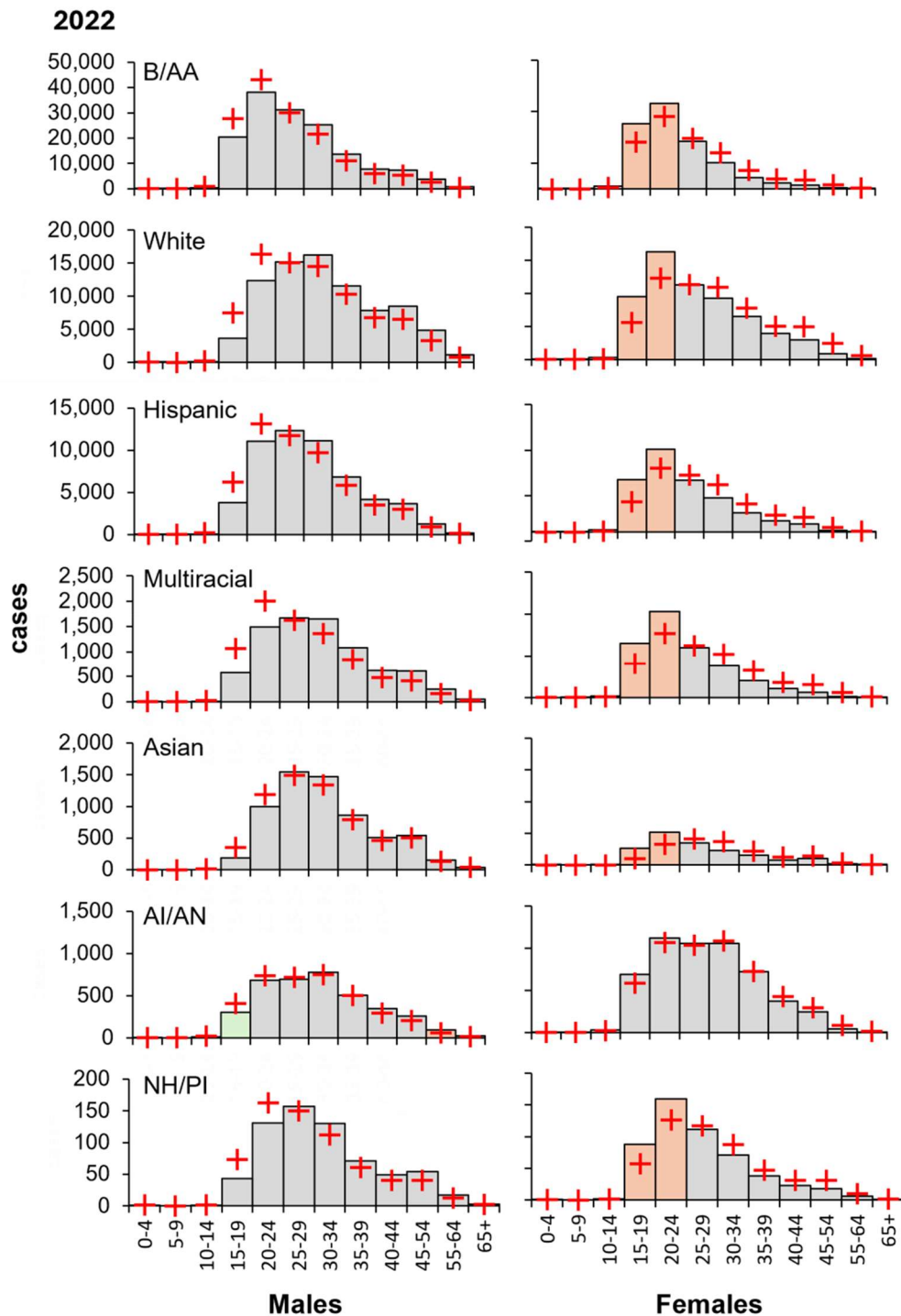
Figure 8: Independent of ethnicity, young females carry a disproportionately high burden of gonorrhoeal cases in 2022. Columns, diagnoses; orange, highest risk group; green, lowest risk male groups; red crosses, expected values derived from χ^2 contingency considerations. B/AA, Black/African American; Hispanic, Hispanic/Latino; AI/AN, American Indian/Alaskan Native; NH/PI, Native Hawaiian/Pacific Islander. Data from CDC, https://www.cdc.gov/std/statistics/2022/tables/16.htm.

Similarly, risk groups for chlamydia are consistent across ethnicities. Notably, young males (age 15–24) have the lowest proportional risk of chlamydia (Figure 9). Distinct risk groups were identified in Multiracial and Native Hawaiian/Pacific Islander ethnicities, although this is likely justified by the relatively small population size.
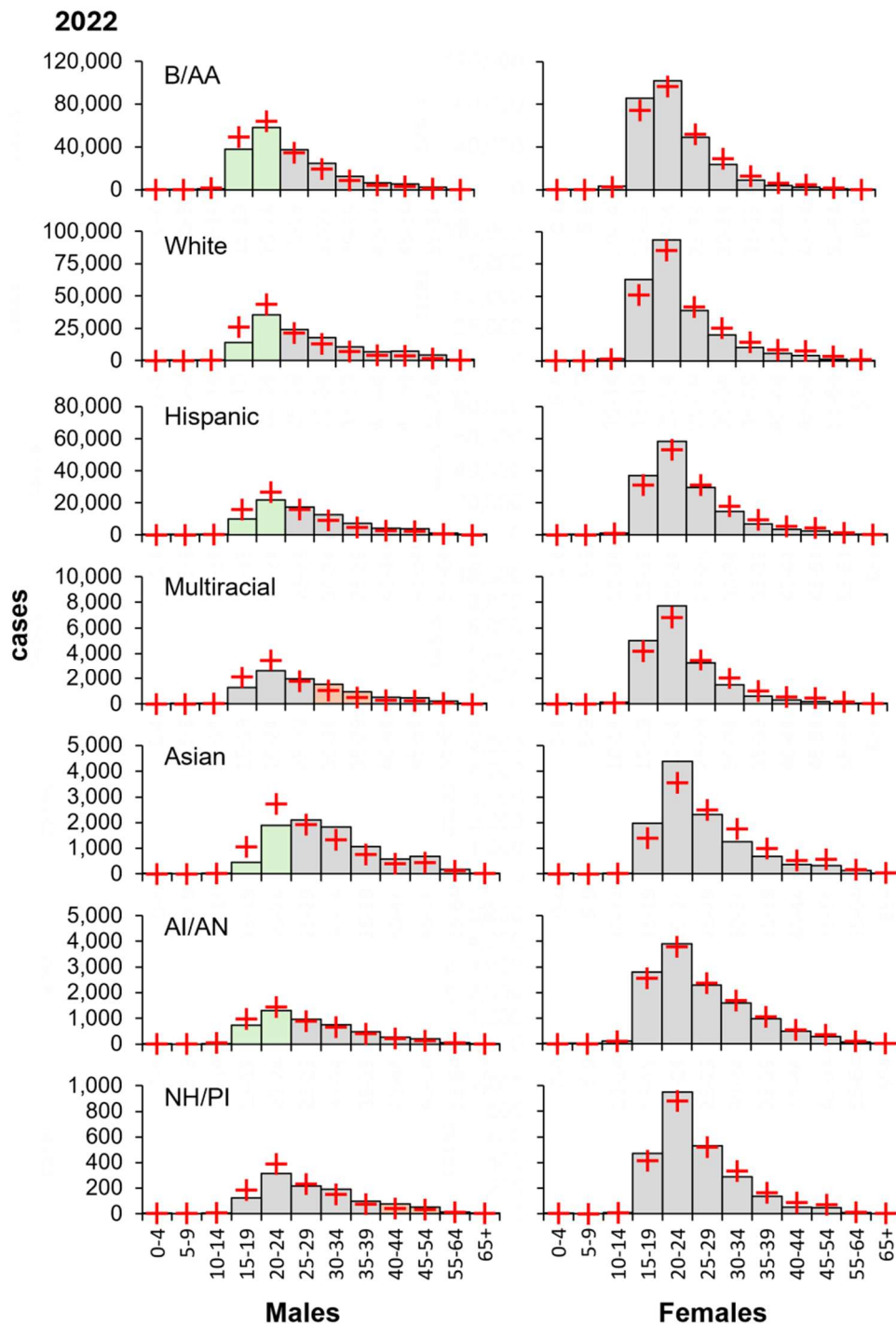

Figure 9: Independent of ethnicity, young males carry a disproportionately low burden of chlamydia cases in 2022. Columns, diagnoses; orange, highest risk group; green, lowest risk male

groups; red crosses, expected values derived from χ^2 contingency considerations. B/AA, Black/African American; Hispanic, Hispanic/Latino; AI/AN, American Indian/Alaskan Native; NH/PI, Native Hawaiian/Pacific Islander. Data from CDC, https://www.cdc.gov/std/statistics/2022/tables/7.htm.

Discussion

Sex-specific risk

Given that STIs are on the rise in the United States, I sought to identify risk groups and explore potential drivers of infection for gonorrhoea and chlamydia (Nelson *et al.,* 2021). When comparing observed cases with χ^2 expectations, I noticed that there are different burdens of diagnosis between sexes and have been since 2017. Males carry the burden of gonorrhoea diagnosis and females carry the burden of chlamydia diagnosis.

Female biological vulnerability

It is recognised that females are biologically more susceptible to STIs due to the vulnerability of the vaginal membrane (Van Gerwen *et al.,* 2022). The vaginal mucosa is thin and easily penetrated by an array of pathogens, including *N. gonorrhoeae* and *C. trachomatis* (Van Gerwen *et al.,* 2022). In tandem, there is an increased efficiency of transmission from males to females, compared to females to males (Hooper *et al.,* 1978; Platt *et al.,* 1983). Recent studies indicate that following a single sexual encounter exposing an individual to gonorrhoea, a female is 60–90 per cent likely to become infected whereas a male is only 20–30 per cent likely, due to a greater exposure in females due to pooled semen in the vagina in conjunction with trauma to vaginal tissue during intercourse (Platt *et al.,* 1983; Hooper *et al.,* 1978). In addition, females are more likely to carry less decision-making power over sexual relationships, which is associated with the ability to ensure consistent condom use (Ford and Lepkowski, 2004; Tschann *et al.,* 2002). Therefore, females are more biologically susceptible and have less empowerment over protecting themselves, which may partly explain the increased risk observed in females for chlamydia.

Sex-specific health-seeking behaviours

Biological susceptibility does not explain the difference observed in gonorrhoea, where males carry the burden of diagnosis. Instead, the cryptic nature of these infections may explain this disparity (Quillin and Seifert, 2018). Both infections often go unnoticed, but chlamydia infection appears to be more inconspicuous. Chlamydia infection is asymptomatic in up to 70 per cent of females and 50 per cent of males while gonorrhoea is estimated to be 10 per cent of males and 50 per cent of females (NHS, 2019). This suggests that asymptomatic screening likely plays a substantial role in reported chlamydia (CDC, 2024b). In contrast, symptomatic testing, more common in males, is responsible for the majority of reported gonorrhoea cases. This concept was supported by a study associating sex with different health-seeking behaviours; specifically, young females are more engaged in health services, such as regular Pap testing, which link them to sexual health services (Knight *et al.,* 2016). Hence, females are more likely to go for asymptomatic testing.

In marked contrast, young males practice self-monitoring of symptoms and tend to avoid formal diagnosis (Knight *et al.,* 2016). When young males did access sexual health services, they did so reactively: after engaging in a high-risk sexual encounter or when experiencing symptoms (Knight *et al.,* 2016). Taken together, the sex differences in cases of gonorrhoea and chlamydia can be explained by diverging health-seeking behaviours, such that females tend to be proactive so are more likely to detect asymptomatic infections, which are most common in chlamydia, while males tend to be reactive, seeking testing when they experience symptoms, which are more common in gonorrhoea (Knight *et al.,* 2016).

Sexual risk among adolescents

Risk is also age dependent. I revealed that while males have an elevated overall risk of gonorrhoea, young females (aged 15–24) have a high proportional risk of infection. Biological susceptibility is partially responsible for the elevated risk in pubescent females due to increased cervical ectopy and a lower production of cervical mucus (Lee *et al.,* 2006; Shannon and Klausner, 2019). Studies have shown the cervical ectopy is linked with increased risk of gonorrhoea and chlamydia infection (Kleppa *et al.,* 2014). Young females also tend to have a lower production of cervical mucus, which plays a protective role against infection (Wong *et al.,* 2004). Thus, if exposed to an STI, young females are more likely to get infected, which would explain the

disparity in risk of gonorrhoea (Kleppa *et al.,* 2014; Lee *et al.,* 2006; Shannon and Klausner, 2019; Wong *et al.,* 2004).

Additionally, behavioural factors, as highlighted in a pilot study, influence risk of STIs (Tzilos *et al.,* 2020). Namely, alcohol consumption while at college was closely linked to engaging in condomless sex (Tzilos *et al.,* 2020). Another study highlighted that young people are more likely to reduce or drop using condoms when in monogamous relationships, potentially exposing them to STIs (Brady *et al.,* 2009).

Risk paradox

Notably, this difference was not seen in young males (age 15–24), identified as proportionately low risk of gonorrhoea and chlamydia. However, these results seem paradoxical. In fact, according to current literature, all adolescents are at an increased risk of STIs (Maraynes *et al.,* 2017; The Lancet Child & Adolescent Health, 2022). I reasoned that reduced screening is masking true cases in the young male population (Maraynes *et al.,* 2017).

In terms of behaviour, adolescents are typically more likely to engage in sexual activity associated with increased risk of STIs, such as concurrent partners, polygamous relationships and condomless sex, due to a developing prefrontal cortex (Shannon and Klausner, 2019). The prefrontal context is responsible for executive function, so an undeveloped may somewhat explains poor decision-making typically seen in this age group (Shannon and Klausner, 2019). Furthermore, adolescents perceive themselves as low-risk and are less likely to access sexual health services (Shannon and Klausner, 2019; Tzilos et al., 2020). To address this, an increase in sexual health education prior to sexual debut and continued awareness and access to screening services would be essential to target adolescents. In addition, further efforts are necessary in screening symptomatic young males for a comprehensive understanding of risk in this group.

Sexual risk among different ethnicities

Since my results are driven by Chi-squared expectation, risk groups are revealed if they deviate from the major population – in this case, White (U.S. Census Bureau, 2021). When comparing

ethnicities, it is clear there are considerable differences in relative risk of gonorrhoea and chlamydia. Black/African Americans are at elevated risk and Whites are proportionately low risk. I first explored the possibility of behavioural differences driving these diverging risks. A study discovered that Whites and Hispanics are more likely to engage in oral sex when compared to Black/African Americans (Auslander *et al.,* 2009). The study also revealed that among this cohort, females who had experience of vaginal and oral sex were six times more likely to have a history of STIs, compared to those who had experience of vaginal sex only (Auslander *et al.,* 2009). Another study supported these findings (Salazar *et al.,* 2008). Therefore, despite Black/African American being more likely to participate in behaviour associated with low risk, they remain at increased risk. Alternatively, White females are more likely to engage in risk-associated behaviours yet remain low risk. This provides compelling evidence that risk is not determined solely by sexual practices (Auslander *et al.,* 2009; Salazar *et al.,* 2008).

