

Shining a light into the black box of dose: Measuring and evaluating the impact of dose on awareness in a community-based initiative promoting healthy fish consumption

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Background

- **Dose** measures the quantity of intervention messages or content contained in different dissemination pathways
- Many factors (e.g. mode, messenger and frequency) make up **dose intensity**, making it difficult to characterize
- Dose **delivered** and recall of dose **received** can differ and can impact outcomes, so **should be measured**
- We (1) developed a **unique method** to define dose intensity, (2) compared dose delivered to received, and (3) compared intensity of dose delivered to outcomes (e.g. awareness of healthy fish guidelines) in a community initiative

Methods

- **Survey** (mail and phone) of 1041 women (150 per subsample, with only 141 in direct mail) who were delivered the intervention message via **one of 6 dissemination pathways**
- Dose intensity was defined using **mode, messenger, and other qualities** shown in Table 1.

Defining the intensity of dose delivered

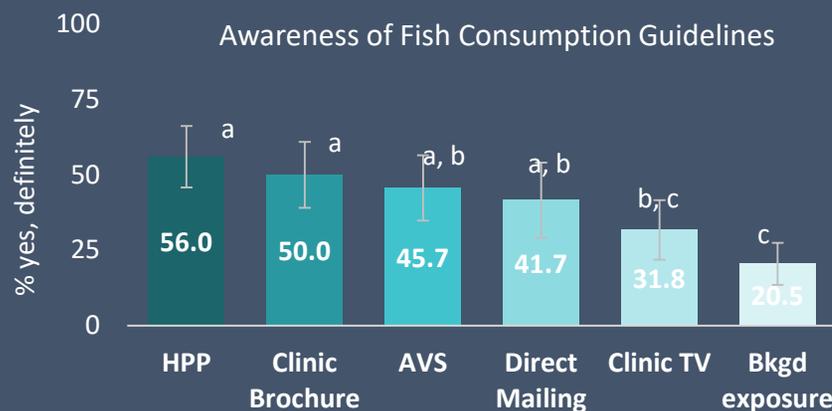
Table 1. Ranking of dissemination pathways by intensity of dose as defined by 7 characteristics (mode, messenger, frequency, setting, visual quality, content amount, & isolated content). Darker colors indicate higher intensities.

	Healthy Pregnancy Program (HPP), n=91	Clinic Brochure, n=80	After Visit Summary (AVS), n=81	Direct Mail Brochure, n=60	TV in Clinic Waiting Room, n=85	Background Exposure, n=126
Mode	Phone/Email	Paper	Paper	Paper	Digital	Digital
Messenger	Health coach	Doctor	Doctor	Health system	Care group	Health system
Frequency						
Setting	Home	Clinic	Clinic	Home	Clinic	Home
Visual quality						
Content amount						
Isolated content	No	No	No	Yes	No	No
Dose intensity						

Recall of dose received



Women who received a higher dose reported higher guideline awareness (our key outcome)



Takeaways

- Given the amount of health information distributed to patients, it is **important to evaluate** how well delivered messages are received to **ensure resources are being used effectively**
- We defined dose of each dissemination pathway using 7 different qualities (**HPP had highest dose intensity, online ad lowest**), assessed how well each pathway was received (**brochure was best, online ad worst**), and looked at effects on the key outcome (**HPP had highest awareness, online ad lowest**).
 - Message may have had **higher salience** with audiences receiving higher dose due to specific audience targeting of women who are pregnant.
- Our effective strategy has **implications for other evaluators** seeking ways to operationalize dose measurement:
 - Delivered doses and receipt only moderately aligned, future research **could also measure contamination** (unintended dose receipt) in community initiatives
 - We found that more intense doses delivered were associated with our outcome, indicating **dose delivered is an important consideration** when designing health information dissemination strategies.