

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

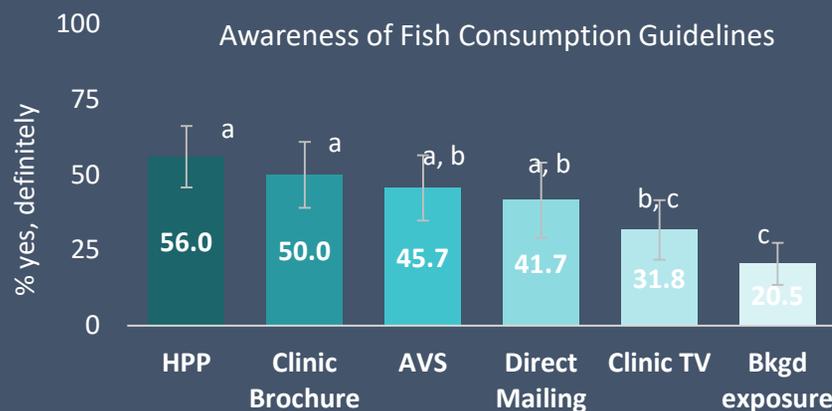
Table 1. Ranking of dissemination pathways by intensity of dose as defined by 7 characteristics (mode, messenger, frequency, setting, visual quality, content amount, & isolated content). Darker colors indicate higher intensities.

| | 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.