The relative risk among the Asian population was lower than any other ethnic group. This is consistent with research that suggests that Asians are more conservative in sexual behaviours (Okazaki, 2002). Specifically, a cross-sectional questionnaire study revealed that Asian students reported sexual initiation at a later age compared to non-Asian students, a lower likelihood of having participated in oral sex and a lower number of lifetime sexual partners (Meston *et al.,* 1996). Culturally, Asians value family and maintain traditional gender roles; hence, young people tend to abstain from sexual activity to avoid embarrassment and family disagreement (Okazaki, 2002). Native Hawaiian/Pacific Islanders share these family values and display a similarly low risk (Okazaki, 2002). Therefore, the observed risk is reflective of low-risk behaviours (Okazaki, 2002).

Of note, the Hispanic/Latino population displayed unique risk characteristics and sex was identified as a key determinant of risk. Hispanic/Latino males are low risk of chlamydia and Hispanic/Latino females are high risk. This is likely attributed to biological susceptibility and health-seeking behaviours previously discussed (Ford and Lepkowski, 2004; Hooper *et al.,* 1978; Knight *et al.,* 2016; Platt *et al.,* 1983; Tschann *et al.,* 2002).

Curiously, the risk of chlamydia is shifted as Hispanic/Latino males are high risk of gonorrhoea whereas Hispanic/Latino females are low risk. This strongly suggests that gonorrhoea and chlamydia infection are driven by different populations.

Social risk factors

Next, I explored social factors that influence risk of gonorrhoea and chlamydia. In Black/African American communities, there is a smaller number of males compared to females (Adimora and Schoenbach, 2005). This restricts the variation in sexual partners and larger overlaps in sexual networks, which would facilitate the rapid transmission of STIs (Adimora and Schoenbach, 2005). There is also an increased prevalence of gonorrhoea and chlamydia in the population so, following each sexual encounter, there is a higher risk of infection (Adimora and Schoenbach, 2005). The CDC suggests that historical injustices in healthcare, employment and education is likely the driver of existing sexual health inequities (CDC, 2024b; Sutton *et al.,* 2021).

Furthermore, there is an overrepresentation of Black/African Americans and Hispanics/Latinos living in poverty in the United States (Shrider, 2023). Unsurprisingly, low socioeconomic status is associated with high risk of STIs (Boskey, 2009). It has also been linked with inconsistent condom use (Davidoff-Gore *et al.,* 2011). Exposure to poverty predisposes individuals to substance abuse, which increases risk of STIs (Hwang *et al.,* 2000; Manhica *et al.,* 2020). This suggests that socioeconomic factors have influenced the racial disparities in cases of gonorrhoea and chlamydia, particularly evident in the Black/African American and Hispanic/Latino populations (Hwang *et al.,* 2000; Manhica *et al.,* 2020). Nonetheless, these observations largely remained evident after adjusting for socioeconomic and other demographic variables (Zenilman, 2001). A similar discrepancy was identified in the UK where there is universal access to free healthcare (Zenilman, 2001). Hence, the disparity cannot be caused solely by a lack of access to sexual health services, but a reflection of health-seeking behaviours. I reasoned that injustices may deter ethnic minorities from accessing healthcare because of the anticipated discrimination from healthcare providers (Medical Institute for Sexual Health, 2024).

Similarly, historical mistreatment among Indigenous populations, as seen in the American Indian/Alaska Native population, has caused disproportionately high rates of poverty and limited access to sexual health services (Kirkcaldy *et al.,* 2019). Limited access to healthcare services results in reduced condom use and reduced screening, all contributing to an increase in transmission (Sutton *et al.,* 2021). Social isolation can amplify this effect due to a high prevalence of gonorrhoea and chlamydia in the sexual network, reinforcing transmission (CDC, 2024b).

Young females are high risk of gonorrhoea regardless of ethnicity

Aside from the American Indian/Alaska Native population, risk groups are consistent across all ethnicities, with young females carrying a higher burden of diagnosis of gonorrhoea. I reasoned that biological susceptibility is largely responsible due to a uniform risk among young females, including populations that are associated with low-risk behaviours (Okazaki, 2002).

Adultification of young Black females

Georgetown Law Centre on Poverty and Inequality found that young Black females are viewed as more mature than their White peers (Epstein *et al.,* 2017). Crucially, the concept of adultification can influence behaviours towards young Black females, exposing them to adult knowledge and conferring adult responsibilities (Burton, 2007). These misperceptions can leave young Black females vulnerable to sexual abuse and subsequent STIs (Crooks *et al.,* 2019). Therefore, the elevated risk of gonorrhoea and chlamydia observed in young Black females may be in part a consequence of their adultification (Burton, 2007; Crooks *et al.,* 2019; Epstein *et al.,* 2017).

Barriers facing American Indian/Alaska Native

Among American Indian/Alaska Native there is little enhanced risk in young females; instead, young males carry a proportionately low risk of gonorrhoea. The literature suggests that high levels of underreporting in this population is masking true cases (Armenta *et al.,* 2021). The literature suggests that risk is high due to engagement in risk-associated behaviours, poor awareness of STIs and prevention methods, and self-perception of low risk (Armenta *et al.,* 2021). Barriers to accessing sexual health services include a lack of transportation in rural communities, stigma and a fear of disclosure (Armenta *et al.,* 2021). Therefore, the observed risk among young American Indian/Alaska Native males is likely a result of underreporting (Armenta *et al.,* 2021).

Young males are low risk of chlamydia regardless of ethnicity

Corresponding with earlier results, young males have a uniform low risk of chlamydia. However, this may be due to underreporting as previously discussed, an alternative reason is indeed young

males may not be as sexually active as they claim. Early studies found that there was evidence of a double standard, causing young males to overreport their sexual encounters and females to underreport (Eden and Others, 1995; Oliver and Sedikides, 1992; Sprecher *et al.,* 1987); although there are no recent studies confirming this notion is still present (Gentry, 1998; Marks and Fraley, 2005; Milhausen and Herold, 1999). I speculate that the low risk of gonorrhoea and chlamydia seen in young males may be representative of true cases. Still, this would require further investigation.

Limitations

First, my findings are based on surveillance data of confirmed cases. Therefore, it is possible that there are individuals not captured due to being unaware of their infection. Second, although the data shows that the Black/African American population carry a disproportionately high risk of gonorrhoea and chlamydia, the CDC generalise ethnicities, such that Black/African American includes both Black African American and Black Caribbean. In fact, surveillance data in the UK has revealed Black Caribbean having the highest burden of diagnosis, in marked contrast to Black Africans who carry a relatively low risk of STIs (Public Health England, 2021). Thus, surveillance distinguishing between ethnic groups is warranted. Similarly, the CDC does not report data on sexual orientation in the context of gonorrhoea or chlamydia, except by state. This would be beneficial as sexual orientation can assist in determining risk. Third, there is the risk of misclassification, particularly among American Indian/Alaska Native, who are commonly misidentified as White or Hispanic/Latino, potentially limiting reliability (Bertolli *et al.,* 2007).

Conclusions

Despite these limitations, these findings highlight several important directions in this research field. (1) Gonorrhoea and chlamydia are influenced by sex differences due to biological susceptibility, varying health-seeking behaviours and transmission patterns in same-sex encounters. (2) Young females carry a disproportionately high risk of gonorrhoea and chlamydia due to increased biological susceptibility and risk-associated behaviour. (3) Ethnic disparities are apparent, emanating from social inequalities and pre-existing risk.

Overall, my research aligns with previous literature, confirming that age and racial disparities persist, with adolescents and ethnic minorities being at increased risk of chlamydia and

gonorrhoea. These findings are unique as they take a holistic approach to analysing population-based data, rather than focusing exclusively on historically high-risk groups such as transgender individuals and sex workers. While these groups carry a significant infection burden, they constitute a relatively small proportion of the population. My research also contextualises the drivers of infection, exploring how sex, age and ethnicity influence risk. These insights can inform evidence-based public health interventions which target the most vulnerable populations. Consequently, this research provides a distinctive perspective on current vulnerability, aiding efforts to reduce the prevalence of these highly common sexually transmitted infections in the United States.

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References

Adimora, A. A. and V. J Schoenbach (2005), 'Social context, sexual networks, and racial disparities in rates of sexually transmitted infections', *The Journal of Infectious Diseases*, 191 (s1), S115–S122, available at https://doi.org/10.1086/425280, accessed 27 May 2024.

Armenta, R. F., D. Kellogg, J. L. Montoya, R. Romero, S. Armao, D. Calac and T. L Gaines (2021), 'There is a lot of practice in not thinking about that': Structural, interpersonal, and individual level barriers to HIV/STI prevention among reservation based American Indians, *International Journal of Environmental Research and Public Health*, 18 (7), 3566, available at https://doi.org/10.3390/ijerph18073566, accessed 8 May 2024.

Auslander, B. A., F. M. Biro, P.A. Succop, M.B. Short, and S.L. Rosenthal (2009), 'Racial/ethnic differences in patterns of sexual behavior and STI risk among sexually experienced adolescent girls', *Journal of Pediatric and Adolescent Gynecology*, 22 (1), 33–39, available at https://doi.org/10.1016/j.jpag.2008.01.075, accessed 22 May 2024.

Bertolli, J., L.M. Lee and P.S. Sullivan (2007), 'Racial Misidentification of American Indians/Alaska Natives in the HIV/AIDS Reporting Systems of Five States and One Urban Health Jurisdiction, U.S., 1984–2002', *Public Health Reports*, 122(3), pp.382–392, available at: doi:https://doi.org/10.1177/003335490712200312, accessed 29 May 2024.

BMJ (2019), The chi squared tests | the BMJ. [online] BMJ.com, available at: https://bmjchicken.bmj.com/thebmj/about-bmj/resources-readers/publications/statistics-square-one/8-chisquared-tests, accessed 21 May 2024.

Boskey, E. (2009), 'Socioeconomic status (SES) and STD risk,' *Verywell Health Online*, available at: https://www.verywellhealth.com/socioeconomic-status-ses-3132909, accessed 27 May 2024.

Boti Sidamo, N., S. Hussen, T. Shibiru, M. Girma, M. Shegaze, A. Mersha, T. Fikadu, Z. Gebru, E. Andarge, M. Glagn, S. Gebeyehu, B. Oumer and G. Temesgen (2021), 'Exploring barriers to effective implementation of public health measures for prevention and control of COVID-19 pandemic in Gamo zone of Southern Ethiopia: Using a modified Tanahashi model', *Risk Management and Healthcare Policy*, 1219–32, available at https://pubmed.ncbi.nlm.nih.gov/33776499/, accessed 15 May 2024.

Brady, S. S., J. M. Tschann, J. M. Ellen and E. Flores (2009), 'Infidelity, trust, and condom use among Latino youth in dating relationships', *Sexually Transmitted Diseases*, 36 (4), 227–31, available at https://doi.org/10.1097/olq.0b013e3181901cba, accessed 28 May 2024.

Burton, L. (2007), 'Childhood adultification in economically disadvantaged families: A conceptual model', *Family Relations*, 56 (4), 329–45 available at https://doi.org/10.1111/j.1741-3729.2007.00463.x, accessed 28 May 2024.

CDC (2021a), 'STI treatment guidelines', *Online Centers for Disease Control and Prevention*, available at: https://www.cdc.gov/std/treatment-guidelines/default.htm, accessed 7 May 2024.

CDC (2021b), 'Adolescents', *Online Centers for Disease Control and Prevention*, available at https://www.cdc.gov/std/treatment-guidelines/adolescents.htm, accessed 7 May 2024.

CDC (2024a), 'Sexually transmitted infections surveillance, 2022', *Online Centers for Disease Control and Prevention*, available at https://www.cdc.gov/std/statistics/2022/default.htm, accessed 7 May 2024.

CDC (2024b), 'National overview of STIs, 2022', *Online Centers for Disease Control and Prevention*, available at https://www.cdc.gov/std/statistics/2022/overview.htm, accessed 7 May 2024.

Crooks, N., B. King and A. Tluczek (2019), 'Protecting young black female sexuality', *Culture, Health & Sexuality*, 22 (8), 1–16, available at https://doi.org/10.1080/13691058.2019.1632488, accessed 29 May 2024.

Davidoff-Gore, A., N. Luke and S. Wawire (2011), 'Dimensions of poverty and inconsistent condom use among youth in urban Kenya', *AIDS Care*, 23 (10), 1282–90, available at https://doi.org/10.1080/09540121.2011.555744, accessed 23 May 2024.

Duffin, E. (2022), 'US population by gender 2027', *Online Statista*, available at https://www.statista.com/statistics/737923/us-population-by-gender/#:~:text=Projection%20estimates%20calculated%20using%20the, accessed 4 June 2024.

Eder, D. and A. Others, (1995), 'School Talk: Gender and Adolescent Culture', *Rutgers University Press*, available at: https://eric.ed.gov/?id=ED388393, accessed 29 May 2024.

Epstein, R., J. Blake and T. Gonzalez (2017), 'Girlhood interrupted: The erasure of Black girls childhood', *Online SSRN Electronic Journal*, available at https://doi.org/10.2139/ssrn.3000695, accessed 29 May 2024.

Ford, K. and J. M. Lepkowski (2004), 'Characteristics of sexual partners and STD infection among American adolescents', *International Journal of STD & AIDS*, 15 (4), 260–65, available at https://doi.org/10.1258/095646204773557802, accessed 22 May 2024.

Gentry, M. (1998), 'The sexual double standard', *Psychology of Women Quarterly*, 22 (3), 505–11, available at https://doi.org/10.1111/j.1471-6402.1998.tb00173.x, accessed 28 May 2024.

Goldman, E. (1998), 'Free love, American experience', *Online PBS*, available at https://www.pbs.org/wgbh/americanexperience/features/goldman-free-love/, accessed 15 May 2024.

Hook, E. W. and R. D. Kirkcaldy (2018), 'A brief history of evolving diagnostics and therapy for gonorrhea: Lessons learned', *Clinical Infectious Diseases*, 67 (8), 1294–99, available at https://doi.org/10.1093/cid/ciy271, accessed 15 May 2024.

Hooper, R. R., G. H. Reynolds, O. G. Jones, A. A. Zaidi, P. J. Wiesner, K. P. Latimer, A. Lester, A. F. Campbell, W. O. Harrison, W. W. Karney, K. K. and Holmes (1978), 'Cohort study of venereal disease. I: The risk of gonorrhea transmission from infected women to men', *American Journal of Epidemiology*, 108 (2), 136–44, available at https://doi.org/10.1093/oxfordjournals.aje.a112597, accessed 27 May 2024.

Hwang, L. Y., M. W. Ross, C. Zack, L. Bull, K. Rickman and M. Holleman (2000), 'Prevalence of sexually transmitted infections and associated risk factors among populations of

drug abusers', *Online Clinical Infectious Diseases*, 31 (4), 920–26, available at https://doi.org/10.1086/318131, accessed 28 May 2024.

James-Holmquest, A. N., J. Swanson, T. M. Buchanan, R. D. Wende and R. P. Williams (1974), 'Differential attachment by piliated and nonpiliated neisseria gonorrhoeae to human sperm', *Online Infection and Immunity*, 9 (5), 897–902, available at https://doi.org/10.1128/iai.9.5.897-902.1974, accessed 27 May 2024.

Jennings, L. K. and D. M. Krywko (2023), 'Pelvic inflammatory disease (PID)', *Online National Library of Medicine*, available at https://www.ncbi.nlm.nih.gov/books/NBK499959/, accessed 17 May 2024.

Johnson Lewis, J. (2019), "Free love and women's history in the 19th century (and later)." *ThoughtCo*, available at www.thoughtco.com/free-love-and-womens-history-3530392, accessed 14 May 2024.

Kershaw, H. (2018), 'Remembering the 'Don't Die of Ignorance' campaign', *Online Placing the Public in Public Health: Public Health in Britain*, 1948–2010, available at https://placingthepublic.lshtm.ac.uk/2018/05/20/remembering-the-dont-die-of-ignorance-campaign/, accessed 15 May 2024.

Ketterer, M. R., P. A. Rice, S. Gulati, S. Kiel, L. Byerly, J. D. Fortenberry, D. E. Soper and M. A. Apicella (2016), 'Desialylation of Neisseria gonorrhoeae Lipooligosaccharide by Cervicovaginal Microbiome Sialidases: The potential for enhancing infectivity in men', *Online Journal of Infectious Diseases*, 214 (11), 1621–28, available at https://doi.org/10.1093/infdis/jiw329, accessed 27 May 2024.

Kirkcaldy, R. D., E. Weston, A. C. Segurado and G. Hughes (2019), 'Epidemiology of gonorrhoea: A global perspective', *Sexual Health*, 16 (5), 401, available at https://doi.org/10.1071/sh19061, accessed 15 May 2024.

Kleppa, E., S. D. Holmen, K. Lillebø, E. F. Kjetland, S. G. Gundersen, M. Taylor, P. Moodley and M. Onsrud (2014), 'Cervical ectopy: Associations with sexually transmitted infections and HIV. A cross-sectional study of high school students in rural South Africa', *Sexually Transmitted Infections*, 91 (2), 124–29, available at https://doi.org/10.1136/sextrans-2014-051674, accessed 22 May 2024.

Knight, R., T. Falasinnu, J. L. Oliffe, M. Gilbert, W. Small, S. Goldenberg and J. Shoveller (2016), 'Integrating gender and sex to unpack trends in sexually transmitted infection surveillance data in British Columbia, Canada: An ethno-epidemiological study', *BMJ*

Open, 6 (8), e011209, available at https://doi.org/10.1136/bmjopen-2016-011209, accessed 22 May 2024.

The Lancet Child & Adolescent Health, (2022), 'Youth STIs: An epidemic fuelled by shame', *The Lancet Child & Adolescent Health*, 6 (6), 353, https://doi.org/10.1016/s2352-4642(22)00128-6, accessed 11 January 2025.

Lee, V., J. M. Tobin and E. Foley (2006), 'Relationship of cervical ectopy to chlamydia infection in young women', *Journal of Family Planning and Reproductive Health Care*, 32 (2), 104–06, available at https://doi.org/10.1783/147118906776276440, accessed 22 May 2024.

Manhica, H., V. S. Straatmann, A. Lundin, E. Agardh and A. Danielsson (2020), 'Association between poverty exposure during childhood and adolescence, and drug use disorders and drug-related crimes later in life', *Online Addiction*, 116 (7), available at https://doi.org/10.1111/add.15336, accessed 28 May 2024.

Maraynes, M. E., J. H. Chao, K. Agoritsas, R. Sinert and S. Zehtabchi (2017), 'Screening for asymptomatic chlamydia and gonorrhea in adolescent males in an urban pediatric emergency department', *World Journal of Clinical Pediatrics*, 6 (3), 154, available at https://doi.org/10.5409/wjcp.v6.i3.154, accessed 22 May 2024.

Marks, M. J. and R. C. Fraley (2005), 'The sexual double standard: fact or fiction? Sex roles', 52 (3-4), 175–86, available at https://doi.org/10.1007/s11199-005-1293-5, accessed 29 May 2024.

Medical Institute for Sexual Health (2024), 'Racial/ethnic disparities and STIs', available at https://www.medinstitute.org/racial-ethnic-disparities-and-stis/, accessed 28 May 2024.

Meston, C.M., P.D. Trapnell and B.B. Gorzalka (1996), 'Ethnic and gender differences in sexuality: Variations in sexual behavior between Asian and non-Asian university students', *Archives of Sexual Behavior*, 25(1), pp.33–72. 995, available at https://pmc.ncbi.nlm.nih.gov/articles/PMC4426857/, accessed 28 May 2024.

Milhausen, R. R. and E. S. Herold (1999), 'Does the sexual double standard still exist? Perceptions of university women', *Journal of Sex Research*, 36 (4), 361–68, available at https://doi.org/10.1080/00224499909552008, accessed 29 May 2024.

Nelson, T., J. Nandwani and D. Johnson (2021), 'Gonorrhea and chlamydia cases are rising in the U.S. Sexually transmitted diseases', available at https://doi.org/10.1097/olq.0000000000001479, accessed 8 May 2024.

NHS (National Health Service) (2017), 'Chlamydia', available at https://www.nhs.uk/conditions/chlamydia/#:~:text=sharing%20sex%20toys%20that%20are, accessed 8 May 2024.

NHS (2019), 'Overview – gonorrhoea', available at: https://www.nhs.uk/conditions/gonorrhoea/, accessed 8 May 2024.

Okazaki, S. (2002), 'Influences of culture on Asian Americans' sexuality', *Journal of Sex Research*, 39 (1), 34–41, available at https://doi.org/10.1080/00224490209552117, accessed 24 May 2024.

Oliver, M. B. and C. Sedikides (1992), 'Effects of sexual permissiveness on desirability of partner as a function of low and high commitment to relationship', *Social Psychology Quarterly*, 55 (3), 321, available at https://doi.org/10.2307/2786800, accessed 29 May 2024.

Platt, R., P. A. Rice and W. M. McCormack (1983),' Risk of acquiring gonorrhea and prevalence of abnormal adnexal findings among women recently exposed to gonorrhea', *Online JAMA*, 250 (23), 3205–09, available at https://pubmed.ncbi.nlm.nih.gov/6417362, accessed 7 June 2024.

Public Health England (2021), 'Promoting the sexual health and wellbeing of people from a Black Caribbean background: An evidence-based resource', available at https://www.gov.uk/government/publications/promoting-the-sexual-health-and-wellbeing-of-people-from-a-black-caribbeanbackground-an-evidence-based-resource, accessed 30 May 2024.

Quillin, S. J. and H. S. Seifert (2018), 'Neisseria gonorrhoeae host adaptation and pathogenesis', *Nature Reviews Microbiology*, 16 (4), 226–40, available at https://doi.org/10.1038/nrmicro.2017.169, accessed 9 May 2024.

Salazar, L. F., R. A. Crosby, R. J. DiClemente, G. M. Wingood, E. Rose, J. McDermott-Sales and A. M. Caliendo (2008), 'African-American female adolescents who engage in oral, vaginal and anal sex: 'Doing it all' as a significant marker for risk of sexually transmitted infection'. *AIDS and Behavior*, 13 (1), 85–93, available at https://doi.org/10.1007/s10461-008-9381-5, accessed 24 May 2024.

Sentís, A., A. Prats-Uribe, E. López-Corbeto, M. Montoro-Fernandez, D. K. Nomah, P. G. de Olalla, L. Mercuriali, N. Borrell, V. Guadalupe-Fernández, J. Reyes-Urueña, J. Casabona and Catalan HIV and STI Surveillance Group (2021), 'The impact of the COVID-19 pandemic on sexually transmitted infections surveillance data: Incidence drop or artefact?', *BMC Public Health*, 21 (1), available at https://doi.org/10.1186/s12889-021-11630-x, accessed 3 June 2024.

Shannon, C. L. and J. D. Klausner (2019), 'The growing epidemic of sexually transmitted infections in adolescents', *Online Current Opinion in Pediatrics*, 30 (1), 137–43, available at https://doi.org/10.1097/mop.0000000000000578, accessed 7 May.

Shrider, E. (2023), 'Poverty rate for the Black population fell below pre-pandemic levels', available at https://www.census.gov/library/stories/2023/09/black-poverty-rate.html#:~:text=For%20example%2C%20Black%20individuals%20made, accessed 28 May 2024.

Sprecher, S., K. McKinney and T. L. Orbuch (1987), 'Has the double standard disappeared?: An experimental test', *Social Psychology Quarterly*, 50 (1), 24, available at https://doi.org/10.2307/2786887, accessed 29 May 2024.

Stamm, W. E., M. E. Guinan, C. C. Johnson, T. Starcher, K. K. Holmes and W. M. McCormack (1984), 'Effect of treatment regimens for Neisseria gonorrhoeae on simultaneous infection with Chlamydia trachomatis', *The New England Journal of Medicine*, 310 (9), 545–49, available at https://doi.org/10.1056/nejm198403013100901, accessed 10 May 2024.

Sutton, M. Y., N. F. Anachebe, R. Lee and H. Skanes (2021), 'Racial and ethnic disparities in reproductive health services and outcomes 2020', *Online Obstetrics & Gynecology*, 137 (2), 225–33, available at https://doi.org/10.1097/aog.0000000000004224, accessed 29 May 2024.

Tschann, J. M., N. E. Adler, S. G. Millstein, J. E. Gurvey and J. M. Ellen (2002), 'Relative power between sexual partners and condom use among adolescents', *Journal of Adolescent Health*, 31 (1), 17–25, available at https://doi.org/10.1016/s1054-139x(01)00418-9, accessed 22 May 2024.

Tzilos Wernette, G., K. Countryman, K. Khatibi, E. Riley and R. Stephenson (2020), 'Love my body: Pilot study to understand reproductive health vulnerabilities in adolescent girls', *Journal of Medical Internet Research*, 22 (3), 16336, available at https://doi.org/10.2196/16336, accessed 22 May 2024.

United States Census Bureau (2021), 'U.S. Census Bureau quickfacts: United States', *Online United States Census Bureau*, available at https://www.census.gov/quickfacts/fact/table/US/PST045221, accessed 21 May 2024.

Van Gerwen, O. T., C. A. Muzny and J. M. Marrazzo (2022), 'Sexually transmitted infections and female reproductive health', *Online Nature Microbiology*, 7 (8), 1116–26, available at https://doi.org/10.1038/s41564-022-01177-x, accessed 17 May 2024.

Wong, T., A. Singh, J. Mann, L. Hansen and S. McMahon (2004), 'Gender differences in bacterial STIs in Canada', *Online BMC Women's Health*, 4 (S1), 26, available at https://doi.org/10.1186/14726874-4-S1-S26, accessed 17 May 2024.

Zenilman, J. M. (2001), 'Ethnicity and STIs: More than black and white', *Sexually Transmitted Infections*, 77 (1), 2–3, available at https://doi.org/10.1136/sti.77.1.2, accessed 28 May 2024.

Glossary of terms

Asymptomatic Absence or perceived absence of symptoms.

Chlamydia A sexually transmitted infection caused by the bacterium *Chlamydiae trachomatis*.

Chlamydiae trachomatis A bacterium that causes chlamydia.

Dysuria Pain during urination.

Ectopic pregnancies When a fertilised egg implants itself outside of the womb.

Epidemiology The study of the causes, distribution and control of disease in a population.

Epididymitis Inflammation of the epididymis, located at the back of the testicle.

Gonorrhoea A sexually transmitted infection caused by the bacterium *Neisseria gonorrhoeae*.

HIV A sexually transmitted infection caused by the Human Immunodeficiency Virus.

Monogamous Referring to having one sexual partner at a time.

Neisseria gonorrhoeae A bacterium that causes gonorrhoea.

Oral sex Using a mouth to stimulate another person's genitals or anus.

Pandemic An infectious disease prevalent over several countries or continents.

Polygamous Referring to having more than one sexual partner at one time.

Proctocolitis Inflammation of the rectum.

Purulent discharge A pus-containing fluid.

Screening STI screening can detect for the presence of a sexually transmitted infection.

Sexual encounter A single instance of sexual activity, physical intimacy can vary.

Sexual network A network of people that are linked through sexual relationships.

Sexual orientation A personal pattern of romantic or sexual attraction.

Stigma A negative social attitude toward a person or circumstance, can include shame.

Sexually Transmitted Infection (STI) A disease that can be transmitted through sexual contact.

Surveillance Collecting information about the cases of STIs in a population.

Symptom A feature (physical or mental) that indicates a disease.

Symptomatic Presence of symptoms.

Transmission The spread of something from one person to another.

Urethritis Inflammation of the urethra.

The Current State of the Healthy Start Food Scheme in the South West of England: A Qualitative Analysis with Stakeholders

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Abstract

Introduction: The Healthy Start scheme (HS) was introduced in 2006 to provide a nutritional safety net for economically disadvantaged UK families. Uptake has been poor, with at times only 60 per cent of eligible families in the South West of the England registered. Online registration has recently been introduced, and this study explores the impact of this, plus the current state of HS, and why uptake has been low.

Methods: Qualitative semi-structured interviews were held with local stakeholders. Thematic analysis was conducted on interview transcripts. Participants were recruited online using purposive and snowball sampling. Interviews occurred over Zoom and used a standardised topic guide.

Results: Seven participants were recruited, and analysis revealed three key themes: i) HS barriers, ii) the importance of local teams, iii) suggested improvements. The online switch has streamlined applications, but HS recipients are hindered by digital poverty. Recent inflation and the cost-of-living crisis have blunted the impact the credit has for families.

Conclusion: HS has potential to reduce childhood food insecurity but is restrained by low uptake. An increase in funding for local teams along with a national advertising campaign would improve awareness. Families need help overcoming the digital poverty highlighted by the online switch. Eligibility should be expanded to families on Universal Credit with children under the age of five.

Keywords: Diet, Food insecurity, Nutritional sciences, Healthy Start, Health inequalities, Child health

Introduction

Overview of Healthy Start

The Department of Health and Social Care introduced Healthy Start (HS) in 2006 (Parnham *et al.*, 2021) with the aim to provide a nutritional safety net and improve access to a healthy diet to women and children from economically disadvantaged families in the UK (Department of Health, 2010). It is linked through the NHS Better Health programme which merged Change4Life and Start4Life to improve early childhood health.

Women are entitled to access the scheme if they are over 10 weeks pregnant or have a child under the age of four, and are on certain benefits (NHS, 2023). The scheme was digitalised in 2021 to replace vouchers with pre-paid cards to purchase cow's milk, fresh, frozen or tinned fruit and vegetables and pulses, and infant formula based on cow's milk (NHS, 2023). The scheme also gives access to vitamins for the same period. Vitamin card and food cards are run separately. This study focuses on food cards.

The benefit of a healthy diet

A diet low in fruit and vegetables is linked to increased morbidity and mortality. The UK has high dietary inequalities with regions outside London seeing higher dietary risk for preventable disease (Steel *et al.*, 2018). For children in school year six, obesity prevalence in the most deprived areas is 30.1 per cent versus 13.1 per cent in the least deprived; 26.8 per cent of children in the UK were obese or overweight in 2022/23 (Stiebahl, 2025).

A healthier diet with more fruit and vegetables intake typically costs more compared to a less healthy one (Rao *et al.*, 2013). This can mean low-income households are dependent on more processed foods which can be cheaper and easier to store, although high in energy and nutritionally poor (Darmon and Drewnowski, 2015). There is a significantly lower intake in fruit and vegetables in those from a lower socioeconomic background because of the greater cost constraint (Mackenbach *et al.*, 2015; Yau, Adams and Monsivais, 2019). The government has committed to HS as part of its plan to tackle childhood obesity in the UK (HM Government, 2016).

Effectiveness of Healthy Start

Healthy Start replaced the previous [Welfare Food Scheme](#) (WFS) and added fruit and vegetables along with milk as items that people needed to increase their intake (Walker, 2007), giving a higher energy intake versus the WFS (Mouratidou *et al.*, 2010). Analyses of current effectiveness of HS has given a mixed picture. HS increases the quantity and range of fruit and vegetables used by families, with recipients stating it helps improve the family diet (McFadden *et al.*, 2014). For every £1 of credit, HS improves fruit and vegetable purchasing by £1.14 (Griffith, von Hinke and Smith, 2018). While not being a huge increase, this adds up for families and makes the difference between having fruit and vegetables in their diet or going without. HS also boosts the meeting of recommended reference intakes of vitamins and minerals (Griffith, von Hinke and Smith, 2018).

Contrasting evidence has shown that HS gave no significant difference in fruit and vegetables intake, and in all-food purchasing versus non-participating households (Parnham *et al.*, 2021). Because of this, it is difficult to know whether the scheme improves family diets. Interestingly, long-term analysis has shown that despite HS beneficiaries having lower fruit and vegetable consumption, the increase in consumption between 2001 and 2014 remained similar between HS and control groups (Scantlebury *et al.*, 2018). This may suggest that HS has allowed eligible families to maintain their fruit and vegetable intake over time where it may otherwise have fallen, thus achieving its aim of providing a nutritional safety net. While not increasing fruit and vegetables purchasing, HS may free up money that would otherwise have been spent on fruit and vegetables, helping families overall financial situation.

Uptake barriers

Numerous barriers to HS use exist. These include a complex eligibility criteria, low awareness and inappropriate targeting of advertising (Jessiman *et al.*, 2013; McFadden *et al.*, 2014). Women of low literacy or for whom English is not their first language also have difficulty applying. The old application system also involved a complex application form requiring a healthcare professionals' signature (McFadden *et al.*, 2014; Moonan *et al.*, 2022). Data from February 2023 indicates that just 63.5 per cent of eligible families in England are registered for HS. Financial analysis estimates that the government only spends approximately half of the allocated HS budget due to poor uptake. Families missed out on £41.6 million in 2017 (Crawley and Dodds, 2018). HS is currently an opt-in system relying on individuals knowing they are eligible and

applying. This is a known barrier. The move from opt-in to opt out for organ donation has improved numbers of donors, and this study investigates whether this could work for HS (NHS Blood and Transplant, 2021).

Guidance on maternal and child nutrition from the National Institute for Health and Care Excellence (NICE) includes the promotion of HS by health visitors and midwives (NICE, 2015). However, staff report difficulties having the time to bring this up and hindrance by the complicated application and eligibility (Lucas *et al.*, 2013; McFadden *et al.*, 2015; Moonan *et al.*, 2022). Difficulties persist once families can register. Frustration was reported at the old paper-based system because the credit had a fixed monetary value; if these funds were not fully used in one shop, then money was lost (Lucas *et al.*, 2013).

The value of HS credit increased from £3.10 per week to £4.25 per week in 2021 to combat inflation and protect fruit and vegetable intake (Department for Work and Pensions, 2020). Subsequent high inflation and the cost-of-living crisis have likely negatively impacted recipients and eroded any benefit of that uplift. HS changed in March 2022 by shifting from the paper-based application and voucher scheme to a new online application with participants receiving Mastercards (Spelling, 2021). The aim was to simplify applications and improve user experience; however, certain groups of people such as mothers under 18 and recipients of certain benefits cannot apply online, which adds confusion.

Healthy Start in the South West

Low uptake is a poorly understood issue both locally and nationally. The South West (SW) of England, specifically the counties of Devon and Cornwall, was the site of the original HS pilot scheme (Symbia/Tavistock Institute, 2005). However, official uptake data for September 2021–February 2023 indicates that only 60 per cent of eligible families in the area were enrolled on the scheme, lower than the national average (NHS Business Services Authority, 2023). Rurality has been suggested as a hindrance to HS engagement and Table 1 shows significant variation in uptake regionally over time (McFadden *et al.*, 2014). We examine this link as part of our investigation.

Percentage (%) of eligible beneficiaries signed up

Local Authority area	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Jan-23*	Feb-23*	Average
Plymouth	62	57	66	73	73	69	70	67
Torbay	63	57	58	66	69	66	66	64
Cornwall	58	55	61	66	66	60	61	61
East Devon	53	47	65	68	75	66	66	63
Exeter	55	49	58	62	62	60	63	58
Mid Devon	54	48	58	64	63	59	61	58
North Devon	56	51	57	65	65	58	60	59
South Hams	55	56	55	62	62	54	55	57
Teignbridge	59	52	57	59	64	55	56	57
Torridge	55	51	57	63	64	56	69	59
West Devon	52	47	51	60	55	56	54	54
					Area average			**60**

Notes: (*=Post online switch) (Feb 2022–Dec 2022 no published data available).

Table 1: Percentage of eligible beneficiaries signed up to the Healthy Start scheme by SW local authority area for September 2021–February 2023.

Aims and rationale

This study explores the current state of the HS scheme in the South West and how to improve uptake through interviews with key stakeholders. The study focused on three main areas to provide recommendations on how the scheme could evolve locally and in other rural areas nationally. The investigation topics were:

1. The switch from paper to online – Investigation of stakeholder perceptions of the impact locally and whether it has improved the uptake and experience of HS recipients.
2. Further development – Exploration of stakeholder views of how the scheme can be improved to increase uptake from its current level.
3. Potential change to an opt-out system – Understanding stakeholder views on moving HS to an opt-out system.

Methods

Overview

A qualitative approach with semi-structured online interviews was used to explore stakeholder perceptions of HS in the South West. Reporting followed the COREQ 32-step checklist for interviews to give transparent reporting (Tong, Sainsbury and Craig, 2007). Ethical approval was given by the University of Exeter FHLS Sports and Health Sciences Ethics Committee (Ethics Application ID: 529569).

Reflection

Research was conducted by a male medical student in his fifth year of university studying an intercalated BSc in Sport and Exercise Medical Science. The topic was chosen due to the investigator's interest in General Practice and Public Health, and to gain experience of conducting qualitative research, of which this was his first experience.

Recruitment

Participants were recruited via purposive sampling. A literature search identified that the main stakeholders in HS were council commissioners, health visitors, children's centres, food banks and charities. We approached stakeholders from each of these groups in four key local authority areas in the South West (Exeter/Devon, Plymouth, Torbay and Cornwall). Contact details for identified participants were sourced from internet searches and they were contacted via email. A set email template was used. Emails were sent with a participant information sheet (Appendix A) detailing the project and a copy of the consent form. If no response was received, a follow-up email was sent two weeks later. Participants signed the consent form, and a completed copy was saved by the investigators and given to participants. Further snowball sampling was used on all

participants as they were asked if they had any relevant contacts to approach. Due to resource limits, a maximum of ten participants was set by researchers. If snowball sampling exceeded this limit, it was agreed the project supervisor would interview any additional participants as part of a wider body of research. Participants were professionals providing their personal opinions.

Interview format

Interviews were organised at an agreed time between participant and researcher. Semi-structured interviews were used to meet the research questions but allow flexibility to discuss perspectives not prior conceived by the researcher. A topic guide (Appendix B) was used to standardise interview questions. This was piloted with the project supervisor before use. Participants were asked at the end of the interview if they had any further comments. Participants were interviewed once. Interviews were online over Zoom and audio recordings were made using QuickTime Player, for which participants gave their consent. Recordings were transcribed by the researcher.

Data management

Data was stored following University of Exeter guidance in a password protected OneDrive account. Storage followed a pre-set data management plan that was submitted as part of the ethics application and was in full GDPR compliance. Folder access was controlled by the investigator and shared only with the project supervisor. Transcripts were all link-anonymised, with a master record sheet stored in the folder.

Analysis

The transcripts were thematically analysed using NVivo 1.7.1. The process followed Braun and Clarke's (2006) six stages of thematic analysis, which was used as guidance. Stage one, familiarisation, was accomplished by the investigator personally transcribing the audio recordings. Coding used a mixed deductive and inductive approach as initial codes were created from data familiarisation during transcription. There was then flexibility to add further codes during analysis. The transcripts were analysed for the first time using pre-set codes and further codes were created as they appeared. Transcripts were analysed for a second time using the full set of codes. The coding of the first transcript was checked with the project supervisor to ensure

the correct process was being followed. The codes were then used in the analysis of subsequent interview transcripts. Transcripts were analysed for a third and final time with the inclusion of any codes added during the remaining transcripts. The remaining stages of Braun and Clarke were followed as themes were created from the codes, reviewed and then named before being used in producing the report.

Quality of research

To ensure high-quality research, methodology was checked against Yardley's (2000) characteristics of good research. *Sensitivity to context* was met by a prior literature review, giving researchers understanding of HS and informing topic guide design. *Commitment and rigour* were met by following Braun and Clarke's guidance for thematic analysis alongside using the guidance of the project supervisor. *Transparency and coherence* were met through use of the COREQ checklist. Points made in analysis were backed up with raw quotes from the transcript. *Impact and importance* were met as the aim of the study was to appraise the current state of the HS scheme in the South West and improve future uptake.

Results and analysis

Recruitment

In the first round of recruitment, 16 stakeholders were approached to represent each of the four stakeholder groups in the local authority areas and a further two participants were contacted via snowball sampling. Allowing for a follow-up email at two weeks, Table 2 shows the results of recruitment.

Outcome	Number of participants
Agreed to participate	7
Declined due to not having enough time	3
Declined due to non-involvement with HS	1
No response to email contact	7

Table 2: Results of recruitment showing number of participants (n).

Two participants were contacted via snowball sampling. Participants gave us contacts at national charities involved with HS to explore their perspective. Both contacts agreed to participate when approached. One interview was conducted by the research team in the same process as other participants. The other stakeholder just agreed to participate in a similar larger study so did not have time to additionally participate. However, they and the researchers of that other study allowed observation of that interview and use of a recording. Transcription and analysis were then conducted in the same way as other interviews. The decision to include this interview was agreed with the project supervisor on the grounds that the studies had very similar design, and data from the interview would benefit this analysis. Only sections relevant to this study were transcribed and analysed.

Participant roles are shown in Table 3; to provide anonymity, no further descriptive information is given. Six participants were interviewed. One participant (P3) chose instead to summarise their views on HS in an email as they said their comments were only brief and did not justify participating in a full interview. They gave written consent for the comments to be included, and it was agreed with the project supervisor to include them as they benefitted the analysis. The email was analysed following the set methods.

Participant code	Role
P1	Local government
P2	National charity
P3	Local charity
P4	National charity
P5	Health professional
P6	Local government
P7	Local government

Table 3: Participant roles.

Summary of themes

Thematic analysis of transcripts resulted in the discovery of three key themes. These themes with the associated sub-themes and codes are presented in Table 4. The first of the themes identified was *HS barriers*. This theme was broken down into reasons both existing and new as to why there is low uptake of HS. The second theme was *The importance of local teams* and was split into the sub-themes of the benefit local teams provide, and then how local teams require additional support. The final theme was *Suggested improvements* and focused on how the HS scheme could be developed.

Theme	Sub-theme	Codes
Theme one – Healthy Start barriers	Existing barriers	Complex application (recipients)
		Complex organisation (staff)
		Food desert
		Not reducing food insecurity
		Paid phone line as a barrier *
		Poor awareness (recipient)
		Poor awareness (staff/promoters)
		Low uptake
		Rurality of South West as a barrier
	New barriers	Digital poverty
		Impact of cost-of-living crisis
		Monetary value not high enough *
		Online switch missing an opportunity
Theme two – Importance of local teams	Benefit of local teams	Improving uptake
		Local innovation
		Local teams supporting applicants
	Local teams needing more support	Local teams need more resources *
		Local teams need uptake data *
		Lack of local control

Theme three – Suggested improvements	Need for physical promotion
	Need for wider eligibility criteria
	Opt-out
	Removing barriers
	Role for supermarkets to play
	Suggested change

Notes: * = Codes that were also suggested as improvements.

Table 4: Description of themes and sub-themes with the associated codes generated in transcript analysis.

Theme one – Healthy Start barriers

The first of the three themes identified during the interviews was HS barriers. This explored reasons for low uptake, including reasons why eligible recipients could not apply to HS, barriers for recipients once they were signed up and reasons why HS did not provide the nutritional safety net for those people. The barriers were split into the sub-themes of existing and past barriers, and then newer barriers which have arisen recently. Key quotes are presented in Tables 5 and 6.

Existing and past barriers

One existing barrier that was raised was the complex structure of HS that impacted on recipients and coordinators. For recipients, the previous paper application form was complex, requiring a long form to be completed, signed by a healthcare professional and then posted. Being only available in English made it difficult for those for whom it was not their first language and the complexity impacted those who had poor literacy.

The switch to an online system was in part done to remove this barrier and thus help applicants. However, it was raised that the complex eligibility criteria for HS has remained a barrier for applicants: they are frequently unsure if they are entitled to the scheme and therefore do not attempt to sign up. Not all of those who are eligible are able to sign up online and must email or phone the helpline; this also complicates the application process.

The complex structure and eligibility were also problems for staff involved with promoting HS. It is difficult for them to know if families are eligible for the scheme, thus complicating promotion. A more simplified eligibility criteria would mean they could promote the scheme on a wider basis and reduce confusion about eligibility. The narrow criteria mean that recipients frequently fluctuate in and out of eligibility, creating uncertainty over whether they are going to have that nutritional safety net of HS.

The rurality of the South West was another barrier. Poor access to Wi-Fi and phone service because of geographical inequalities in availability makes applying online very difficult for some families. Local coordinators felt this was overlooked by the national HS team when designing the online system. The concept of 'food deserts' was also a barrier. The rurality and large size of the South West meant families previously lived in areas with no access to HS because of a lack of supporting stores. Instead, they often relied on local convenience stores for food as they were the only shops in range. Introduction of the card system has improved access; it can be used in any stores with the correct merchant code. Interestingly, food deserts remain as there are regions of the South West where families are still isolated with access only to expensive convenience stores rather than cheaper supermarkets. This problem was raised even in large cities such as Plymouth, highlighting inequalities in accessing affordable food.

The fact that the HS helpline is a paid-for telephone line is a significant barrier. Those entitled to HS are of the lowest incomes and some of the most in-need families in the country, yet it was frequently raised how unfair it was that these families needed to pay when using the helpline. The online switch frequently gave problems requiring use of the helpline, and that persists. Combined with long wait times when calling, this represents a significant financial drain to HS applicants and a financial barrier to sign up.

The final existing barrier identified was poor awareness of HS. Families did not sign up because they were unaware of eligibility or did not think that they were entitled to it. Improvements in advertising would help improve awareness and remove that barrier. Similarly, local coordinators reported they had had feedback from those in the community who should be involved with HS promotion that they were not aware of the scheme or who was entitled. Improved awareness of the scheme would help the coordinators promote sign-up. This has been shown to be effective through the HS Champion scheme in Cornwall and Plymouth.

Code	Quote	Participant
Complex application	'Historically it was when they had to complete the form and then they had to go and get it signed by a health professional. It was like first of all there's a barrier completing the form, and then they've gotta take it somewhere, and then they've gotta post it, and it was at their expense as well doing it.'	Participant 7 – Local government
Complex application	'But actually, it's not everyone that can apply online, its only if you're in receipt of like certain benefits, and if you're in receipt of other benefits or you're pregnant and you're under the age of 18 then actually you can't apply online and you have to send them an email, and through this process, it isn't actually this straightforward.'	Participant 1 – Local government
Complex organisation	'A lot of people have said they were eligible before to sign up and now they're not eligible and they don't know why. And that's this kind of very strict criteria.'	Participant 6 – Local government
Rurality of SW as a barrier	'There's places like...out by...where there's just no Wi-Fi.'	Participant 5 – Health professional
Food desert	'So, they'll be living in a place where their local co-op charges like 50 per cent to 70 per cent more than it would be if they had transport and they were able to get to a bigger supermarket which is cheaper, or they could get wonky veg. So very difficult for people living in those areas – have they got transport to get to a place where they could use that money effectively?'	Participant 6 – Local government
Paid phone line as a barrier	'It's a charged phone number...again when you're in, when you're talking about dealing with, you know some of the most disadvantaged and the most vulnerable erm people aren't able to spend you know a really long time on the phone which actually you know there's quite a lot of evidence that phone calls end up being quite long on a number that is not free. So, you use all your credit essentially just to get the point where you can speak to someone to try and apply for Healthy Start. So that is a real barrier.'	Participant 1 – Local government
Poor awareness (Recipient)	'When Healthy Start was paper based, we used to keep a stack of information and application forms at food bank distribution sessions. If a	Participant 3 – Local charity

	customer/family coming into food bank appeared to have children in the relevant age range, we would ask did they know about Healthy Start vouchers. The large majority did not know about it, those that did not took the form to apply.'	
Poor awareness (Staff/promoters)	'What I found before I delivered the training was that when I spoke to erm, you know partners about Healthy Start, they would say things like "oh well I've heard of Healthy Start, but I don't know much about it" and I just thought that wasn't good enough.'	Participant 7 – Local government

Table 5: Example quotes for existing barriers sub-theme.

New barriers
The online application has removed the barrier of the paper form for some, but interviewees reported that it has raised the new problem of digital poverty. To sign up, recipients need a device to access the internet, as well as Wi-Fi or mobile data, presenting a cost barrier. Needing to email if the application has complications also presents a digital barrier as not all have access to a device or email account.

The cost-of-living crisis has significantly impacted HS recipients. The credit value has not increased in line with food prices, and interviewees frequently raised how this has impacted food security. Also discussed was how the monetary value was not enough to cover formula feeds resulting in families watering down formula, posing a significant risk to the nutrition of young babies.

A final area discussed was the missed opportunities of the online switch. Local HS coordinators conveyed that families frequently raised being unable to use the card online as a drawback. The ability to use the card online would be highly beneficial in allowing interaction with local food producers and allowing families living in food deserts to order an online food delivery. Coordinators reported a significant lack of funding for physical promotional materials, and without paper forms they have lost their conversation prompt with families – although these can additionally be printed.

Code	Quote	Participant
Digital poverty	'So actually, some of the people that are eligible for Healthy Start are the people that are most disadvantaged and most vulnerable. So you're essentially relying on people being able to access like a smartphone or the internet and we just know that that isn't always the case.'	Participant 1 – Local government
Impact of cost-of-living crisis	'Another issue is obviously food prices and inflation that has rocketed. We know that in the last 12 months there's almost this 17 per cent increase in food prices, and that's just the average, and the value of the voucher hasn't actually gone up.'	Participant 4 – National charity
Impact of cost-of-living crisis	'It was reported that there were some families in Cornwall that weren't able to formula feed because they couldn't afford the milk. And erm unfortunately they were watering down their formula feeds and/or giving them cow's milk or alternative milk which obviously they're not getting the nutrition that they need which could erm go on to give them erm problems in the future.'	Participant 7 – Local government
Online switch missed opportunities	'The downside though is that the card cannot be used online and that is another big big barrier for people. Like people really want to be able to use the cards online.'	Participant 1 – Local government
Online switch missed opportunities	'When it went to online, we did not have the paper form – this meant that a discussion prompt was lost… So, HS discussions have gone from being a usual practice to hardly ever coming up.'	Participant 3 – Local charity

Table 6: Example quotes for new barriers sub-theme.

Theme two – Importance of local teams

The second theme identified during the interviews was the importance of local teams, both for promoting HS and in helping sign-up. The theme was split into the benefit of local teams, and how teams need more support to reach additional recipients. Local teams clearly know their areas and how to target promotion; they play a key role in the HS scheme and are an asset to their community. Local innovation in creating schemes to increase uptake of HS was evident across the South West; some of the main ideas are presented in Table 7.

- Working in cooperation with local food producers to increase access to cheap fresh fruit and vegetables.
- Targetted communications to raise awareness of Healthy Start.
- Collaborating with food banks and community larders to allow Healthy Start inclusion.
- Early intervention lifestyle advice at pregnancy scans – including Healthy Start promotion.
- Local Facebook awareness pages.
- Awareness sessions in community spaces.
- Digital access help at libraries and children's centres.
- Leaflets and posters for physical promotion.
- Healthy Start awareness training for invested stakeholders.

Table 7: Summary of key ideas local teams have employed to increase awareness of Healthy Start.

Also noted was the crucial role that local teams play in helping registration, particularly in removing digital barriers. Health visitor teams regularly spend time during visits helping recipients apply using their laptops, benefitting families without internet access. Local HS coordinators have set up digital help in local libraries and children's centres where recipients can go if they need internet access.

Local teams repeatedly raised how they needed more support to further their work. Health visitors reported having reduced time to discuss HS with families. Local teams lack funding to print the digital HS posters and leaflets, something they wanted changing. This was echoed by those in national HS positions who spoke of the importance of local teams, but the need for more resources. They advocated a uniform nationwide government promotion of HS, but then giving power to local teams to target advertising based on local needs.

Local and national teams called for up-to-date uptake data for HS in their areas. They use it to assess where uptake is low and then target promotion. Because of the lack of data, teams have been unable to evaluate the effectiveness of implemented interventions. Key quotes for theme two are presented in Table 8.

Code	Quote	Participant
Local innovation	'Like do we need to think about having communications in different languages or different formats. Do we already have community assets that can, you know, physically be in the community that can help support people and, er, and or are there a complete lack of assets in that area. It just kinda helps us to get a broader oversight erm and think a bit in a bit more depth about what might be going on and what we can do that is kinda most effective.'	Participant 1 – Local government
Local teams supporting applicants	'Yeah, we all have Wi-Fi linked computers so while we're there it wouldn't be unusual for us to link on and fill it in with them there and then.'	Participant 5 – Health professional
Local teams need more support	'You need to have that kinda national oversight and it needs to be kind of equilateral, but then at the local level, there is a massive role to play by local teams because they know their communities well, they can kinda do this responsive promotion and campaigning work. Because it is very much based on what people know and in disseminating promotional approaches.'	Participant 2 – National charity
Local teams need more support	'The promotional materials aren't printed by Healthy Start anymore. It would be amazing if they could provide some printed materials.'	Participant 7 – Local government
Local teams need uptake data	'Getting uptake data has been a real issue and that has had a huge impact on the local public health teams who do a lot of the work in promoting it at a local level.'	Participant 4 – National charity

Table 8: Key quotes for theme two – Importance of local teams.

Theme three – Suggested improvements

The final theme identified was suggested improvements for HS. A summary of these suggested improvements is presented in Table 9 with the key suggestions analysed below.

National-level changes	Local level changes
• Ability to use the card online • Raised monetary value in line with food price inflation • Better and more regular uptake data • Switch to an opt-out system • Increased role played by supermarkets • Free phoneline when using the helpline • Wider eligibility criteria	• Empowerment of and investment in local teams • Increased promotion of the scheme • Better communication of the scheme to local stakeholders and recipients

Table 9: Suggested improvements for the Healthy Start scheme.

Better promotion of HS is needed. National-level leads wanted a central government coordinated promotion that would be equal across the country, like the Change4Life campaign. They suggested integration with Change4Life, Start4Life and the Red Book to guarantee this. More power and resources for local teams would allow tailoring of promotion based on needs of their population. Local teams echoed this, asking for funding to print out and disseminate leaflets and posters they had created, and uptake data to target areas in most need.

There is currently an age gap between four and five where children do not get access to HS but also are not yet receiving free school meals. Both local and national teams advocated for the widening of eligibility to five so those children do not miss out. Also suggested was raising the qualification threshold, with it being suggested that all children in families on Universal Credit (UC) are given access. An opt-out system was supported by all five interviewees when asked, with them suggesting it be coordinated nationally with local teams supporting queries and use of the entitlement. Put forward was the idea that when a family is qualified as on UC and with children under five, they are automatically registered and sent a HS card.

Utilising supermarkets was the final suggestion. This formed three key areas: an increase in promotion of the scheme in-store, improved staff training on HS and wider use of card top-up schemes and vegetable offers. Key quotes for suggested improvements are shown in Table 10.

Code	Quote	Participant
Need physical promotion	'I think there needs to be much better integrated into other channels for reaching this target group of kinda early years childhood, you know Change4Life, Start4Life, Red Book.'	Participant 4 – National charity
Need physical promotion	'Cornwall had better rates and it was because they had an erm lifestyle adviser at the 20 week scan…for babies when mums were pregnant and they were having those conversations. They were having smoking cessation conversations and Healthy Start conversations at that scan.'	Participant 5 – Health professional
Needs physical promotion	'We get downloadables, but we don't get anything that you can order in terms of printing leaflets. So, you have to pay to get them printed…you have to pay for any kind of social media advertising…and that has to come out of our budget and budgets are extremely stretched.'	Participant 6 – Local government
Need wider eligibility criteria	'Er age limit. I think it's ridiculous there's this gap between age four and five where kids receive no support until they enter school, so that needs to be rectified.'	Participant 2 – National charity
Opt-out	'To say that they want, you know, they're aiming for 75 per cent. That's not good enough. We should be aiming for 100 per cent. You know, every…if they sent a letter out, you know when people get their benefit letter, if they put a link…you know to automatically set someone up on it or have an opt-out system.'	Participant 6 – Local government
Role for supermarkets to play	'General signposting to promote the scheme to customers, taking away any kinda complication or stigma or shame at the till, and thinking about where they can add value. So, you know whether it's now adding certain kinda vegetables on promotion, or like a monetary top-up voucher would be really great.'	Participant 2 – National charity

Table 10: Key quotes for suggested improvements for the Healthy Start scheme.

Discussion

Using qualitative research and thematic analysis of professional's opinions on HS, this study has answered our research questions on the current state of HS in the South West of England. The

online switch has modernised HS and helped recipients by simplifying applications. Removing the health professionals' signature has streamlined applications. The multi-language form benefits those who were previously inhibited from registration by a language barrier. Despite this, new problems have arisen. Digital poverty has been highlighted by the switch. Low income is a key risk factor for digital poverty; only 60 per cent of households with an income of less than £12,000 per year have internet access, showing how vulnerable HS recipients are to digital poverty (The Learning Foundation, 2022). Consideration of families with no internet access would improve uptake, whether that be a paper form or through increased funding to local authorities to improve digital access. Removing the cost of the paid helpline will also remove the financial barrier for any who are encountering problems online.

Finally, the ability to use the HS cards online would be of great benefit to families in the South West and beyond. Living further from a supermarket increases the odds of being obese (Burgoine *et al.*, 2017). One in ten deprived areas in the UK are classified as [food deserts](#), impacting 1.2 million people (Kelloggs, 2018). The ability to use the card online would improve access to fresh fruit and vegetables and combat this inequality.

The next area of investigation was how to improve uptake and experience. This study explores the barriers that stakeholders reported with HS whose removal would help to increase uptake and then explores stakeholders' thoughts on HS improvement. Key among these was the current gap between ages four to five where children receive no support for a healthy diet. A January 2023 Food Foundation survey found 21.6 per cent of households with children reported food insecurity in the past month, a doubling since January 2022 (Goudie, 2023). Childhood food poverty negatively impacts development both physically and mentally, impacting educational attainment (Moore and Evans, 2020). This costs the UK Treasury £6 billion per year in knock on effects, with £29 billion spent yearly on diseases linked to poverty (Bramley *et al.*, 2016). Increasing the HS age to five would ensure those children did not miss out on a nutritional safety net, and changing the eligibility criteria to include all children in families on UC would increase the catchment and help reduce childhood food poverty.

The supermarket chain Sainsburys recently piloted an uplift of the credit value by £2; it gave an average increase of 13 fruit and vegetable portions per weekly shop (IGD – Health, 2022). This suggests that a further inflation-tracking rise in the value of HS from the government would

further benefit eligible families and improve their diets, therefore reducing food insecurity. A wider HS eligibility criteria with more recipients would likely encourage other supermarkets to introduce incentives as they compete to attract customers. The increased advertising with this would also further raise HS awareness and improve uptake.

The final area of investigation was the change to an opt-out system. As discussed in the analysis section, all stakeholders supported the change. It should become automatic for any family who is eligible for HS to be notified and regarded for the scheme. It could be simplified to include all families receiving UC and with children under the age of five to be enrolled in HS. This would significantly improve uptake as it is likely that very few families would opt out, ensuring the HS budget is utilised and childhood food poverty is reduced. The current narrow eligibility criteria may explain the wide variation seen in local authority uptake rates month-by-month displayed in Table 1. This suggested simpler eligibility criteria would reduce families fluctuating in and out of HS eligibility, helping to remove confusion for recipients and HS staff.

Cost-effectiveness evaluations for HS are lacking. Research on the similar Women, Infant and Children (WIC) programme run by the US Government shows it is cost effective at improving fruit and vegetable purchasing, and in reducing birth complications related to undernourishment (Di Noia *et al.*, 2021; Nianogo *et al.*, 2019). The similarity of the UK and US programmes' aims and structures make it reasonable to infer that HS is cost effective. Expansion of HS would reduce childhood food poverty for more children, empowering them to achieve better attainment at school and reduce the occurrence of preventable disease. The cost of funding the expansion would likely be offset by these benefits.

The themes identified during this study and suggested improvements from local stakeholders present new evidence to guide development of HS locally. The results may also reflect a similar picture seen in other rural regions of the UK. One limitation of the study is that no children's centres were recruited to the study. They were identified as a key link to understand parents' views of HS and the barriers causing low uptake. It would have been good to speak with the remaining centres and understand how widespread closures have reduced the chance to meet parents and discuss HS. A good picture of the barriers was built up through the interviews with other stakeholders. However, this study could have been improved by including the views of parents either by directly interviewing them, or by talking to children's centre staff. Due to their

contact with low-income families and the growth of food bank use in the UK from the cost-of-living crisis, food charities were invited to join. However, only one joined. The perspective of that charity gave excellent insight into the changes their food bank had noticed with HS moving online. It would have been beneficial to see if other local charities had noticed similar changes.

A limit of ten participants was set but only seven were recruited, thus there is the potential that information was missed by not meeting data saturation. Improved recruitment could have bolstered and added more confidence to the conclusions of this study. This study also did not include vitamins in the analysis. Despite being run separately, the vitamins and food both fall under the HS umbrella, thus a larger study with more resources should also include the vitamins in analysis. Both schemes struggle with uptake and there may be lessons to learn from each other.

This was a small-scale study ran in the South West of England, therefore there is the potential that the views of stakeholders in the region may be different to those elsewhere, and the results found may not be generalisable to other regions of the UK. To combat this, further research should investigate stakeholder views in other regions of the UK, comparing rural to rural, and to see if there is a difference between rural and urban locations. Additional research should look to fully understand parent perspectives of HS as they interact with the scheme day-to-day. As key stakeholders, they are the ones whose insight should be used to guide HS development. Finally, research should assess the cost effectiveness of HS and whether an expansion of the eligibility criteria would be beneficial by reducing childhood food insecurity and its associated outcomes.

Conclusion

This study reveals fresh insight into HS in the South West of England. HS has the potential to reduce childhood food insecurity and the associated negative outcomes. Despite the efforts of local staff, the scheme is currently restrained by low uptake. Local teams would benefit from increased funding, and a national advertising campaign would help to raise awareness. The move to online has removed previous barriers, but more investment is needed to help families experiencing digital poverty. Moving the scheme to an opt-out system where families are automatically registered was supported by local stakeholders, with a proposed raising of the eligibility criteria to families on UC with any children under the age of five.

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Finally, I would like to thank Dr Christina Vogel and Millie Barrett from the Centre for Food Policy at the City University of London for allowing me to attend an interview for their research project, and for the subsequent use of the recording in the analysis for this study. They went out of their way to help me in this way and for that I am very grateful.

List of tables

Appendices

Appendix A – Participant information sheet

Participant Information Sheet

Title of Project: The current state of the Healthy Start food voucher scheme in the South West. A qualitative analysis with the stakeholders.

Researcher name: Josh Harris

Invitation and brief summary:

This study is looking to investigate the current state of the NHS' Healthy Start food voucher scheme here in the South West. Uptake data shows that only around 60 per cent of those entitled in Exeter are signed up to the scheme; similar rates are seen across the region and nationwide. This study will look to investigate how the scheme is functioning in the South West and how it can be further developed to help more people access it. Thank you for your interest in the project, please take the time to consider this information carefully and discuss further with family or friends if you wish. Please feel free to ask myself (the researcher) any questions.

Purpose of the research:

As stated, this research aims to address the current state of the Healthy Start food voucher scheme here in the South West of England. We will be conducting interviews with the scheme's key stakeholders in both Devon and Cornwall. We aim to focus on three topic areas:

1.   The recent switch from paper to online
2.   How the scheme could be developed to improve uptake
3.   The potential for switching the scheme to opt out

We will analyse the comments from all participants with the aim to suggest future improvements for the scheme to those involved locally.

Why have I been approached?

You have been approached for this study because the researchers have identified you as a key local stakeholder in the healthy start scheme. This may be because you work for a local council, for a food/hunger or children's charity, at a children's centre or food bank. We will have contacted you through information found online, or from details given by contacts working in the area. We are looking to recruit ten participants involved in the Healthy Start programme across Devon and Cornwall.

What would taking part involve?

If you agree to take part the researcher will organise a time with you that works to conduct the interview. These will be held online via Zoom at the agreed time and will last for a maximum of 45 minutes. These interviews will be recorded to allow the researchers to transcribe the interview for analysis. The interview process is fully confidential, and answers will be anonymised when we transcribe the recordings. Permission will be sought from you before any reference is made in the paper towards your employer or charity. The interview will focus on the three key topics:

1.   The recent switch from paper to online
2.   How the scheme could be developed to allow more people to access it
3.   The potential for switching the scheme to opt out

There is the potential for a follow-up interview to be requested by the researcher if their analysis of original interviews reveals a need for further questioning. If you would like, the interviewer can contact you after transcript analysis to check they have interpreted your answers as you intended.

What are the possible benefits of taking part?

This research aims to have a wider benefit to society by assessing the current state of the Healthy Start food scheme here in the South West, and if possible, drawing up recommendations for development of the scheme.

What are the possible disadvantages and risks of taking part?

Participation in the study is voluntary and you will not be reimbursed for your time, this means there is the potential this may impact on your working time or social time. To avoid this, we will work with you to schedule the interviews at a time that is best for you. The main risks are addressed below:

- Recording the interviews – You may want your responses kept secret. The interview will be confidential and will be anonymised
- Storage of the recordings – There is a risk of the recordings being stolen or hacked. They will be stored following University of Exeter and GDPR guidance in an online password protected OneDrive business account
- Topics discussed may be sensitive – The topics we discuss may be emotive and upsetting to you. If you become upset, we can stop the interview whenever you want and can signpost you towards any support required
- Risk to personal reputation – You may not want your answers and views shared with your employer or charity. Upon transcription all responses will be anonymised, and we will seek your permission before mentioning the name of your employer/charity in our analysis
- Disclosure of sensitive information about someone – You may disclose sensitive information about a vulnerable person or child you have come into contact with – While the process is confidential, we have the duty to inform you that if concerns are raised about a vulnerable person, then we must raise this with the appropriate authorities.

What will happen if I don't want to carry on with the study?

You are able to withdraw from the study at any point of your choosing without prejudice and do not have to give a reason. If you would like your data to be removed, then interview recordings will be deleted alongside any personal information. If your removal occurs at a point after transcription of the interview, then the researchers will use the original recordings to identify your transcript from the anonymised transcripts. If you say anything during the interview that you later want removing from the transcription, then it can be erased at your request.

How will my information be kept confidential?

The University of Exeter processes personal data for the purposes of carrying out research in the public interest. The University will endeavour to be transparent about its processing of your personal data and this information sheet should provide a clear explanation of this. If you do have any queries about the University's processing of your personal data that cannot be resolved by the research team, further information may be obtained from the University's Data Protection Officer by emailing informationgovernance@exeter.ac.uk or at http://www.exeter.ac.uk/ig/

As described above the interviews will be recorded and then stored following University of Exeter and GDPR guidance in a password protected OneDrive business account. No personal, identifiable or data about employment will be published in the write up, and during analysis transcripts will be anonymised with an ID number. Recordings and anonymised transcripts will be stored for a maximum of ten years. All results of the study will be shared with you on the studies completion.

The process is confidential, and this will only be broken if you disclose either a risk yourself or to another person or vulnerable individual. In this case your information will only be shared with the appropriate people and with the aim of protecting the individual concerned.

Will I receive any payment for taking part?

Participation in this study is voluntary and no payment will be given for taking part. As we are working over Zoom there will be no travel involved so you will not be impacted by that. The researchers will work with you to organise a time for the interview that causes minimal disturbance to you. In return for participation, you will also receive the results of the study for your use.

What will happen to the results of this study?

Once the study is complete the result, dissertation report and poster will be shared with you. You are welcome to distribute the report and poster with your employer, charity or any other invested party. There is also a possibility the researchers will publish a journal article with the results, again if this happens it will be shared with you.

Who is organising and funding this study?

The sponsor for this study is the University of Exeter.

Who has reviewed this study?

This project has been reviewed by the Research Ethics Committee at the University of Exeter (Reference Number 529569)

Further information and contact details

If you wish to contact any of the researchers, please contact:

Josh Harris – jh1090@exeter.ac.uk

If you have any concerns or complaints, feel free to reach out to the below contacts:

Dr Kerry Ann Brown – Supervisor – k.a.brown@exeter.ac.uk

Gail Seymour, Research Ethics and Governance Manager

g.m.seymour@exeter.ac.uk, 01392 726621

Or the Research Ethics and Governance Mailbox cgr-reg@exeter.ac.uk

Thank you for your interest in this project.

Appendix B – Topic guide used for interview structure

Topic guide

Introduction:

- Introduce myself and give background
- Get to know them, build rapport etc

- Check they have read PIS, ask if they have any questions or queries
- Obtain verbal consent to continue (plus have signed consent)

Q1 – Could you please explain your role in the Healthy Start scheme and how you interact with it?

- Gets participants background and clearly defines their role

Q2 – How long have you been involved with the scheme?

- Understand their depth of experience with the scheme

Q3 – Please describe how you currently view the state of the Healthy Start food scheme here in the South West

Q4 – Why do you think Healthy Start historically has poor uptake levels?

Q5 – The Healthy Start food scheme has recently moved from the old paper system to a new online based application with pre-paid cards. How has this change been?

- Be prepared for them not knowing about the change, if they are unaware then their view on the change likely to be unhelpful anyway
- Be prepared to move into talking about other changes, including the increase in value

Q6 – How does the scheme achieve its aims of reducing food insecurity and improving nutrition for people in the South West and is it successful in this?

- Closed question, but builds into Q8

Q7 – Following on, how do you think the scheme could be further developed in the South West to increase uptake and improve experience

Q8 – Organ donation in England has recently moved from an opt-in system, to opt out. Would it work for Healthy Start to be changed into an opt-out system?

Q9 – If it was to be opt-out, how do you think this would best be organised?

Conclusion:
- Thank you, that's all the questions
- Chance for me to ask/clarify anything else they mention or talk about points raised

- Do you have anything else you would like to add?
- Or any questions for me?
- Explain what happens next – Finish other interviews, transcribe and link-anonymise transcripts, check with them before using identifiable information, write up project
- Check I have correct contact details for them, are they like to change. Leave me email and ask them to let me know if they do
- Will be in touch one project is finished with the findings
- Is there anyone else you recommend I should contact?
- Thank you for taking part.

References

Bramley, G., D. Hirsch, M. Littlewood and D. Watkins (2016), 'Counting the cost of UK poverty', available at https://www.jrf.org.uk/report/counting-cost-uk-poverty, accessed 28 April 2023

Braun, V. and V. Clarke (2006), 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, 3 (2), 77–101, available at https://doi.org/10.1191/1478088706qp063oa

Burgoine, T., J. Mackenbach. J. Lakervled, N. Forouhi, S. Griffin, S. Brage, N. Wareham and P. Monsivais (2017), 'Interplay of socioeconomic status and supermarket distance is associated with excess obesity risk: A UK cross-sectional study', *International Journal of Environmental Research and Public Health*, 14 (11), 1290, available at https://doi.org/10.3390/ijerph14111290

Crawley, H. and R. Dodds (2018), 'The UK Healthy Start scheme. What happened? What next?', available at https://static1.squarespace.com/static/59f75004f09ca48694070f3b/t/5b8e2d0e575d1f6f1e5d2dcd/1536044307456/Healthy_Start_Report_for_web.pdf, accessed 1 February 2023

Darmon, N. and A. Drewnowski (2015), 'Contribution of food prices and diet cost to socioeconomic disparities in diet quality and health: A systematic review and analysis', *Nutrition Reviews*, 73 (10), 643–60, available at https://doi.org/10.1093/nutrit/nuv027

Department for Work and Pensions (2020), 'Press release - new winter package to provide further support for children and families, HM Government', available at https://www.gov.uk/government/news/new-winter-package-to-provide-further-support-for-children-and-families, accessed 1 February 2023

Department of Health (2010), 'Healthy start', available at https://webarchive.nationalarchives.gov.uk/ukgwa/20101123083314/http://www.dh.gov.uk/en/Publichealth/HealthyStart/index.htm, accessed 1 February 2023

Goudie, S. (2023), 'Child food insecurity doubles fueling calls for urgent expansion of free school meals', available at https://foodfoundation.org.uk/publication/child-food-insecurity-doubles-fueling-calls-urgent-expansion-free-school-meals, accessed 28 April 2023

Griffith, R., S. von Hinke and S. Smith (2018), 'Getting a healthy start: The effectiveness of targeted benefits for improving dietary choices', *Journal of Health Economics*, 58, 176–87, available at https://doi.org/10.1016/j.jhealeco.2018.02.009

HM Government (2016), 'Childhood obesity: A plan for action', available at https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action, accessed 1 February 2023

IGD - Health (2022), Healthy sustainable diets: Driving change', available at https://www.igd.com/articles/article-viewer/t/healthy-sustainable-diets-driving-change/i/30157, accessed 1 February 2023

Jessiman, T., A. Cameron, M. Wiggins and P. Lucas (2013), 'A qualitative study of uptake of free vitamins in England', *Archives of Disease in Childhood*, 98 (8), 587–91, available at https://doi.org/10.1136/archdischild-2013-303838

Kelloggs (2018), 'Can everyone access affordable, nutritious food? A picture of Britain's deprived food deserts', available at https://www.kelloggs.co.uk/content/dam/europe/kelloggs_gb/pdf/Kelloggs_Food_Desert_Brochure.pdf, accessed 28 April 2023

Lucas, P., T. Jessiman, A. Cameron, M. Wiggins, K. Hollingworth and C. Austerberry (2013), 'Healthy start vouchers study: The views and experiences of parents, professionals and small retailers in England', *University of Bristol (Open Access),* [Preprint], available at https://www.bristol.ac.uk/media-library/sites/sps/migrated/documents/finalreport2.pdf, accessed 1 February 2023

Mackenbach, J. D., S. Brage, N. Forouhi, S. Griffin, N. Wareham and P. Monsivias (2015), 'Does the importance of dietary costs for fruit and vegetable intake vary by socioeconomic position?', *British Journal of Nutrition*, 114 (9), 1464–70, available at https://doi.org/10.1017/S0007114515003025

McFadden, A., J. Green, V. Williams, J. McLeish, F. McCormick, J. Fox-Rushby and M. Renfrew (2014), 'Can food vouchers improve nutrition and reduce health inequalities in low-income mothers and young children: A multi-method evaluation of the experiences of beneficiaries and practitioners of the Healthy Start programme in England', *BMC Public Health*, 14 (1), 148, available at https://doi.org/10.1186/1471-2458-14-148

McFadden, A., J. Green, J. McLeish, F. McCormick, V. Williams and M. Renfrew (2015), 'Healthy Start vitamins – a missed opportunity: Findings of a multimethod study', *BMJ Open*, 5 (1), e006917–e006917, available at https://doi.org/10.1136/bmjopen-2014-006917

Moonan, M., G. Maudsley, B. Hanratty and M. Whitehead (2022), 'An exploration of the statutory Healthy Start vitamin supplementation scheme in North West England', *BMC Public Health*, 22 (1), 392, available at https://doi.org/10.1186/s12889-022-12704-0

Moore, B. and C. Evans (2020), 'Tackling childhood food poverty in the UK', available at https://eprints.whiterose.ac.uk/168869/1/PolicyLeeds-Brief4_Childhood-Food-Poverty.pdf, accessed 28 April 2023

Mouratidou, T., F. Ford, S. Wademan and R. Fraser (2010), 'Are the benefits of the "Healthy Start" food support scheme sustained at three months postpartum? Results from the Sheffield "before and after" study', *Maternal & Child Nutrition*, 6 (4), 347–57, available at https://doi.org/10.1111/j.1740-8709.2009.00215.x

NHS (2023), 'Get help to buy food and milk (the Healthy Start scheme), NHS', available at https://www.healthystart.nhs.uk, accessed 1 February 2023

NHS Blood and Transplant (2021), 'Six months since Scotland moved to an opt out system, NHS', available at https://www.organdonation.nhs.uk/get-involved/news/six-months-since-scotland-moved-to-an-opt-out-system/, accessed 31 January 2023

NHS Business Services Authority (2023), 'Healthy Start uptake data – England – Jan 2023–Feb 2023', available at https://www.healthystart.nhs.uk/healthcare-professionals/, accessed 28 March 2023

Nianogo, R. A., M. Wang, R. Basurto-Davila, T. Nobari, M. Prelip, O. Arah and S. Whaley (2019), 'Economic evaluation of California prenatal participation in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), to prevent preterm birth', *Preventive Medicine*, 124, 42–49, available at https://doi.org/10.1016/j.ypmed.2019.04.011

NICE (2015), 'Nutrition: improving maternal and child nutrition - NICE qs98', *NICE*, available at https://www.nice.org.uk/guidance/qs98, accessed 1 February 2023

Di Noia, J., D. Monica, H. Jensen and A. Sikorskii (2021), 'Economic evaluation of a farm-to-special supplemental nutrition programme for women, infants and children intervention promoting vegetable consumption', *Public Health Nutrition*, 24 (12), 3922–28, available at https://doi.org/10.1017/S1368980021001981

Parnham, J., C. Millett, K. Chang, A. Laverty, S. von Hinke, J. Pearson-Stuttard and E. Vamos (2021), 'Is the healthy start scheme associated with increased food expenditure in low-income families with young children in the United Kingdom?', *BMC Public Health*, 21 (1), 2220, available at https://doi.org/10.1186/s12889-021-12222-5

Rao, M., A. Afshin, G. Singh and D. Mozaffarin (2013), 'Do healthier foods and diet patterns cost more than less healthy options? A systematic review and meta-analysis', *BMJ Open*, 3 (12), p. e004277, available at https://doi.org/10.1136/bmjopen-2013-004277

Scantlebury, R. J., A. Moody, O. Oyebode and J. Mindell (2018), 'Has the UK Healthy Start voucher scheme been associated with an increased fruit and vegetable intake among target families? Analysis of Health Survey for England data, 2001–2014', *Journal of Epidemiology and Community Health*, 72 (7), 623–29, available at https://doi.org/10.1136/jech-2017-209954

Spelling, C. (2021), 'Healthy Start is going digital: Here's what you need to know', *Sustain*, available at https://www.sustainweb.org/blogs/dec21-healthy-start-digital-what-you-need-know/, accessed 1 February 2023

Steel, N., J. Ford, J. Newton, A. Davis, T. Vos, M. Naghavi, S. Glen, A. Hughes, A. Dalton, D. Stockton, C. Humphreys, M. Dallat, J. Schmidt, J. Flowers, S. Fox, I. Abubakar, R. Aldridge, A. Baker, C. Brayne, T. Brugha, S. Capewell, J. Car, C. Cooper, M. Ezzati, J. Fitzpatrick, F. Greaves, R. Hay, S. Hay, F. Kee, H. Larson, R. Lyons, A. Majeed, M. McKee, S. Rawaf, H. Rutter, S. Saxena, A. Sheikh, L. Smeeth, R. Viner, S. Vollset, H. Williams, C. Wolfe, A. Woolf and C. Murray (2018), 'Changes in health in the countries of the UK and 150 English Local Authority areas 1990–2016: A systematic analysis for the Global Burden of Disease Study 2016', *The Lancet*, 392 (10158), 1647–61, available at https://doi.org/10.1016/S0140-6736(18),32207-4

Stiebahl, S (2025), 'Obesity statistic, research briefing'. *House of Commons Library*. https://researchbriefings.files.parliament.uk/documents/SN03336/SN03336.pdf, accessed 31 March 2025

Symbia/Tavistock Institute (2005), 'Healthy Start rapid evaluation of early impact on beneficiaries, heatlh professionals, retailers and contractors', available at https://www.tavinstitute.org/wp-content/uploads/2012/12/Tavistock_Projects_Evaluation-of-a-Healthy-Start.pdf, accessed 1 February 2023

The Learning Foundation (2022), 'UK digital poverty evidence review 2022', available at https://digitalpovertyalliance.org/wp-content/uploads/2022/06/UK-Digital-Poverty-Evidence-Review-2022-v1.0-compressed.pdf, accessed 30 March 2023

Tong, A., P. Sainsbury and J. Craig (2007), 'Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups', *International Journal for Quality in Health Care*, 19 (6), 349–57, available at https://doi.org/10.1093/intqhc/mzm042

Walker, A. (2007), '"Healthy Start": replacing Welfare Food Scheme for women and families.', *The Journal of Family Health Care*, 17 (2), 53–55, available at https://pubmed.ncbi.nlm.nih.gov/17476979/, accessed 1 February 2023

Yardley, L. (2000), 'Dilemmas in qualitative health research', *Psychology & Health*, 15 (2), 215–28, available at https://doi.org/10.1080/08870440008400302

Yau, A., J. Adams and P. Monsivais (2019), 'Time trends in adherence to UK dietary recommendations and associated sociodemographic inequalities, 1986-2012: a repeated cross-sectional analysis', *European Journal of Clinical Nutrition*, 73 (7), 997–1005, available at https://doi.org/10.1038/s41430-018-0347-z

Glossary

Economically disadvantaged People who lack financial resources and access to basic daily living needs such as housing, healthcare, education and nutritious food.

NHS Better health programme A public health campaign launched by the **NHS** to encourage positive lifestyle change such as losing weight, quitting smoking, getting active and improving mental health.

Change4Life A **public health campaign** aiming to help families eat well and be more active through provision of resources and recipes.

Start4Life Linked to Change4Life, this focuses on pregnant women and parents with advice on breastfeeding and healthy development of young children.

Dietary inequalities Differences in access to healthy, nutritious and affordable food between different population groups.

Welfare food scheme The predecessor to Healthy Start, launched by the UK Government in the 1940s to supplement rations for pregnant and new mothers to improve nutritional intake.

Food deserts Areas where inhabitants have limited access to affordable highly nutritious food due to a lack of nearby affordable grocery stores.

To cite this paper please use the following details: Harris, J. (2025), 'The Current State of the Healthy Start Food Scheme in the South West of England: A qualitative analysis with stakeholders', Reinvention: an International Journal of Undergraduate Research, Volume 18, Issue 1, https://reinventionjournal.org/index.php/reinvention/article/view/1597. Date accessed [insert date]. If you cite this article or use it in any teaching or other related activities please let us know by e-mailing us at Reinventionjournal@warwick.ac.uk.

Guest Article

Breaking into Academic Publishing: Creating a Credible, Quality and Publishable Article

Gareth J Johnson, University of Warwick

Abstract

Writing an academic article is something many students desire but common fears and concerns can prevent them from taking the next steps to publication success. This article offers insights from a journal's Chief Editor aimed at early career and student authors considering publication, and hopes to enhance their publication experiences alongside avoiding some common mistakes. It explores how through spending time locating and evaluating suitable candidate journals from the outset, prospective authors can help avoid early rejections of their manuscript submissions. The article then proposes how authors, once writing is underway, can further increase their chances of a positive reception by reaching out to prospective editors. It illustrates that, as some form of peer-review is ubiquitous in academic publishing within quality research journals, authors should prepare to deal with reviews functionally, effectively and, where possible, dispassionately. Further, it suggests where rejection is encountered, authors should appreciate that other, alternative journals are likely to still be interested in publishing their work. Thus, through a lot of hard work, advice and attention to guidance from journals, and some common sense, any would-be author can achieve a publishable, quality academic article within a suitable research journal.

Introduction

Writing an academic article is something that many students desire but often concerns or preconceptions can prevent them from taking the next steps to publication success. Maybe you are unsure about how the editorial process works or are concerned your writing is not 'good' enough to be published. Perhaps you have heard some horror stories about how journals operate and wonder if you could deal with 'rejection'? These are all understandable obstacles that could prevent you from taking the steps from an article idea through manuscript submission to

achieving a successful publication. The good news is every time you try publishing something – even if you *are* rejected straightaway as a 'desk decline' – will be a learning experience, making each subsequent attempt a tiny bit easier.[1] Hence, in this article, as an academic journal editor myself, I am going to offer some helpful insights for people considering publishing that will hopefully enhance and encourage their own authoring endeavours. A good starting question is 'Why publish at all?' Talk to academics and you will get a variety of answers. Some will say becoming recognised for their research or professional practice among their peers is essential. For others becoming part of the research conversation, offering counterpoints or clarifications to other scholars' work is a crucial part of their research activities. Some may, perhaps ruefully, admit publishing is a means to an end given academic career opportunities rely on achieving a sufficiently healthy publication record. Even if you are not an academic, publishing an article can still be valuable addition for your CV, alongside generating a fair degree of personal satisfaction in becoming a published author.[2]
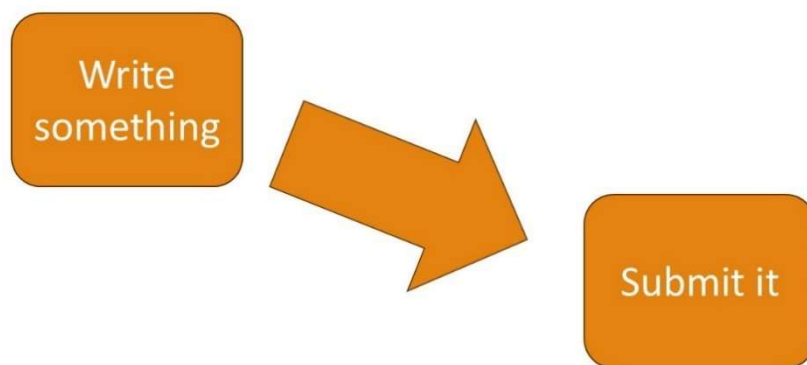

Figure 1: Achieving publication success…simply speaking.

Now, at the broadest level, getting published requires an uncomplicated transaction: you simply have to write something and be brave enough to submit it to a publisher[3] for consideration (Figure 1). What happens next will vary depending on where you have submitted your manuscript. Within this article, I will be focusing on academic research journals, collections of 'essays' by individual or groups of scholars that since the seventeenth century have been the primary route to disseminating and recording original contributions to knowledge.[4] Journals themselves were initially collated and disseminated by scholarly and learned societies, although in the past century, they have been increasingly run by highly profitable corporations. While this is an iniquitous situation, the advent and increasing ubiquity of online electronic *ejournals* since the

1990s onward have created a space and opportunity for scholars to regain some of their lost agency over publishing.[5]

Today though, journal publishing is a heterogenous field, with publishers large and small offering literally hundreds of thousands of potential quality journal titles you could publish in. While the 'quality bar' you need to overcome to publish varies between individual titles, most function in a broadly analogous way: a manuscript is submitted by its author to a journal where an editor then checks to see if it is broadly in scope – that is potentially suitable – for their title. Assuming it is, the manuscript will undergo a process of review, likely followed by some revision recommendations for the author to accommodate. More review and revision may follow before the piece is accepted, formatted for publication (copyedited) and published (Figure 2). This sounds a simple, linear flow, but it is important to remember that at any point in this cycle, until an article is published, there is a potential that the journal will decide to reject the submission – that is decline to consider it further – which is why many authors approach any communication from an editor with trepidation.
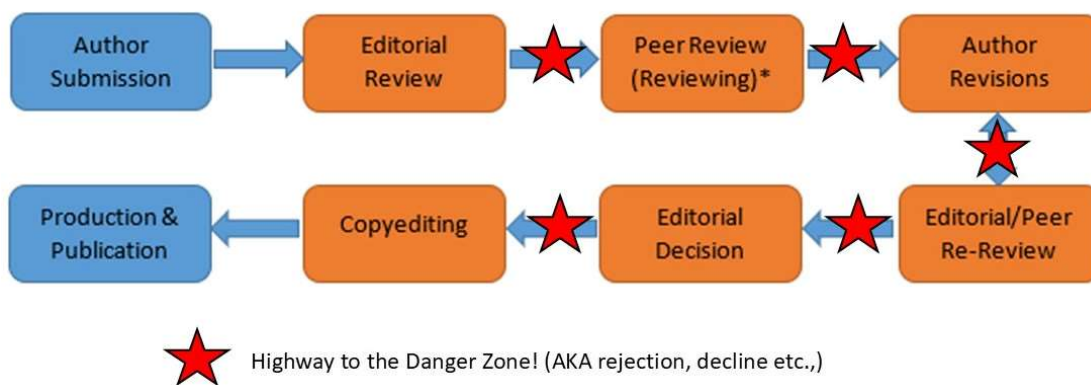

Figure 2: Academic publishing simplified workflow and points of rejection.

Identifying candidate journals

Ensuring you are submitting a manuscript to a potentially suitable journal is why spending time firstly locating and evaluating potential candidates from the outset is crucial. There are many ways to approach this but initially considering journals in which you regularly read articles for study and research is a good first step. This ensures a strong familiarity with the style and types of articles they publish, helping to appreciate if your proposed article will likely resonate with

other work in their pages. Having this sort of strong subject alignment can be key in overcoming any initial editorial scrutiny successfully. You may find it valuable to discuss potential journals with your colleagues, supervisors or tutors too, not least because they will be able to share some insights into those journals with whom they have had positive experiences themselves. You can also search the internet, databases or libraries for other journal inspirations, but you will need to spend more time evaluating them to fully appreciate if your work aligns sufficiently with their publishing interests.

Even if you already have a candidate journal in mind, being a reader is quite different from being an author. Finding and understanding what each journal requires of their authors is an essential next step, which is why it is important to find their 'author guidance' or selection policy information. Reading these alongside their recently published articles will help you form a strong impression of the 'kind' of journal you are dealing with, and if your work is likely to be welcomed.

Does it provide clear author guidance on the process by which you can submit a paper for consideration?
Does it publish your preferred article format? (e.g. length, focus, topic)
How does it describe its core readership? Are these the right people you want to read your article? (e.g. academics, students, cross-disciplinary etc.)
Is it open (freely available) or closed (subscription) access?
Are there any author fees to be paid ahead of publication?
Will you need to transfer any rights over your writing to the publisher upon publication?
What licence are articles published with and will this comply with any restrictions from your researcher funder (if you have one)?
Is editorial assessment manual, semi or entirely automated?
Who is the publisher? (e.g. university, company or individual)

Table 1: Evaluating candidate journals.

It can be useful to have a few questions in mind when evaluating any candidate journal (Table 1) to help you form a clear idea of their suitability. If the responses to these questions align with your interests, then this *could* be the right journal for you, and you should move ahead to prepare your manuscript for submission. Conversely, if not, do not worry, and move along to consider another potential title instead. By expending this small evaluative effort, you will undoubtably save yourself much heartache and frustration from a rapid manuscript rejection.[6] Once you do select a journal, keep their author guidance close. Failing to follow it carefully with your manuscript, especially when submitting work to any larger or prestigious journal has been the cause for many an early disappointment for an author. Try not to get weeded out simply by going over their word limits, for example. Incidentally, once you *do* have a manuscript under editorial consideration, you should not submit the same piece of work elsewhere – unless it is rejected! Doing so is considered very poor practice, with potential legal consequences – known generally as the *Inglefinger Rule*, after a past-editor of *Nature*.

Effective preparations

Having located a strong candidate journal, your next steps should be to develop your article manuscript, keeping in mind any authorial guidance offered by the journal. A common mistake that less experienced authors make here is in not bringing their writing 'A-game' to the publication arena. Unlike an essay, dissertation or thesis, article manuscripts will be contrasted not with a marking scheme, but more abstractly against the standards of academics around the globe. This degree of 'quality' and 'rigour' is one reason why publishing in 'high impact, prestigious' journals is so much harder, because authors who are published in them are the 'best of the best'. It is quite daunting and one reason why considering smaller, established, journals can be a more successful approach for your earliest articles. Even so, you will still be expected to meet – or exceed – their quality bar. Hence, never submit your first draft, as chances are it will be rejected out of hand without progressing on to formal review. The mantra 'good enough to pass *is not* good enough to publish' is worth keeping in mind!

While I am not going to deal with the 'art' of article writing here, however you approach it, always give yourself sufficient headspace to draft and proofread your manuscript.[7] Proofreading is more than a quick spellcheck and is a process best accomplished over a period of time. Trying to

rapidly write a piece for journal submission means it is more likely you will miss simple errors by being too close to the text to objectively recognise aspects that need greater attention, clarity or refinement. Putting your manuscript aside for a week or two before re-reading and *then* extensively redrafting can really aid in making omissions or errors in your writing readily apparent. If you are less confident in proofreading, you might also find specialist advisers at your institution who can act as a 'critical friend' in advising on the weakness and strengths of your writing. If you are lucky enough to have colleagues who are more experienced authors willing to read and offer critical advice on your writing, then by all means share your manuscript with them. Where you might be considering writing for a wider audience than your own disciplinary peers – for example, in a cross or interdisciplinary journal – then it is a good idea to share your work with someone whose subject specialism differs from your own. They will be readily able to identify concerning aspects that a subject peer might miss. Likewise, recall any earlier feedback you have had from tutors – or journals – on your writing, paying particular attention to addressing any areas of recognised personal weakness.[8]

Creating an article from a past piece of 'unpublished' work – an essay or dissertation chapter, for example – is an approach many first-time authors adopt. However, if you read published articles and contrast them with your work, you will spot subtle differences between how these are structured and the 'written voice' employed. Hence, try and redraft your manuscript to more closely mirror the styles in successfully published pieces. Additionally, articles need to be able to exist as singular objects in their own right, meaning they need to contain any significant and relevant contextual information along with citing prior articles in support of areas of your own argumentation too. This also helps demonstrate your 'alignment' or 'position' within the previously published corpus of knowledge.[9] Another common mistake is creating an 'overstuffed' article – one that tries to cram too many ideas or core concepts into a single narrative. This kind of 'bloat' is a common error by inexperienced authors, who assume a 'shotgun' approach scattering ideas and information throughout will win them greater plaudits. Conversely, the best academic articles deal with a singular argument, concept or discovery, and provide sufficient space to interrogate it to a deeper, scholarly degree. Articles are, for the most part, intended to be in-depth explorations, not surface examinations – although if you are writing certain kinds of pieces, such as a review article, then you can probably disregard this particular advice.[10]

Throughout all this drafting, proofing and redrafting, it is sage advice to keep your audiences in mind. While you may be primarily, and sensibly, addressing your text to the journal's readership, remember reviewers and editors will read your manuscript too, so it is advisable to consider how they will react to it. This is where attention to a strong, informative and accurate title, which captures their attention alongside delineating *what* the article concerns, is invaluable. Likewise, an abstract that directly resonates with the article's contents, suitably guiding readers through your key arguments, can pay dividends too. For many reviewers, a mismatch between title, abstract and article contents is often cited as a rationale for rejecting a manuscript. Consequently, spend time and attention finalising your title and abstract ahead of a submission as they may make the difference between an immediate desk decline or acceptance for further consideration. Generally, though, when considering audiences, the broader the audience you are writing for, the greater the clarity you will need to bring, as, especially for cross-disciplinary audiences, you will need to expand on common terminology and concepts. Finally, remember you are writing for a *global* audience, which means using colloquial terms, phrases or idiomatic phrases may confuse or confound some readers or reviewers.[11]

Making a good impression

While your preparations and writing is underway, the time is also ripe to start making introductions and reaching out to prospective editors. I wrote earlier about selecting your journal but selecting your editor with care matters too. Editors are – you may be surprised to read – people too, and often very busy ones, and you may find establishing a strong and harmonious working relationship with them can start some time ahead of any manuscript's submission. Chief editors also significantly influence the contents of their journals beyond what their selection policy might state, which includes the potential for any manuscript to progress to an article. Hence, making an informal, pre-submission approach can help in adjudging if they are the kind of person you can work with but also in establishing if their journal is likely to be a receptive destination for your piece. Never send unsolicited manuscripts though as they simply will not read them; instead outline some key aspects in a brief email **(Table 2).**

Author	*Who* you are and *where* you are based
Title	*What* is the draft title of your manuscript
Outline	A short outline concerning *what* your manuscript is about and *why* it matters (e.g. relevance, currency, originality)
Relevance	*Why* this journal is the right destination (e.g. topic, selection policy, recent issues)
Audience	*Who* are the audience for it (e.g. this journal's readership)
Literature	*How* it relates or aligns with past journal articles (e.g. compliments, challenges, expands)
Timespan	An idea of *when* the manuscript will be ready

Table 2: Introductory letters to editors.

Do ensure that you always use the correct journal and editor names if you are writing to multiple candidate journals – editors can have thin skins about such aspects! Such an introduction though will enable any editor to quickly appreciate and explain if your manuscript stands a reasonable chance of being considered for review and potential publication. If the answer is no – and it may be more often than you like – or they do not respond at all, do not worry and simply move along to consider another candidate journal. However, if an editor makes a positive response, giving the impression they are genuinely interested in your work, get your draft proofed, polished and submitted as soon as possible. Surprisingly, while editors are often voraciously keen for quality, suitable articles, as time moves on, they may lose interest. So take care not to over-promise on when you can deliver a submission.

Compliance	Is it acceptable in terms of style, word count and any formatting requirements?[12]
Scope	Is the subject closely aligned with the journal's stated interests?
Readability	Does the manuscript make reasonable sense or is it riddled with typographical, grammatical and syntax errors?
Coherence	Does the manuscript make a coherent argument and draw conclusions supported by its premise and/or analysis?
Originality	Is the manuscript wholly original work? Are there any plagiarism concerns?
Importance	For leading journals only, how potentially 'globally significant' is the manuscript?

Table 3: Typical editorial manuscript scrutinisation criteria.

Once you are ready and have checked that you have met all the journal's requirements in their author guidance, and have submitted your manuscript for consideration, editors will scrutinise it for a number of key areas (Table 3). Notably, the significance of an article is something only a handful of the major research journals consider; smaller and especially scholar-led journals tend to be more accepting of quality work that is not necessarily 'epoch making'. If the editor finds the manuscript meets their key criteria, then hopefully they will proceed to accept your piece for further consideration where it will face its sternest test: peer-review.

Dealing with review

While peer-review is often referred to as the 'least-worst option' editors have for maintaining quality in publication, it is ubiquitous throughout the academic publishing world and every quality research journal operates some measure of it. Exposing manuscripts to deeper scrutiny aids editors in ensuring only quality work will achieve formal publication in their pages. However,

how any 'reviewing process' operates varies enormously across disciplines and individual titles, which is why familiarising yourself with how your candidate journal approaches it can be invaluable.[13] Reviewing also generally takes some considerable time to complete, so authors need to be patient, although contacting your editor every month or so can help you confirm that it is progressing. Nevertheless, likely your biggest concern as an author will be dealing with the review outcome, and typically there are two common outcomes: revisions (corrections) requested, or manuscript declined.

Should you receive revisions, read them carefully as the expectation is that authors will accommodate all comments in redrafting their text. You can, and should, challenge any aspects with your editor that you feel are not suitable to incorporate but will need to justify why. Simply refusing *all* corrections is not advisable as many editors will conclude you are not willing to work with them and will decline your manuscript from any further consideration! Should you find dealing with revision feedback daunting though, a good approach is to read it through once but then set it aside for a week or two and get on with life. Once you do return, simply treat the feedback as a 'dispassionate to-do list' of corrections and set to work addressing them. Alternatively, you might prefer to summarise feedback in your own words and work from this new, emotionally disconnected document instead. You might feel especially daunted if you have lengthy feedback to consider but this usually means reviewers perceived your article as worthy of them spending a long time considering, and in some respects can be taken as a marker of how much they value your potential paper. Remember though, do not fear any proposed revisions but rather employ them as a tool to improve your authorship: they are a *critique* on your writing not a judgement on you as a scholar, although some reviewers *can* be a little 'terse' in their phraseology.

As each article is as individual as its author, it is not practical to outline all possible revision requests that may be made of you, although I have touched on a number in this article. It is perhaps worth noting how many individual reviewers have their personal *bête noire*, those writing conventions or aspects that especially frustrate them and consequently may judge manuscripts containing such 'errors' more harshly than others **(see Table 4 for examples).** This is one reason why bringing your writing 'A-game' matters but also why considering past critiques of your written work while drafting your manuscript matters too. Although, reviewers are individuals

with varied scholarly tastes, preconceptions and expectations and what annoys one reviewer may delight another – so prepare to be surprised and frustrated in equal measure!

Archaic, outmoded, irrelevant or insufficient citations
Excessive self-citation by authors
Extensive typographical/grammatical errors
Good topic, poor match to journal's stated goals
Implicit/explicit use of AI/Large Language Models in writing
Insufficient unified voice within multi-author articles
Insufficient reader way markers or weak narrative flow
Overly 'chatty' or 'conversational' narrative style
Weak alignment between title/abstract and article contents

Table 4: Example reviewer red flags.

Journals are a surprisingly time-sensitive production, and editors will normally set a deadline by which you are expected to return your amended manuscript, which you should always aim to meet. Where you are experiencing genuine life, work or study difficulties, be honest with your editor and explain at length any challenging circumstances you face. With appropriate justification, most editors will be sympathetic and willing to work with authors to identify a revised re-submission schedule. However, the worst 'crime' you can commit around deadlines is to simply ignore or fail to respond to messages from your editor: a rapid route to having your manuscript declined! If you are lucky, editors will warn you ahead of time before this happens, but if you persist in failing to meet any deadlines, it is normal to experience editorial rejection.[14]

At this stage, if you are fortunate, and have followed the revision feedback carefully, once you have resubmitted your revised manuscript, your editor may be in a position to accept it for publication. However, where major corrections were recommended for your work, you may find

yourself going through additional rounds of review and revision before a final, and hopefully positive, decision can be made.

Conversely, what do you do if the editor says 'No' and rejects your article after review? If you look at the rejection rates, which most journals publish, you will see you are not alone, with many 'top' journals rejecting nearly all articles submitted to them. If you are rejected though, you are now free to consider a different journal, and so you should read any guidance from the title that declined you and use this to improve your manuscript for a subsequent journal.[15] Regretfully, it is common for authors to be considered and rejected by a sequence of journals before they find one willing to publish their article. Hopefully, each encounter will yield helpful feedback on improving your paper. So, try not to get disheartened but do appreciate, especially for first-time authors, getting that first article to publication can be a long-term effort. Eventually though, if you have a credible idea and are willing to work on improving your manuscript, you *will* achieve publication.

Concluding thoughts

Congratulations! With any luck, and a lot of hard work, and drawing on the advice in this article, you are now on your way to becoming a published author. Naturally, while publishing might feel like an endpoint, it is actually the start rather than the conclusion of the journey. For example, since so many articles are published annually, drawing attention and promoting it via social media channels is an essential next step. *LinkedIn*, given its 'business' context, can be helpful here, but whichever routes you chose can help significantly raise awareness and increase any potential readership along with any citations your published work can gain. However, having made your contribution to scholarly discourse, you may even want to start thinking about *another* article. Continuing the conversation like this can be a powerful route to increasing readership of the original piece, alongside the career-enhancing benefits that establishing a 'publication record' creates. My hope is that this article has perhaps offered some insight into the often-labyrinthine world of academic publishing. If nothing else, I would suggest that having gone through the experience at least once, each subsequent publication effort should not feel half so daunting!

Acknowledgements

About the author

Dr Johnson has been Editor-in-Chief of the Exchanges journal since 2018, having previously completed a doctorate in Culture, Media and Social Theory focussing on the academic adoption of open publication practices. He also holds higher qualifications in biomedical technology, information management and research practice. He has published in excess of 200 articles, conference papers and reviews and book chapters. The *Exchanges* journal itself (ISSN 2053-9665) is an open-access, interdisciplinary title, published since 2013 and primarily run by and for early career researchers. It is hosted and funded by the Institute of Advanced Study at the University of Warwick.

List of illustrations

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Endnotes

1 As an author myself, I know that these were exactly the thoughts and concerns running through my head when I approached my earliest publications. While the apprehension of 'Will they like it enough?' never entirely goes away, it does become easier to handle with each attempt.

2 This aspect of being published, I am happy to report, is an element that most people continue to enjoy even after they've published dozens of articles.

3 In this article, 'publisher' is being used to generically refer to a variety of routes to formal publication: journal submissions, book chapters or books included. Although, my focus is primarily on journal articles, much of the advice offered applies to approaching any 'academic publisher'.

4 This article mainly deals with being published for an academic and student readership, rather than wider public consumption in magazines and popular books. Hence, while a lot of the advice here can be considered transferable, there are some distinct differences that you'd be advised to find out more about, if this is your goal. (See for example Michael, 2024; Indy, 2022). Incidentally, publishing academic works is generally unpaid – about which there is *much* discussion in the literature!

5 I won't belabour this point, but if you are interested in reading more, works by Eve (2014), Suber (2012) and even my own thesis (Johnson, 2017) are good introductions to the debates and arguments around the 'commodification' and 'liberation' of academic publishing from corporate hands.

6 An excellent, and lengthier, assessment model for candidate journals can be found on the Think-Check-Submit (2025) site. This is especially useful when assessing any journal title that you suspect may be fraudulent or simply seeking to profit off your publication activities – so called 'predatory' or 'trash' journals (see also Leaman, 2019).

7 There's a couple of excellent books on the subject I would commend to you as a primer for writing stronger articles (Becker, 2020; Sword, 2019).

8 We all have them – mine I've been told are apparently hiding the most exciting article elements in the middle of paragraphs! Or possibly in endnotes...

9 A pro tip here is to always cite a few articles from your candidate journal – many editors will be looking for this as a guide to establishing your paper's alignment or relationship with their title's interests.

10 Review articles purposefully appraise a field or its associated literature and offer an over-arching narrative appraisal. Hence, while they may be broader in scope, they still need to offer a strong singular insight or coherent narrative in order to make the piece coalesce into a publishable work.

11 Unless, naturally, your article concerns the use of slang terms or colloquial language – in which case carry on but do remember to unpick and contextualise any phrases used all the same. Not everyone shares the same cultural context.

12 Many journals expect you to use their submission template, so take care to check if this is expected. Any unformatted articles likely will receive a desk rejection in these cases.

13 There isn't space to explore the varieties, or alternatives, to peer-review here. Suffice to say there are many journals who experiment, to varying degrees of success, with alternative models such as post-publication or open review, for example. These can be more – or less – daunting to some authors, so

choose your journal and its reviewing model with care. A piece I wrote with some colleagues does provide an excellent primer to the varying models of peer-review, should you be interested in learning more (Johnson et al., 2018).

[14] Asking for an extension on or *after* the deadline is considered poor academic practice, and you would be advised to consult your editor at least a week or two in advance of it. However, editors are under no obligation to be flexible and may simply mark your paper to be rejected if you cannot meet their original deadline.

[15] Remember to check the new candidate journal's author guidelines as there will be subtle differences in terms of format, length and layout of your manuscript. It is rare to simply be able to send exactly the same document to another journal for consideration.

References

Becker, H. S. (2020), *Writing for Social Scientists* (3rd edn), Chicago: University of Chicago Press

Eve, M. (2014), *Open Access and the Humanities: Contexts, Controversies and the Future*, Cambridge: CUP.

Indy, (2022), 'How to write and sell your articles to a newspaper or magazine', IndyUniversity, available at https://weareindy.com/blog/how-to-write-and-sell-your-articles-to-a-newspaper-or-magazine, accessed 1 April 2025.

Johnson, G. J., (2017), 'Through struggle and indifference: The UK academy's engagement with the open intellectual commons', PhD thesis, Nottingham Trent University.

Johnson, G. J., C. Tzanakou and I. Ionescu (2018), 'An introduction to peer review', *Coventry: PLOTINA*, available at https://www.plotina.eu/wp-content/uploads/2019/03/Introduction-to-Peer-Review-Guide.pdf, accessed 1 April 2025.

Leaman, G. (2019), 'Predatory practices and standard procedures in scholarly journal publishing', *Association for Practical and Professional Ethics*, available at https://www.academia.edu/38583373/Predatory_Practices_and_Standard_Procedures_in_Scholarly_Journal_Publishing, accessed 1 April 2025.

Michael, J. (2024), 'How to successfully pitch an article to a magazine (and get published)', *JornoPortfolio*, available at https://www.journoportfolio.com/blog/how-to-

successfully-pitch-an-article-to-a-magazine-and-get-published/, accessed 1 April 2025.

Suber, P. (2012), *Open Access.* Cambridge, MA: MIT Press.

Sword, H. (2019), *Air & Light & Time & Space.* Cambridge, MA: Harvard University Press.

Think-Check-Submit (2025), *Journals Checklist*, available at https://thinkchecksubmit.org/journals/, accessed 1 April 2025.

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